

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

FEB 13 2024

APPLICATION FOR TRANSFER OF WATER RIGHT – POINT(S) OF DIVERSION

This form may be used to apply to change and/or add points of diversion for existing water rights and to report an ownership change for a water right(s) in connection with the proposed point of diversion change(s). Do not use this form to apply for changes to other elements of a water right. See the [Application for Transfer Instructions](#) for help completing this form and for mailing addresses of Department offices where your application can be submitted.

Check all that apply:

- ☐ Change diversion point(s) ☒ Add diversion point(s) ☐ Ownership change ☐ Ownership split
☒ Transfer is for changes pursuant to [Idaho Code § 42-221.O.8](#). Attach an explanation and any supporting documentation.

1. APPLICANT(S) Hot Springs Resorts LLC Phone 208 241 4305
 2. MAILING ADDRESS 255 E. Portneuf, Lava Hot Springs, ID 83246 City Lava Hot Springs
 State ID Zip 83246 Email Gail.palen@gmail.com

- ☐ If the applicant is not an individual and not registered to do business in the State of Idaho, attach documentation identifying officers authorized to sign for the applicant.
☐ If the applicant is not the current water right(s) owner, attach documentation of authority to file the application.
☐ If the application includes a change in ownership of water right(s), attach a copy of the conveyance document, such as a warranty deed, court decree, contract of sale, etc. The conveyance document must include a legal description of the property conveyed or description of the water right if no land is conveyed. Additional fee(s) are required for water right ownership changes; see Item 9 for the [fee schedule](#).

If the ownership change resulted in the water right(s) being split, how did the division occur? Mark one:

- ☐ The water rights or claims were divided as specifically identified in a deed, contract, or other conveyance document.
☐ The water rights or claims were divided proportionately based on the portion of their place(s) of use acquired by the new owner.

- ☐ If the application is not signed by the applicant, attach a Power of Attorney or other documentation providing authority to sign for the applicant.

3. LIST WATER RIGHT NUMBER(S) 29-4492 and 29-4493

- ☒ Attach a copy of the water right(s) as recorded, available at idwr.idaho.gov, *Water Right Transfers, Step 1*, or by contacting any Department office.

4. TOTAL AMOUNT OF WATER transferred is 0.86 cubic feet per second and/or _____ acre-feet per annum.
 (diversion rate) (storage volume)

5. POINT OF DIVERSION – Describe all the point(s) of diversion to be included on the water right(s) after the proposed change.

- ☐ Attach Eastern Snake Plain Aquifer (ESPA) analysis if this transfer proposes to change a point of diversion affecting the ESPA. ESPA analysis information is available at idwr.idaho.gov, *Water Rights, Water Right Transfers, Modeling Resources*.

New?	Lot	¼	¼	¼	Sec	Tw	Rge	County	Source	Local name or tag #
Existing PODs - Updated to reflect actual location, but no physical change										
	8		NE	SE	21	09S	38E	Bannock	Groundwater	29-4492 only
	8		NE	SE	21	09S	38E	Bannock	Spring	29-4493 only
Proposed POD - for both water rights										
	1		SE	SE	21	09S	38E	Bannock	Groundwater	

6. GENERAL INFORMATION

- a. Describe the complete diversion system, including how you will accommodate a measuring device and lockable controlling works should they be required now or in the future:

Well will connect to adjacent infrastructure via pipe. A measuring device can be attached to the well.

- b. Who owns the property at the point(s) of diversion? Applicant
If other than the applicant, describe the arrangement enabling the applicant to access the property for the diversion system:

NA

- c. To your knowledge, has/is any portion of the water right(s) proposed to be changed:

Yes No

- ☐ ☒ undergone a period of five or more consecutive years of non-use,
☐ ☒ currently used in a mitigation plan limiting the use of water under the right(s), or
☐ ☒ currently enrolled in a Federal set-aside program limiting the use of water under the right(s)?

If yes, describe:

NA

- d. Is any portion of the water right(s) proposed to be changed currently leased to the Water Supply Bank? ☐ Yes ☒ No

- ☐ If yes and there are multiple owners, attach a Lessor Designation form.
☐ If yes, the individual owner or designated lessor must complete, sign and attach an IRS Form W-9.
(Disregard if these items are on file and ownership has not changed.)

7. **MAP** – ☒ Attach a map of the diversion, measurement, control and distribution system. Include the place of use if a split of the water right occurred. Clearly label the map with township, range, section and $\frac{1}{4}$ $\frac{1}{4}$ of section information. You may create a map at idwr.idaho.gov, Water Rights, Water Right Transfers, File a Transfer Application, Step 2C.

8. **SIGNATURE** – The information in this application is true to the best of my knowledge. I understand any willful misrepresentations in this application may result in rejection of the application or cancellation of an approval.

Gail Palen
Signature of applicant or authorized agent

Gail Palen, Member
Print name and title if applicable

2/9/2024
Date

Blake Palen
Signature of applicant or authorized agent

Blake Palen, Member
Print name and title if applicable

2/9/2024
Date

9. **FEE** – ☒ The application filing fee provided in Idaho Code § 42-221.O, must be submitted with the application for transfer. Applications for changes pursuant to Idaho Code § 42-221.O.8. require a filing fee of \$50 per water right. All other application fees are based on the total amount of water proposed for transfer in Item 4: the larger fee for either cubic feet per second (diversion rate) or acre-feet per annum (storage volume). The Fee Schedule is available at www.idwr.idaho.gov, Water Right Transfers, Step 4 and in the Application for Transfer Instructions.

FOR DEPARTMENT USE ONLY

Transfer includes _____ pages of attachments.

Received by _____ Date _____

Fee paid \$500 Date 2/13/24

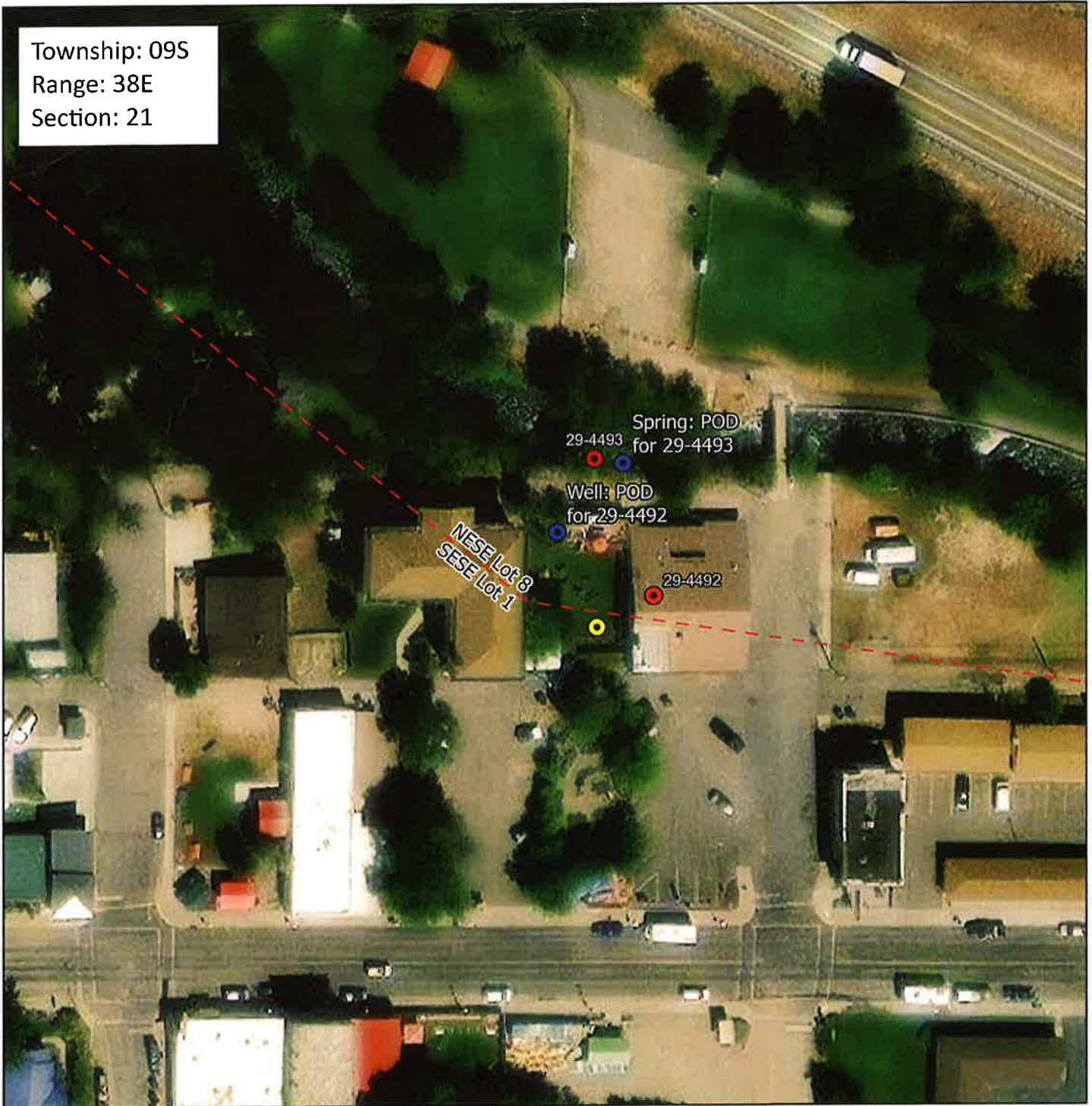
Received by CH Receipt # E049804

Preliminary review by _____ Date _____ Active in the Water Supply Bank? Yes ☐ No ☐

