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Water Resources

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DEPARTMENT OF
WATER RESOURCES

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MAR 31 2023
DEPT OF WATER RESOURCES
SOUTHERN REGION

March 31st, 2023

Mr. Corey Skinner
Idaho Department of Water Resources
650 Addison Ave W, Ste 500.
Twin Falls, ID 83301-3380

RE: Water Right Permit 37-23099; Beneficial Use Field Report.

Dear Corey,

On behalf of Mr. Hartley Rogers, enclosed is the beneficial use field report for water right permit 37-23099. Please copy our office on all correspondence regarding this water right permit beneficial use field report. Don't hesitate to call our office should you have any further questions or comments. Thanks for your time and assistance on this matter.

Regards,

G. Erick Powell, Ph.D., P.E.

Enclosures: (1) Beneficial Use Field Report; 37-23099

Cc: Mr. Hartley Rogers

CHARLES E.
BROCKWAY,
PH.D., P.E.

CHARLES G.
BROCKWAY,
PH.D., P.E.

2016 NORTH
WASHINGTON
STREET • SUITE 4

TWIN FALLS,
IDAHO 83301

208•736•8543

FAX: 736•8506

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

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A Beneficial Use Field Report is prepared by a water right examiner as the result of an examination to clearly confirm and establish the extent of the beneficial use of water established in connection with a permit during the development period authorized by the permit and any extensions of time previously approved.

A. GENERAL INFORMATIONPermit No. 37-23099

1. Owner Hartley Rogers Phone No. _____
Current address 610 Fifth Ave Ste 401 New York NY 10020
2. Examiner's name G. Erick Powell EXAM DATE 3/8/23
3. Accompanied by Lee Gilman Builders- James Fisher Email james@leegilman.com
Address PO Box 5348 Ketchum, ID 83340
- Relationship to permit holder General Contractor Phone No. 208-726-3300
4. Source Ground Water tributary to N/A

B. OVERLAP REVIEW

1. Other water rights with the same place of use None.
2. Other water rights with the same source and point of diversion None.

C. DIVERSION AND DELIVERY SYSTEM

1. Point(s) of Diversion:

Ident. No.	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County	Method of Determination/Remarks
			NW	NE	23	5N	17E	BLAINE	PRODUCTION WELL ON-SITE VISUA
			NW	NE	23	5N	17E	BLAINE	INJECTION WELL- ON-SITE VISIAL

2. Place(s) of Use: Method of determination IDWR GIS WEBSITE PLSS

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
5N	17E	23		H,G															

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☒ see attached.

SEE ATTACHED MAP.															
-------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Scale: 1" = _____

- ☐ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (**required**)
☒ Aerial photo attached (required for irrigation of 10+ acres)
☒ Photo of diversion and system attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Production Well	Pentek	7.5	4" High-Flo	Sta Rite	4" High-Flo

*Code to correspond with no. on map and aerial photo

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
In-line Meter- Heating and Cooling	Ultrasonic	Octave	3" C750	20807894	3"	6/24/2020

2. **Measurements:** _____

See attached narrative, measurement table included in narrative.

E. NARRATIVE/REMARKS/COMMENTS

Please see attached narrative.

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's resting on a surface. There is no handwriting or other markings on the paper.

Has the permit holder met all conditions of permit approval, including any mitigation requirements and/or measuring device installation requirements? ☒ Yes ☐ No If no, what must be done to meet the permit requirements?

Permit holder has met all requirements outlined in permit 37-23099.

[illegible]

F. FLOW CALCULATIONS☒ Additional computation sheets attached

Measured Method:

In-Line flow meter, see attached narrative.

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{N/A}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = \underline{N/A}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \underline{N/A}$$

2. Volume Calculations for Other Uses:

See attached narrative for heating and cooling annual diversion volume calculations.

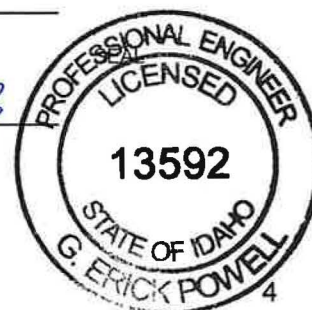
H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
Heating	01/01	12/31	0.16	43.5
Cooling	01/01	12/31	0.16	43.5
Totals:			0.16	43.5

2. Recommended Amendments

- ☐ Change P.D. as reflected on page 1 ☐ Add P.D. as reflected on page 1 ☒ None
☐ Change P.U. as reflected on page 1 ☐ Add P.U. as reflected on page 1 ☐ Other

I. AUTHENTICATIONField Examiner's Signature *[Signature]* Date 3/30/2023Reviewer BLAKE BURMAN *[Signature]* Date 10/30/23

HARTLEY ROGERS

Narrative in Support of Beneficial Use Exam; Permit 37-23099

Brockway Engineering PLLC

March 31st, 2023

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WATER RESOURCES

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SOUTHERN REGION

Idaho Department of Water Resources (IDWR) water right permit 37-23099 was approved on April 3rd, 2018, with proof due on April 1st of 2023. This narrative explains the beneficial use exam associated with permit 37-23099. For the field exam, a site visit was made to the Rogers property by Brockway Engineering staff on March 8th, 2023. This exam attempts to substantiate the degree of beneficial use associated with the permit at the time of the proof filing.

For heating and cooling system operation under 37-23099, water is diverted from the production well (IDWR Tag #D0066499 and buried in