W-9 received? Yes ☐ No ☐ Name on W-9 _____ W-9 forwarded to fiscal? Yes ☐ No ☐

(Do NOT scan the W-9 – confidential information is held by fiscal only)

Township: 09S
Range: 38E
Section: 21



0 50 100 150 200 Feet

Maxar, Microsoft

Legend

- Proposed POD for both 29-4492 and 29-4493
- POD from IDWR Database
- Existing PODs



Current points of Diversion and Proposed New Point of Diversion

Hot Springs Resorts LLC

Project #: 23-0158

Drawn by: TK

Date: 2/1/2024



88788

2/23/2024

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	HOT SPRINGS RESORTS LLC 255 E PORTNEUF LAVA HOT SPGS, ID 83246

Status: Active

Tributary
PORTNEUF RIVER

Decreed Date: 6/24/2004
Civil Case Number: 39576
Judicial District: FIFTH
State or Federal: S
Water District Number: EXC
Mitigation Plan: False

2/23/2024

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	HOT SPRINGS RESORTS LLC 255 E PORTNEUF LAVA HOT SPGS, ID 83246

Status: Active

88788



TECHNICAL MEMORANDUM

To: File
From: Patrick Naylor, PE, PG
Rocky Mtn. Environmental Assoc.
cc: Patrick Naylor, RMEA
Date: January 23, 2023
Subject: Analysis of Source Water for
Geothermal Well and Spring at
Riverside Hot Springs Inn & Spa,
Lava Hot Springs, Idaho
RMEA Project No.: 23-0158
Riverside Hot Springs Inn & Spa

INTRODUCTION

The Riverside Hot Springs Inn & Spa (Riverside), located in Lava Hot Springs, Idaho (Figure 1), seeks to combine the points of diversion for its existing water rights No. 29-4468 (spring, 0.75 cfs) and No. 29-4492 (groundwater well, 0.11 cfs) into a new point of diversion in the form of a new well. The new geothermal well would be located within approximately 75 feet of the existing well and 120 feet of the existing spring box. Both the existing well and the existing spring box are used to supply geothermal water for recreational purposes by Riverside. The geothermal groundwater supplying both the well and spring are reported to be tributary to the Portneuf River, located just north of the Riverside properties. Riverside contends that geothermal water for both the existing spring and the existing well originate from the same geothermal groundwater source, and thus should be allowed to be combined via transfer to a single point of diversion in the form of a new well.

Rocky Mountain Environmental Associates (RMEA) was tasked with assisting Riverside in obtaining authorization from the Idaho Department of Water Resources (IDWR) for the proposed transfer of water rights into a new well. The purpose of the activities associated with this Technical Memorandum was to determine whether the geothermal waters from the existing well and the existing spring substantially originate from the same groundwater source.

OBJECTIVES

The objective of this evaluation was to determine whether the geothermal waters currently diverted from the existing spring and the existing well as authorized under Water Rights No. 29-4458 and No. 29-4492, respectively, originate substantially from the same geothermal groundwater source. This would facilitate transfer of diversion under both water rights into a common point of diversion, in this case, a proposed new geothermal well to be located on the Riverside property near both of the existing points of diversions.

ACTIVITIES

RMEA performed the following activities:

Review of Available Data

RMEA reviewed existing well driller reports (well logs) within approximately ¼ mile of the property. The well logs were obtained from IDWR's online well driller report database (IDWR, 2023). The exact well locations may vary from the locations provided on the well logs, but the locations shown in the IDWR database were used to determine approximate locations of these wells, as shown in Figure 2. The well logs are provided in Appendix A.

Existing water rights, including permit flowrates and conditions were reviewed by RMEA for the geothermal spring and well. The associated water right permits are provided in Appendix B.

RMEA also discussed existing and proposed conditions with Riverside representatives to better understand the existing conditions as well as the rationale for the proposed POD transfer. This included flowrate needs, well and spring uses, and water usage. These are summarized in the Introduction.

Collect Groundwater Quality Samples for Primary Ions Analysis

On November 3, 2023, RMEA personnel visited the Subject Property and located the existing well and spring. Site photos were taken of key features. Representative photos are provided in Appendix C.

Also on that date, RMEA collected water samples from the existing well, the existing spring box, and from the Portneuf River. The well was constantly being pumped to provide water for the spa on that date, so RMEA determined that additional purging would not be necessary to obtain representative water quality samples. The well was sampled using a peristaltic pump and new tubing.

The concrete spring box was not in continuous use on the day of sampling, so RMEA collected water samples from the spring using a portable sampling pump and new tubing. The samples from the Portneuf River were collected just upstream of the spring box. Samples were measured in the field for field parameters pH, electrical conductivity, dissolved oxygen (DO), and temperature. Field data are provided in Appendix D.

Samples were collected for primary ions, including cations (calcium, sodium, potassium and magnesium) and anions (carbonate, bicarbonate, chloride, and sulfate). Samples were submitted to Chemtech Ford Laboratory in Sandy-Utah. Laboratory reports are provided in Appendix E.

Analysis of Water Quality Data

Water quality data obtained from the sampling of the spring box, geothermal well, and Portneuf River were evaluated to determine the commonality of source water using the method of Piper (1944). The method was used to determine whether any of the three water sample sources demonstrated similarity in “water type”. A graphical representation of the water chemistry is plotted using the Piper trilinear method. Similar water types for different sample sources plot close together and would indicate that they probably originate from the same source water, whereas dissimilar water types plot further apart, indicating different source water.

RESULTS

As shown on the field sheets in Appendix D, water from the geothermal well was approximately 5° C cooler than water from the spring. Water from the well also was higher in pH than water from the spring, although the difference was not substantial. River water pH was lowest of the three. All three sources measured lower in pH than would be expected in natural waters, suggesting a problem with the pH meter. Electrical conductivity was similar for both geothermal sources, and DO was very low for both sources. Electrical conductivity was much lower in river water than in either of the geothermal water sources, which was expected because geothermal water is normally subject to both long residence time in bedrock, and higher heat (and therefore higher potential for solubility) while exposed to minerals in host rock, than could occur in the river, which is fed largely from surface runoff or shallow groundwater sources.

Figure 3 shows a trilinear diagram that represents the primary ion water quality of the three samples. As can be seen in the diamond plot in Figure 3, water sampled from the geothermal well and spring plot so close together as to be nearly indiscernible. The water from the river plots in a distinctly different part of the diamond plot. The diagram demonstrates that the water from the geothermal well and the geothermal spring are the same source, and are not appreciably influenced by water from the river. Water sampled from the Portneuf River was notably lower in pH, conductivity, and temperature than either of the other sample sources. DO was slightly higher in river water than the well or spring. Given the common source between the geothermal well and geothermal spring, a proposed new well (see Figure 4) can accommodate both of the beforementioned water rights without changing the water source.

CONCLUSIONS

The geothermal well and the geothermal spring on the Riverside Inn property produce water from the same geothermal aquifer. Water in the Portneuf River, upstream of the geothermal spring discharge, is demonstrably different in chemistry from the geothermal well and spring and appears to have little influence on them.

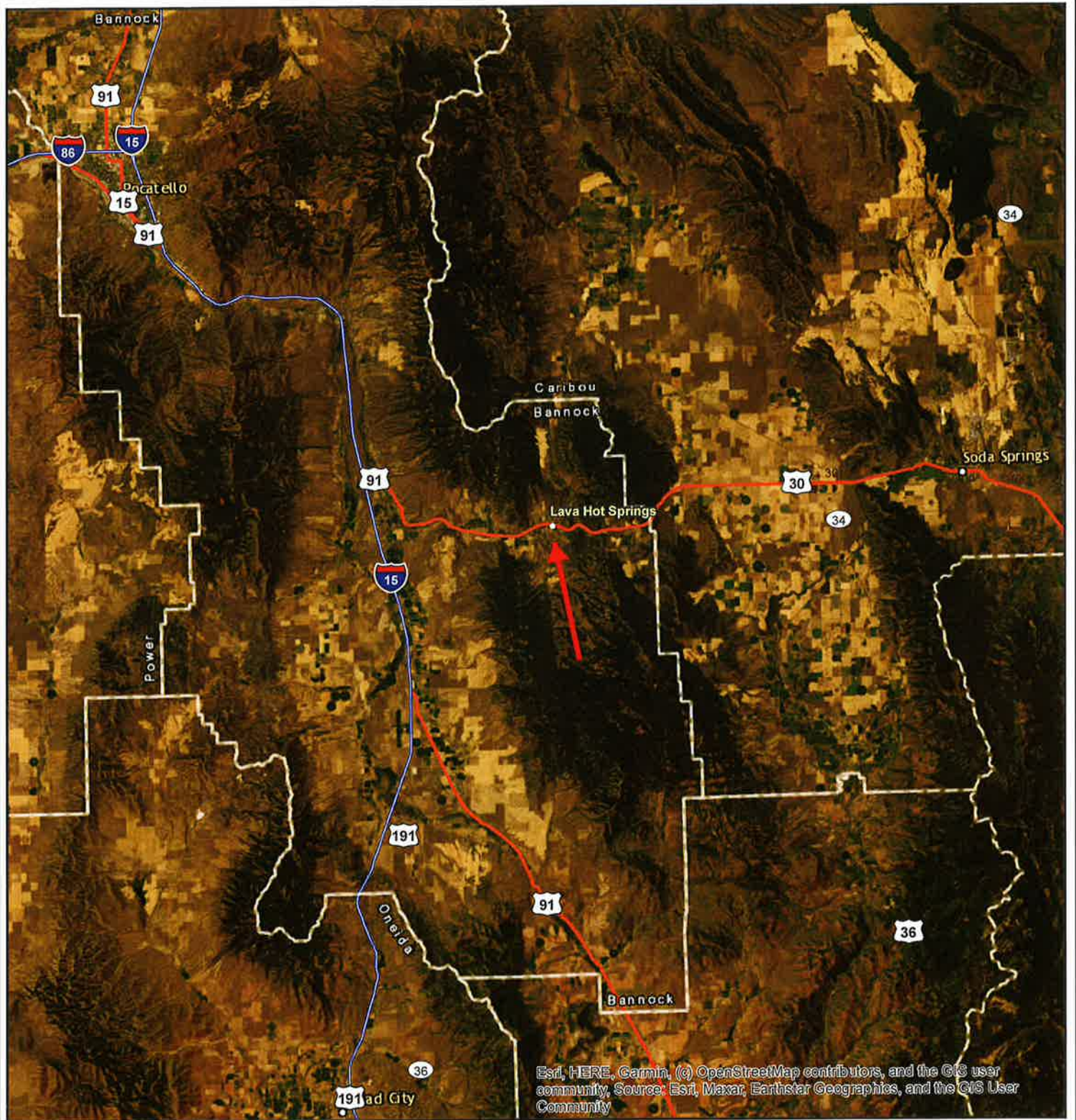
The cause of the difference in temperature between the two geothermal sources is not clear, but the most likely explanation is that the geothermal well water has more opportunity to radiate heat than the water discharging from the concrete spring box. The temperature difference between the geothermal well and geothermal spring is small when compared with the differences between

these two sources and the river water, further demonstrating that the geothermal waters originate from the same source, whereas river water is from a different source.

REFERENCES

Idaho Department of Water Resources (IDWR), 2023. Online well driller report database.
<https://idwr.idaho.gov/wells/find-a-well-map/>

Piper, A., 1944. A graphic procedure in the geochemical interpretation of water-analyses. *Transactions, American Geophysical Union*. Volume 25 No. 6.

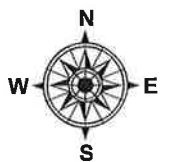


Legend

- Limited Access
- Highway

Figure 1: Project Location Map

*Riverside Inn & Spa Geothermal Water Right Transfer
Lava Hot Springs, Idaho*



Date: 12/8/2023
Project # 23-0158
By: RL

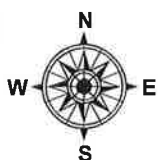


Legend

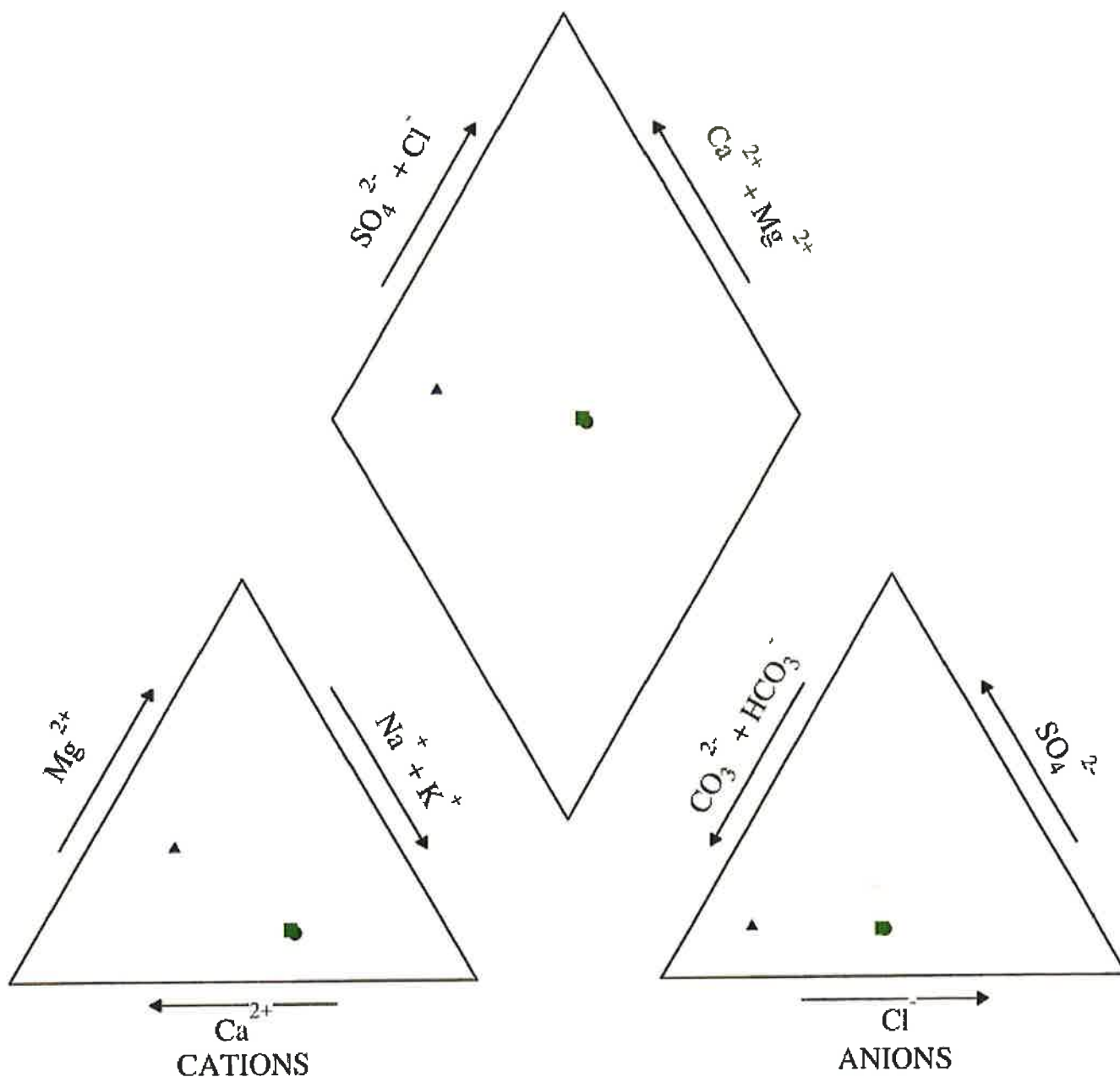
- Site Location
- Wells
- Streets

Figure 2: Offsite Well Locations (Approx.) within 0.25 Mile

*Riverside Inn & Spa Geothermal Water Right Transfer
Lava Hot Springs, Idaho*



Date: 12/8/2023
Project # 23-0158
By: RL

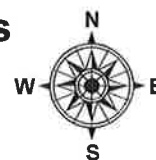


Legend

- ▲ River
- Spring
- Well

Figure 3: Trilinear Diagram of Water Types

*Riverside Inn & Spa
Lava Hot Springs, Idaho*



Township: 09S
Range: 38E
Section: 21



0 50 100 150 200
Feet

Maxar, Microsoft

Legend

- Existing PODs Sampled From on 11/03/23
- Proposed POD
- POD from IDWR Database



Figure 4: Current points of Diversion and Proposed New Point of Diversion

Hot Springs Resorts LLC

Project #: 23-0158

Drawn by: TK

Date: 1/30/2024



Well Driller Reports (Well Logs) Within 1/4 Mile of Riverside Inn
See Figure 2 for Corresponding Locations

Fig 2 Well No.	Listed Original Owner	Well ID No.
1	H. Etcheverry	343875
2	G. Katsilometes	340515
3	G. Katsilometes	321959
4	J. Campbell	406997
5	M. Campbell	413267
6	Beus Living Trust	467547
7	DLR Enterprises	448168
8	Home Hotel & Motel	336169

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

Office Use Only			
Inspected by _____			
Twp _____	Rge _____	Sec _____	
1/4 _____	1/4 _____	1/4 _____	
Lat: _____	Long: _____	_____	

1. WELL TAG NO. D 0014893
 DRILLING PERMIT NO. 7-6-8520
 Other IDWR No. _____

2. OWNER:
 Name George W. Katsilomates
 Address 94 E. Portneuf Ave
 City Lava Hot Springs State ID Zip 83246

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

	Twp. <u>7</u>	North ☐ or South ☒
	Rge. <u>38</u>	East ☒ or West ☐
	Sec. <u>21</u>	1/4 <u>SW</u> 1/4 <u>SE</u> 1/4
	Gov't Lot <u>10</u>	County <u>Burnack</u>
	Lat: _____	Long: _____

Address of Well Site 94 E. Portneuf Ave
 City Lava Hot Springs

(Give at least name of road + Distance to Road or Landmark)

Lt. _____ Bk. _____ Sub. Name _____

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☒ Thermal ☐ Injection ☒ Other Commercial

5. TYPE OF WORK check all that apply (Replacement etc.)
☐ New Well ☐ Modify ☐ Abandonment ☒ Other Replace

6. DRILL METHOD

☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT		METHOD
Material	From	To	Sacks	Pounds	
<u>Bentonite</u>	<u>0</u>	<u>100</u>	<u>50</u>	<u>Sacks</u>	<u>Overbore</u>

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 458'
 Was drive shoe seal tested? ☒ Y ☐ N How? Pressure

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
<u>6"</u>	<u>1 1/2</u>	<u>458</u>	<u>.250</u>	<u>Steel</u>	☒	☐	☒	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS

Perforations Method Knife
 Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
<u>150</u>	<u>270</u>	<u>1/2 x 1/4</u>	<u>4800</u>	<u>6"</u>	<u>Steel</u>	☒	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

1' ft. below ground Artesian pressure _____ lb.
 Depth flow encountered _____ ft. Describe access port or control devices: _____

11. WELL TESTS:

☐ Pump ☐ Bailor ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. _____ Bottom hole temp. _____

Water Quality test or comments: _____

Depth first Water Encounter _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Y	N
10"	0	12	Dirt		☒
4"	12	34	Conglomerate	☒	
10"	34	70	Lava Rock		☒
6"	70	80	Broken lava Rock	☒	
6"	80	90	Sandstone	☒	
	90	92	Quartzite	☒	
	92	115	Conglomerate	☒	
	115	125	Lava Rock		☒
	125	145	Sandstone	☒	
	145	153	Pumice & Clay	☒	
	153	165	Claystone	☒	
	165	280	Sandstone	☒	
	280	290	Heavy Sand	☒	
	290	380	Claystone	☒	
	380	390	Sandstone	☒	
	390	440	Claystone		☒
	440	465	Sandstone	☒	
	465	485	Claystone	☒	
	485	550	Sandstone - Rock	☒	
	550	695	Sandstone	☒	
	695	700	Sand	☒	

RECEIVED RECEIVED

SEP 17 2001

MAY 09 2001

Department of Water Resources Eastern Region

Completed Depth 700' (Measurable)
 Date: Started 4-14-01 Completed 5/3/01

13. DRILLER'S CERTIFICATION

(We certify that all minimum well construction standards were complied with at the time the rig was removed.)

Company Name Vallmer Well Drilling Firm No. 383
 Firm Official Roger Hall Date 05/07/01
 and Driller or Operator Joy Vallmer Date 5/8/01
 (Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

88788

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter
or
Ball Point Pen

49812

1. DRILLING PERMIT NO. 29-95-E-004-001
Other IPWR No. 29-7869

2. OWNER: GEORGE WILLIAM KATSILOMETES
Name 5 PORTNEUF AVENUE
Address LAKE HOTT SPRINGS State CO Zip 83246
City

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.


 Twp. 9 North ☐ or South ☒
 Rge. 38 East ☒ or West ☐
 Sec. 21 SW 1/4 SE 1/4 1/4
 Gov't Lot _____ County BANKOCK

Address of Well Site _____ City LAVA HOT SPRINGS

Lt. Blk. Sub. Name

4. PROPOSED USE:

☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☒ Other Commercial Heat Pumps

5. TYPE OF WORK *See above*

☐ New Well
 ☒ Modify or Repair
 ☐ Replacement
 ☐ Abandonment

6. DRILL METHOD

☐ Mud Rotary ☒ Air Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 8" -
Was drive shoe seal tested? Y ☐ N ☒ How? 8" -

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
8"	+1	47	250	STEEL	☒	☐	☐	☐
6"	+1	66	250	STEEL	☒	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS

☐ Perforations Method _____

☐ Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

23 ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or
control devices: _____

11. WELL TESTS:

☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
120			

Water Temp. 90° Bottom hole temp. _____

Water Quality test or comments:

12. LITHOLOGIC LOG: (Describe repairs or abandonment) Water

[illegible]

13. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name INDEPENDENT DRILLING Firm No. 343

Firm Officer Robert L. H. [Signature] Date 3-6-95

and
Supervisor or Operator 7444 Clovis Date 3-6-95

(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

88788

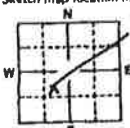
Location Corrected by IDWR To:

T09S R38E Sec. 21 SWSE

By: segbert 2010-10-15

Form 2387
1-78STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORTState law requires that this report be filed with the Director, Department of Water Resources
within 30 days after the completion or abandonment of the well.USE TYPEWRITER OR
BALLPOINT PEN

081385

1. WELL OWNER Name <u>JOE CAMPBELL</u> Address <u>ANNE ST. LAKE CITY SPRINGS</u> Owner's Permit No. _____		7. WATER LEVEL Static water level <u>5</u> feet below land surface. "Surge" ☐ Yes ☒ No G.P.M. flow _____ Automatic shut-off pressure _____ P.S.I. Controlled by ☐ Valve ☐ Cap ☐ Plug Temperature <u>80</u> °F. Quality _____																																																																		
2. NATURE OF WORK ☒ New well ☐ Deepened ☐ Replacement Abandoned (describe method of abandonment) _____		8. WELL TEST DATA ☐ Pump ☐ Bailor ☒ Air ☐ Other Discharge G.P.M. <u>100</u> Pumping Level _____ Major Pump-out <u>2</u>																																																																		
3. PROPOSED USE ☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection ☐ Other <u>GEOTHERMAL HEAT</u> (specify type) _____		9. LITHOLOGIC LOG <table border="1"> <thead> <tr> <th>Hole Diam.</th> <th>Depth From</th> <th>To</th> <th>Material</th> <th>Water</th> </tr> <tr> <th></th> <th>ft.</th> <th>ft.</th> <th></th> <th>Yes/No</th> </tr> </thead> <tbody> <tr> <td>7 1/2"</td> <td>0</td> <td>20</td> <td>TOP 15' CLAY & ROCK</td> <td></td> </tr> <tr> <td></td> <td>20</td> <td>54</td> <td>BEDROCK (40 GPM.)</td> <td></td> </tr> <tr> <td></td> <td>54</td> <td>105</td> <td>BASALT</td> <td></td> </tr> <tr> <td></td> <td>105</td> <td>155</td> <td>HARD SANDSTONE</td> <td></td> </tr> <tr> <td></td> <td>155</td> <td>160</td> <td>BEDROCK 20 GPM.</td> <td></td> </tr> <tr> <td></td> <td>160</td> <td>205</td> <td>HARD BROWN SANDSTONE</td> <td></td> </tr> <tr> <td></td> <td>205</td> <td>244</td> <td>BEDROCK</td> <td></td> </tr> <tr> <td></td> <td>244</td> <td>285</td> <td>SANDSTONE</td> <td></td> </tr> <tr> <td></td> <td>285</td> <td>295</td> <td>50 FT SANDSTONE</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>HARD BROWN SANDSTONE</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>40 OR 50 GPM.</td> <td></td> </tr> </tbody> </table>		Hole Diam.	Depth From	To	Material	Water		ft.	ft.		Yes/No	7 1/2"	0	20	TOP 15' CLAY & ROCK			20	54	BEDROCK (40 GPM.)			54	105	BASALT			105	155	HARD SANDSTONE			155	160	BEDROCK 20 GPM.			160	205	HARD BROWN SANDSTONE			205	244	BEDROCK			244	285	SANDSTONE			285	295	50 FT SANDSTONE					HARD BROWN SANDSTONE					40 OR 50 GPM.	
Hole Diam.	Depth From	To	Material	Water																																																																
	ft.	ft.		Yes/No																																																																
7 1/2"	0	20	TOP 15' CLAY & ROCK																																																																	
	20	54	BEDROCK (40 GPM.)																																																																	
	54	105	BASALT																																																																	
	105	155	HARD SANDSTONE																																																																	
	155	160	BEDROCK 20 GPM.																																																																	
	160	205	HARD BROWN SANDSTONE																																																																	
	205	244	BEDROCK																																																																	
	244	285	SANDSTONE																																																																	
	285	295	50 FT SANDSTONE																																																																	
			HARD BROWN SANDSTONE																																																																	
			40 OR 50 GPM.																																																																	
4. METHOD DRILLED ☒ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary ☐ Cable ☐ Dug ☐ Other _____		10. WORK Work started <u>12/30/80</u> Finished <u>1/2/81</u>																																																																		
5. WELL CONSTRUCTION Casing schedule: ☒ Steel ☐ Concrete ☐ Other Thickness _____ inches Diameter _____ inches From _____ feet To _____ feet Was casing drive shoe used? ☐ Yes ☒ No Was a packer or seal used? ☐ Yes ☒ No Perforated? ☐ Yes ☒ No How perforated? ☐ Factory ☐ Knife ☒ Torch Size of perforation <u>1/8</u> inches by <u>2</u> inches Number _____ perforations From _____ feet To _____ feet _____ perforations _____ feet _____ perforations _____ feet Well screen installed? ☐ Yes ☒ No Manufacturer's name _____ Model No. _____ Type _____ Slot size _____ Set from _____ feet to _____ feet Diameter _____ Slot size _____ Set from _____ feet to _____ feet Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____ Placed from _____ feet to _____ feet Surface seal depth <u>20</u> feet Material used in seal: ☐ Cement grout ☒ Well cuttings ☐ Puddling clay ☐ Temp. surface casing Sealing procedure used: ☐ Slurry pit ☐ Overbore to seal depth ☒ Welded ☐ Solvent Method of joining casing: ☐ Threaded ☒ Welded ☐ Weld ☐ Cemented between strata Describe access port _____		11. DRILLERS CERTIFICATION I/We certify that all minimum well construction standards were complied with at the time the rig was removed. Firm Name <u>DURSE DRILLING</u> Firm No. <u>148</u> Address <u>P.O. Box 4415 BOZEMAN</u> <u>1/2/81</u> Signed by (Firm Official) <u>W. H. D. [Signature]</u> and (Operator) <u>W. H. D. [Signature]</u>																																																																		
6. LOCATION OF WELL Sketch map location must agree with written location.  Subdivision Name _____ Lot No. _____ Block No. _____ County <u>BENAVILLE</u> <u>9S 38E</u> <u>NE 1/4 Sec. 21 T. 9 N. R. 38 E.</u>		USE ADDITIONAL SHEETS IF NECESSARY - FORWARD THE WHITE COPY TO THE DEPARTMENT <u>Sec. 21 9S 38E</u>																																																																		

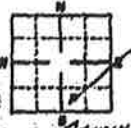
88788

Form 230-7
1/76

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

USE TYPEWRITER OR
BALLPOINT PEN

1. WELL OWNER Name <u>MARK CAMPBELL</u> Address <u>15 WEST B. ST. LAPO 141 STAN</u> Owner's Permit No. _____		7. WATER LEVEL Static water level <u>52</u> feet below land surface. Flowing? ☐ Yes ☒ No G.P.M. flow _____ Artesian closed in pressure _____ Controlled by: ☐ Valve ☐ Cap ☐ Plug Temperature <u>70</u> °F. Quality _____																																																								
2. NATURE OF WORK ☐ New well ☐ Deepened ☐ Replacement ☐ Abandoned (describe method of abandoning) _____		8. WELL TEST DATA ☐ Pump ☐ Sailer ☒ Ali ☐ Other _____ <table border="1"> <tr> <th>Discharge G.P.M.</th> <th>Pumping Level</th> <th>Hours Pumped</th> </tr> <tr> <td><u>52</u></td> <td></td> <td><u>7</u></td> </tr> </table>		Discharge G.P.M.	Pumping Level	Hours Pumped	<u>52</u>		<u>7</u>																																																	
Discharge G.P.M.	Pumping Level	Hours Pumped																																																								
<u>52</u>		<u>7</u>																																																								
3. PROPOSED USE ☐ Domestic ☐ Irrigation ☐ Test ☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection ☒ Other <u>GEOTHERMAL HEATING</u> (specify type) _____		9. LITHOLOGIC LOG <table border="1"> <thead> <tr> <th>Hole Diam.</th> <th>Depth From</th> <th>To</th> <th>Material</th> <th>Water Yes No</th> </tr> </thead> <tbody> <tr> <td><u>10</u></td> <td><u>0</u></td> <td><u>28</u></td> <td><u>BROWN CLAY</u></td> <td>☒</td> </tr> <tr> <td><u>10</u></td> <td><u>28</u></td> <td><u>32</u></td> <td><u>BROWN CLAY & GRIT</u></td> <td>☒</td> </tr> <tr> <td><u>10</u></td> <td><u>32</u></td> <td><u>38</u></td> <td><u>RED CLAY</u></td> <td>☒</td> </tr> <tr> <td><u>10</u></td> <td><u>38</u></td> <td><u>42</u></td> <td><u>GRIT</u></td> <td>☒</td> </tr> <tr> <td><u>10</u></td> <td><u>42</u></td> <td><u>48</u></td> <td><u>BROWN CLAY</u></td> <td>☒</td> </tr> <tr> <td><u>10</u></td> <td><u>48</u></td> <td><u>52</u></td> <td><u>GRIT</u></td> <td>☒</td> </tr> <tr> <td><u>10</u></td> <td><u>52</u></td> <td><u>58</u></td> <td><u>HARD CLAY & GRIT</u></td> <td>☒</td> </tr> <tr> <td><u>10</u></td> <td><u>58</u></td> <td><u>62</u></td> <td><u>MIXTURE</u></td> <td>☒</td> </tr> <tr> <td><u>10</u></td> <td><u>62</u></td> <td><u>68</u></td> <td><u>GRIT WITH MINERAL DEPOSIT MIX</u></td> <td>☒</td> </tr> <tr> <td><u>10</u></td> <td><u>68</u></td> <td><u>72</u></td> <td><u>HARD BROWN CLAY</u></td> <td>☒</td> </tr> </tbody> </table>		Hole Diam.	Depth From	To	Material	Water Yes No	<u>10</u>	<u>0</u>	<u>28</u>	<u>BROWN CLAY</u>	☒	<u>10</u>	<u>28</u>	<u>32</u>	<u>BROWN CLAY & GRIT</u>	☒	<u>10</u>	<u>32</u>	<u>38</u>	<u>RED CLAY</u>	☒	<u>10</u>	<u>38</u>	<u>42</u>	<u>GRIT</u>	☒	<u>10</u>	<u>42</u>	<u>48</u>	<u>BROWN CLAY</u>	☒	<u>10</u>	<u>48</u>	<u>52</u>	<u>GRIT</u>	☒	<u>10</u>	<u>52</u>	<u>58</u>	<u>HARD CLAY & GRIT</u>	☒	<u>10</u>	<u>58</u>	<u>62</u>	<u>MIXTURE</u>	☒	<u>10</u>	<u>62</u>	<u>68</u>	<u>GRIT WITH MINERAL DEPOSIT MIX</u>	☒	<u>10</u>	<u>68</u>	<u>72</u>	<u>HARD BROWN CLAY</u>	☒
Hole Diam.	Depth From	To	Material	Water Yes No																																																						
<u>10</u>	<u>0</u>	<u>28</u>	<u>BROWN CLAY</u>	☒																																																						
<u>10</u>	<u>28</u>	<u>32</u>	<u>BROWN CLAY & GRIT</u>	☒																																																						
<u>10</u>	<u>32</u>	<u>38</u>	<u>RED CLAY</u>	☒																																																						
<u>10</u>	<u>38</u>	<u>42</u>	<u>GRIT</u>	☒																																																						
<u>10</u>	<u>42</u>	<u>48</u>	<u>BROWN CLAY</u>	☒																																																						
<u>10</u>	<u>48</u>	<u>52</u>	<u>GRIT</u>	☒																																																						
<u>10</u>	<u>52</u>	<u>58</u>	<u>HARD CLAY & GRIT</u>	☒																																																						
<u>10</u>	<u>58</u>	<u>62</u>	<u>MIXTURE</u>	☒																																																						
<u>10</u>	<u>62</u>	<u>68</u>	<u>GRIT WITH MINERAL DEPOSIT MIX</u>	☒																																																						
<u>10</u>	<u>68</u>	<u>72</u>	<u>HARD BROWN CLAY</u>	☒																																																						
4. METHOD DRILLED ☒ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary ☐ Cable ☐ Dug ☐ Other _____		RECEIVED AUG 9 1982 Department of Water Resources																																																								
5. WELL CONSTRUCTION Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____ <table border="1"> <thead> <tr> <th>Thickness</th> <th>Diameter</th> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td><u>1/2</u> inches</td> <td><u>7</u> inches</td> <td><u>12</u> feet</td> <td><u>100</u> feet</td> </tr> <tr> <td>_____ inches</td> <td>_____ inches</td> <td>_____ feet</td> <td>_____ feet</td> </tr> <tr> <td>_____ inches</td> <td>_____ inches</td> <td>_____ feet</td> <td>_____ feet</td> </tr> <tr> <td>_____ inches</td> <td>_____ inches</td> <td>_____ feet</td> <td>_____ feet</td> </tr> </tbody> </table> Was casing drive shoe used? ☒ Yes ☐ No Was a packer or seal used? ☐ Yes ☒ No Perforated? ☐ Yes ☒ No How perforated? ☐ Factory ☐ Knife ☐ Torch Size of perforation _____ inches by _____ inches Number _____ perforations From _____ feet To _____ feet _____ perforations _____ feet _____ feet _____ perforations _____ feet _____ feet Well screen installed? ☐ Yes ☒ No Manufacturer's name _____ Type _____ Model No. _____ Diameter _____ Slot size _____ Set from _____ feet to _____ feet Diameter _____ Slot size _____ Set from _____ feet to _____ feet Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____ feet to _____ feet Paced from _____ feet to _____ feet Surface seal depth <u>10</u> Material used in seal: ☐ Cement grout ☐ Pudding clay ☐ Well cuttings Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☐ Overbore to seal depth Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between struts Describe access port _____		Thickness	Diameter	From	To	<u>1/2</u> inches	<u>7</u> inches	<u>12</u> feet	<u>100</u> feet	_____ inches	_____ inches	_____ feet	_____ feet	_____ inches	_____ inches	_____ feet	_____ feet	_____ inches	_____ inches	_____ feet	_____ feet	10. Work started <u>11/24/80</u> Finished <u>11/29/80</u>																																				
Thickness	Diameter	From	To																																																							
<u>1/2</u> inches	<u>7</u> inches	<u>12</u> feet	<u>100</u> feet																																																							
_____ inches	_____ inches	_____ feet	_____ feet																																																							
_____ inches	_____ inches	_____ feet	_____ feet																																																							
_____ inches	_____ inches	_____ feet	_____ feet																																																							
6. LOCATION OF WELL Sketch map location must agree with written location.  Subdivision Name _____ Lot No. <u>642</u> Block No. <u>18</u> County <u>BLAINE</u> <u>SEC 21 T. 9S R. 38E</u>		11. DRILLER'S CERTIFICATION I/We certify that all minimum well construction standards were complied with at the time the rig was removed. Firm Name <u>DAVE DRILLING</u> Firm No. <u>147</u> Address <u>20 BOX HILL BLVD</u> Date <u>12/29/80</u> Signed by (Firm Official) <u>Mr. Dave</u> and (Operator) <u>Mr. Dave</u>																																																								

081383

88788

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

1. WELL TAG NO. D0073951

Drilling Permit No. _____

Water right or injection well # _____

2. OWNER: DLB Enterprises LLC

Name _____

Address 12470 Hawthorne Rd.

City Pocatello State ID Zip 83202

3. WELL LOCATION:

Twp. 9 North ☐ or South ☒ Rge. 38 East ☐ or West ☐

Sec. 21 SE 1/4 SE 1/4 1/4

Gov't Lot _____ County Bannock

Lat. N 40° 6' 18" 782' (Deg. and Decimal minutes)

Long. W 112° 00' 8" 706' (Deg. and Decimal minutes)

Address of Well Site 00E1m ST.

(Give at least name of road - Distance to Road or Landmark) City Lava Hot Springs

Lot. _____ Blk. _____ Sub. Name _____

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection

☒ Other Geothermal Heat

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well

☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/Schedule	Material	Casing	Linear	Threaded	Welded
6"	1'	60'	250	Steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 60'

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method _____

Manufactured screen ☐ Y ☒ N Type _____

Method of installation _____

From (ft)	To (ft)	Slot size	Number	Diameter (nominal)	Material	Gauge or Schedule

Length of Headpipe _____ Length of Tailpipe _____

Packer ☐ Y ☒ N Type _____

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 57' Static water level (ft) 34'

Water temp. (°F) 86-90-52' Bottom hole temp. (°F) 103'

Describe access port Top 68'

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
<u>APPROX 25 GPM</u>	<u>1 HR</u>		☐	☐	☒	☐

Water quality test or comments: Clear

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water	
				Y	N
10 1/2"	0	18	Brown Clay		☒
	18	38	Black Lava - crev 26'		☒
	38	48	Black - Brown - Green Lava		☒
	48	58	Brown & Black Lava water 57' - 86-90°	☒	
6"	58	62	1 1 1 1 1	☒	
	62	68	Green Lava water 103° Bottom	☒	

RECEIVED

OCT 02 2017

Department of Water Resources
Eastern Region

Completed Depth (Measurable): 67'
Date Started: 8-23-17 Date Completed: 8-28-17

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Maverick Drilling Co. No. 533

*Principal Driller Sam Francisco Date 8-28-17

*Driller _____ Date _____

*Operator II _____ Date _____

Operator I _____ Date _____

* Signature of Principal Driller and rig operator are required.

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Inspected by _____
Twp _____ Rge _____ Sec _____
_____ 1/4 _____ 1/4 _____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0011976
 DRILLING PERMIT NO. 76-4173
 Other IDWR No. _____

2. OWNER:

Name Home Hotel & Motel
Address P.O. Box 67
City hava State TD Zip 83246

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

N
 W E S
 Twp. 9 North ☐ or South ☒
 Rge. 38 East ☒ or West ☐
 Sec. 21
 Gov't Lot _____
 County San Diego
 Lat. : : Long. : :
 Address of Well Site _____
 City Lava Hot Springs

Lt. _____ Blk. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☒ Thermal ☐ Injection ☒ Other Hot Water

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD

☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER		PACK		AMOUNT	METHOD
Material	From	To	Sacks or Pounds		
Cement	0	60	72 Sack #3 yard	Old or Bare	

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 60
Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
8"	71	59	250	Steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS

Perforations Method None
Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

Depth flow encountered 60' ft. Describe access port or control devices: well seal cap

11. WELL TESTS:

☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
50			

Water Temp. 140° F, Bottom hole temp. _____

Water Quality test or comments: good

Depth first Water Encounter _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

[illegible]

Completed Depth 60 (Measurable)
Date: Started 5-19-00 Completed 5-23-00

13. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Mt. West Valley Dairy Firm No: 8078

Firm Official Michael Treadwell Date 6-5-00

Driller or Operator _____ Date _____

(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

88788



Photograph 1. Geothermal well, viewing northwest.



Photograph 2. Concrete geothermal spring box with metal cover removed, adjacent to the Portneuf River, viewing northwest.



Photograph 3. Portneuf River from north bank, viewing southwest toward concrete geothermal spring box.

Monitoring Well Sampling Log

Well Number: <u>Well</u>				Site: <u>Riverside Hot Spring</u>			
Field Sampler/ crew: <u>TK & BC</u>				Date:		Project # <u>23-0158</u>	
Well Depth (Ft):		Flush Mount / Stick up		Weather:			
Depth to Water Level:		Measuring Point: <u>TOC</u>		Diameter	Gal. per Foot	Low Flow	
Water Column:				2"	0.163	Bailing	
Well Diameter: <u>WELL PUMP RUNS CONSTANTLY TO</u>				4"	0.653	Portable Pump	
V=(<u> </u> gal/ft x <u> </u> ft): <u>HOTEL HEAT EXCHANGER SO</u>				6"	1.47	Dedicated pump	
Purge = (3 x <u> </u> gal): <u>PURGE IS JUST TO BRUSH OUR SYSTEM</u>				Pump Intake Depth:			
FIELD PARAMETERS							
Time:	Gallons Purged	Temp °C	pH	Conductivity (µS/cm)	DO (mg/L)	Turbidity (ntu)	Comments
9:29	0	42.9	6.47	2448	0.03	NA	visually clear ↓ SOME TURBIDITY AS WE STARTED FILTERING
9:34	2	43.1	6.43	2484	0.01	NA	
9:38	4	43.1	6.43	2485	Not Reading	NA	
9:41	5	42.8	6.43	2483	" "	NA	
9:43	6	42.8	6.43	2481	" "	NA	
9:46	7	43.3	6.44	2484	" "	NA	
9:49	8	43.4	6.44	2485	" "	NA	
9:51	9	43.1	6.44	2485	" "	NA	
Remarks:				Final Purge Volume:			
				No of Buckets:			
SAMPLING							
Sample Number: <u>Well</u>				Number of Sample Containers: <u>2</u>			
Sample Date: <u>11/03/23</u>				Container Types: <u>Metals first & plain water</u>			
Filtered? <u>(Y)/N</u>				Sample Time: <u>9:51</u>			
Duplicate Sample? Y/ <u>(N)</u> Sample Number				Filter Size: <u>NA</u> 0.45 micron			

Monitoring Well Sampling Log

Well Number: <u>Spring</u>		Site: <u>Riverside Hot Spring</u>	
Field Sampler/ crew: <u>T/K B/C</u>		Date: <u>11/03/25</u>	Project # <u>23-0158</u>
Well Depth (Ft):	Flush Mount / Stick up	Weather: <u>Slight rain</u>	
Depth to Water Level:	Measuring Point: <u>TOC</u>	Diameter	Gal. per Foot
Water Column: <u>See Boyce Notes</u>		2"	0.163
Well Diameter:		4"	0.653
V=(_____ gal/ft x _____ ft):		6"	1.47
Purge = (3 x _____ gal):		Pump Intake Depth:	

FIELD PARAMETERS

Time:	Gallons Purged	Temp °C	pH	Conductivity (µS/cm)	DO (mg/L)	Turbidity (ntu)	Comments
11:36		48.4	6.03	2373	0.02	NA	Visually clear ↓
11:37		48.4	5.61	2373	0.01	NA	
11:38		48.4	5.54	2373	0.01	NA	
11:39		48.4	5.39	2373	0.00	NA	
11:40		48.5	5.27	2373	Not reading	NA	
11:41		48.5	5.21	2374	" "	NA	
11:42		48.6	5.26	2374	" "	NA	
11:43		48.6	5.29	2374	" "	NA	

Remarks: <u>5 gal in 3.8 min</u>	Final Purge Volume:
	No of Buckets:

SAMPLING

Sample Number:	Number of Sample Containers: <u>2</u>
Sample Date: <u>11/03/23</u>	Container Types: <u>Metals Pint & Plain Quart</u>
Filtered? <u>Y</u> /N	Sample Time: <u>11:48</u>
Duplicate Sample? <u>Y</u> / <u>N</u> Sample Number	Filter Size: <u>NA</u> ^{TK} <u>0.45 microns</u>

Monitoring Well Sampling Log

Well Number: <u>River</u>		Site: <u>Riverside Hot Spring</u>	
Field Sampler/ crew: <u>TK BC</u>		Date: <u>11/03/23</u>	Project # <u>23-0158</u>
Well Depth (Ft):	Flush Mount / Stick up	Weather: <u>cloudy</u>	
Depth to Water Level:	Measuring Point: <u>TOC</u>	Diameter	Gal. per Foot
Water Column:		2"	0.163
Well Diameter:		4"	0.653
V = (<u> </u> gal/ft x <u> </u> ft):		6"	1.47
Purge = (3 x <u> </u> gal):		Pump Intake Depth:	

FIELD PARAMETERS

Time:	Gallons Purged	Temp °C	pH	Conductivity (µS/cm)	DO (mg/L)	Turbidity (ntu)	Comments
11:52		10.0	4.67	981	0.04	NA	Water was cool to the touch
11:54		10.5	4.74	984	0.03	NA	
11:55		10.0	4.07	985	0.03	NA	
11:56		10.1	4.14	979	0.02	NA	
11:57		9.6	4.16	983	0.02	NA	
11:58		9.9	4.21	1001	0.01	NA	
11:59		10.3	4.69	976	0.01	NA	
12:00		10.0	4.74	972	0.01	NA	

Remarks:

4:38 (min:sec) to fill 5 gal bucket

Final Purge Volume:

No of Buckets:

SAMPLING

Sample Number:	Number of Sample Containers: <u>2</u>
Sample Date: <u>11/03/23</u>	Container Types: <u>Hotels Pint & plain Quaff</u>
Filtered? <u>Y</u> / N	Sample Time: <u>12:02</u>
Duplicate Sample? Y / <u>N</u> Sample Number	Filter Size: <u>0.45 micron</u>



11/20/2023

Work Order: 23K0558
Project: Riverside Hot Spring

RMEA - Rocky Mountain Environmental Associates

Attn: Patrick Naylor

482 Constitution #303

Idaho Falls, ID 83402

Client Service Contact: 801.262.7299

The analyses presented on this report were performed in accordance with the National Environmental Laboratory Accreditation Program (NELAP) unless noted in the comments, flags, or case narrative. If the report is to be used for regulatory compliance, it should be presented in its entirety, and not be altered.



Approved By:

Melissa Connolly, Project Manager



Chemtech-Ford Laboratories

Serving the Intermountain West Since 1953

9632 South 500 West
Sandy, UT 84070
O: (801) 262-7299 F: (866) 792-0093
www.ChemtechFord.com



Certificate of Analysis

RMEA - Rocky Mountain Environmental Associates
Patrick Naylor
482 Constitution #303
Idaho Falls, ID 83402

PO#: 23-0158
Receipt: 11/7/23 15:14 @ 0.7 °C
Date Reported: 11/20/2023
Project Name: Riverside Hot Spring

Sample ID: Well

Matrix: Water

Date Sampled: 11/3/23 9:51

Sampled By: Thane Kindred

Lab ID: 23K0558-01

	<u>Result</u>	<u>Units</u>	<u>Minimum Reporting Limit</u>	<u>Method</u>	<u>Preparation Date/Time</u>	<u>Analysis Date/Time</u>	<u>Flag(s)</u>
Inorganic							
Alkalinity - Bicarbonate (as CaCO ₃)	558	mg/L	1.0	SM 2320 B	11/8/23	11/8/23	
Alkalinity - Carbonate (as CaCO ₃)	ND	mg/L	1.0	SM 2320 B	11/8/23	11/8/23	
Alkalinity - Hydroxide (as CaCO ₃)	ND	mg/L	1.0	SM 2320 B	11/8/23	11/8/23	
Alkalinity - Total (as CaCO ₃)	558	mg/L	1.0	SM 2320 B	11/8/23	11/8/23	
Chloride	297	mg/L	5.00	EPA 300.0	11/10/23	11/10/23	
Sulfate	112	mg/L	5.00	EPA 300.0	11/10/23	11/10/23	
Metals, Dissolved							
Calcium, Dissolved	132	mg/L	0.2	EPA 200.7/200.2	11/15/23	11/15/23	
Magnesium, Dissolved	29.2	mg/L	0.2	EPA 200.7/200.2	11/15/23	11/15/23	
Potassium, Dissolved	52.3	mg/L	0.5	EPA 200.7/200.2	11/15/23	11/15/23	
Sodium, Dissolved	225	mg/L	0.5	EPA 200.7/200.2	11/15/23	11/15/23	



Chemtech-Ford Laboratories

Serving the Intermountain West Since 1953

9632 South 500 West
Sandy, UT 84070
O: (801) 262-7299 F: (866) 792-0093
www.ChemtechFord.com



Certificate of Analysis

RMEA - Rocky Mountain Environmental Associates
Patrick Naylor
482 Constitution #303
Idaho Falls, ID 83402

PO#: 23-0158
Receipt: 11/7/23 15:14 @ 0.7 °C
Date Reported: 11/20/2023
Project Name: Riverside Hot Spring

Sample ID: Spring

Matrix: Water

Date Sampled: 11/3/23 11:48

Sampled By: Thane Kindred

Lab ID: 23K0558-02

	Result	Units	Minimum Reporting Limit	Method	Preparation Date/Time	Analysis Date/Time	Flag(s)
Inorganic							
Alkalinity - Bicarbonate (as CaCO ₃)	527	mg/L	1.0	SM 2320 B	11/8/23	11/8/23	
Alkalinity - Carbonate (as CaCO ₃)	ND	mg/L	1.0	SM 2320 B	11/8/23	11/8/23	
Alkalinity - Hydroxide (as CaCO ₃)	ND	mg/L	1.0	SM 2320 B	11/8/23	11/8/23	
Alkalinity - Total (as CaCO ₃)	527	mg/L	1.0	SM 2320 B	11/8/23	11/8/23	
Chloride	273	mg/L	5.00	EPA 300.0	11/10/23	11/10/23	
Sulfate	106	mg/L	5.00	EPA 300.0	11/10/23	11/10/23	
Metals, Dissolved							
Calcium, Dissolved	127	mg/L	0.2	EPA 200.7/200.2	11/15/23	11/15/23	
Magnesium, Dissolved	29.3	mg/L	0.2	EPA 200.7/200.2	11/15/23	11/15/23	
Potassium, Dissolved	47.9	mg/L	0.5	EPA 200.7/200.2	11/15/23	11/15/23	
Sodium, Dissolved	207	mg/L	0.5	EPA 200.7/200.2	11/15/23	11/15/23	



Chemtech-Ford Laboratories

Serving the Intermountain West Since 1953

9632 South 500 West
Sandy, UT 84070
O: (801) 262-7299 F: (866) 792-0093
www.ChemtechFord.com



Certificate of Analysis

RMEA - Rocky Mountain Environmental Associates
Patrick Naylor
482 Constitution #303
Idaho Falls, ID 83402

PO#: 23-0158
Receipt: 11/7/23 15:14 @ 0.7 °C
Date Reported: 11/20/2023
Project Name: Riverside Hot Spring

Sample ID: River

Matrix: Water

Date Sampled: 11/3/23 12:02

Sampled By: Thane Kindred

Lab ID: 23K0558-03

	<u>Result</u>	<u>Units</u>	<u>Minimum Reporting Limit</u>	<u>Method</u>	<u>Preparation Date/Time</u>	<u>Analysis Date/Time</u>	<u>Flag(s)</u>
Inorganic							
Alkalinity - Bicarbonate (as CaCO ₃)	374	mg/L	1.0	SM 2320 B	11/8/23	11/8/23	
Alkalinity - Carbonate (as CaCO ₃)	ND	mg/L	1.0	SM 2320 B	11/8/23	11/8/23	
Alkalinity - Hydroxide (as CaCO ₃)	ND	mg/L	1.0	SM 2320 B	11/8/23	11/8/23	
Alkalinity - Total (as CaCO ₃)	374	mg/L	1.0	SM 2320 B	11/8/23	11/8/23	
Chloride	38.4	mg/L	1.00	EPA 300.0	11/9/23	11/10/23	
Sulfate	49.8	mg/L	1.00	EPA 300.0	11/9/23	11/10/23	
Metals, Dissolved							
Calcium, Dissolved	87.5	mg/L	0.2	EPA 200.7/200.2	11/15/23	11/15/23	
Magnesium, Dissolved	36.7	mg/L	0.2	EPA 200.7/200.2	11/15/23	11/15/23	
Potassium, Dissolved	9.3	mg/L	0.5	EPA 200.7/200.2	11/15/23	11/15/23	
Sodium, Dissolved	33.9	mg/L	0.5	EPA 200.7/200.2	11/15/23	11/15/23	



Chemtech-Ford Laboratories

Serving the Intermountain West Since 1953

9632 South 500 West
Sandy, UT 84070
O: (801) 262-7299 F: (866) 792-0093
www.ChemtechFord.com



Certificate of Analysis

RMEA - Rocky Mountain Environmental Associates
Patrick Naylor
482 Constitution #303
Idaho Falls, ID 83402

PO#: 23-0158
Receipt: 11/7/23 15:14 @ 0.7 °C
Date Reported: 11/20/2023
Project Name: **Riverside Hot Spring**

Report Footnotes

Abbreviations

ND = Not detected at the corresponding Minimum Reporting Limit (MRL).

1 mg/L = one milligram per liter or 1 mg/kg = one milligram per kilogram = 1 part per million.

1 ug/L = one microgram per liter or 1 ug/kg = one microgram per kilogram = 1 part per billion.

1 ng/L = one nanogram per liter or 1 ng/kg = one nanogram per kilogram = 1 part per trillion.

On calculated parameters, there may be a slight difference between summing the rounded values shown on the report vs the unrounded values used in the calculation.

RECEIVED

FEB 08 2024



Rocky Mountain
ENVIRONMENTALSM
ASSOCIATES, INC.

Department of Water Resources
Eastern Region

February 1, 2024

RMEA Project 23-0158

Idaho Department of Water Resources
900 N Skyline Dr. A,
Idaho Falls, ID 83402

Re: Transfer Application to Add New Point of Diversion associated with Water Rights 29-4492 and 29-4493

Dear Idaho Department of Water Resources (IDWR) Representatives:

Attached to this letter is an *Application for Transfer of Water Right – Point(s) of Diversion* (Transfer) submitted by Rocky Mountain Environmental Associates (RMEA) on behalf of Hot Springs Resorts LLC (Applicant). The purpose of these documents is to grant the Applicant a new geothermal well that will serve as a POD for Water Rights 29-4492 and 29-4493. In this letter we address two nuances in attached documents that require explanation.

In preparing this Transfer, RMEA discovered two discrepancies in IDWR's record of existing PODs associated with Water Rights 29-4492 and 29-4493. First, the PODs identified in IDWR's online database do not match field observations made by RMEA staff on November 3, 2023 (See Technical Memorandum attached to Transfer). Thus, all maps attached to this letter show data from IDWR's Database in red and the observed locations in blue. Second, in preparing maps for this Transfer, RMEA discovered that the quarter quarters listed in the Water Right Reports for PODs associated with Water Rights 29-4492 and 29-4493 are incorrect. Both PODs are reportedly located in T09S R38E Sec 21 SESE, when RMEA's mapping indicates that they are located in T09S R38E Sec 21 NESE. Thus, in the attached Transfer, RMEA proposes to update the location of the PODs to the observed locations. No physical change in location will occur.

Water Rights 29-4492 and 29-4493 indicate that they draw from different sources (groundwater and spring, respectively), both of which are tributary to the Portneuf River. Adding a new well to water right 29-4493 (from the spring) raises concerns about connectivity of the spring and local ground water. To address this concern, RMEA performed field and technical analysis on samples collected from the well, the spring, and the nearby Portneuf River. The analysis revealed that the spring and the well produce water from the same geothermal aquifer. Thus, it is RMEA's professional opinion that the proposed well will not, in practice, change the source of water of either water right.

RMEA appreciates the opportunity to submit these applications. Please feel free to contact us if there are questions or if refinement of the applications is required.

Thanks,

A handwritten signature in blue ink that reads "Thane R. Kindred". The signature is fluid and cursive, with the first name "Thane" being the most prominent.

Thane Kindred
Staff Geologist
Rocky Mountain Environmental

Reviewed By

A handwritten signature in blue ink that reads "Kristin Moore". The signature is written in a cursive style, with the first name "Kristin" being the most prominent.

Kristin Moore
Senior Water Right Analyst

Enclosures: Application for Transfer – POD with Attachments
Technical Memorandum



Eastern Region • 900 N Skyline Drive, Suite A • Idaho Falls, ID 83402-1718

Phone: 208-525-7161 • Fax: 208-525-7177 • Email: easterninfo@idwr.idaho.gov • Web: idwr.idaho.gov

Governor Brad Little

Director Mathew Weaver

March 6, 2024

HOT SPRINGS RESORTS LLC
255 E PORTNEUF
LAVA HOT SPGS, ID 83246

RE: Transfer No. 88788
Water Right No(s). 29-4492, 29-4493

Dear Applicant:

The Department of Water Resources has received your water right transfer application. Please refer to the transfer number referenced above in all future correspondence regarding this transfer.

A legal notice of the application has been prepared and is scheduled for publication in the IDAHO STATE JOURNAL on 3/13/2024 and 3/20/2024. Protests to this application may be submitted for a period ending ten (10) days after the second publication.

If the application is protested, you will be sent a copy of each protest. All protests must be resolved before the application can be considered for approval. If the protest(s) cannot be resolved voluntarily, the Department will conduct a conference and/or hearing on the matter.

If the application is not protested, the Department will process your application and notify you of any action taken on the application. If your application is approved, the Department will send you a copy of the approval document.

Please contact this office if you have any questions regarding the application.

Sincerely,

A handwritten signature in blue ink, appearing to read "CH", is written over the word "Sincerely,".

Christina Henman
Administrative Assistant

CC:

ROCKY MOUNTAIN ENVIRONMENTAL ASSOC INC
482 CONSTITUTION WAY STE 303
IDAHO FALLS, ID 83402-3552

Henman, Christina

From: Henman, Christina
Sent: Wednesday, March 6, 2024 11:29 AM
To: legalnotices@postregister.com
Subject: Legal Notice for Idaho State Journal
Attachments: 88788 Idaho State Journal.docx

LEGAL NOTICE DEPARTMENT
IDAHO STATE JOURNAL
PO BOX 431
POCATELLO, ID 83204-0431

RE: Transfer No. 88788
Water Right No(s). 29-4492, 29-4493

Dear Legal Notice Department:

Please publish the enclosed legal notice on the dates indicated (once a week for two consecutive weekly issues). If you cannot publish the notice on the proposed dates, please contact us immediately.

An affidavit of publication must be submitted to the Department along with the publication bill. Please send the affidavit and bill to this office before 4/1/2024. Your cooperation is appreciated.

Thank You,



Christina Henman
Administrative Assistant
IDWR, Eastern Region
900 N Skyline Ste. A
Idaho Falls, ID 83402
Phone: (208) 525-7161

NOTICE OF PROPOSED CHANGE OF WATER RIGHT

TRANSFER NO. 88788

HOT SPRINGS RESORTS LLC, 255 E PORTNEUF, LAVA HOT SPGS, ID 83246 has filed Application No. 88788 for changes to the following water rights within BANNOCK County(s): Right No(s). 29-4492, 29-4493; to see a full description of these rights and the proposed transfer, please see <https://research.idwr.idaho.gov/apps/waterrights/querynewtransfers>. The purpose of the transfer is to change a portion of the above rights as follows: change legal descriptions of existing points of diversion and add a new geothermal well to divert both the spring right and the ground water right. Proposed points of diversion are in Lot 8 (SESE) (existing well), Lot 8 (SESE) (existing spring diversion), and Lot 1 (SESE) (new well), Sec 21 T09S R38E for 0.86 cfs.

For additional information concerning the property location, contact Eastern Region office at (208)525-7161. Protests may be submitted based on the criteria of Idaho Code Sec. 42-222. Any protest against the proposed change must be filed with the Department of Water Resources, Eastern Region, 900 N SKYLINE DR STE A, IDAHO FALLS ID 83402-1718 together with a protest fee of \$25.00 for each application on or before 4/1/2024. The protestant must also send a copy of the protest to the applicant.

MATHEW WEAVER, Director

Published on 3/13/2024 and 3/20/2024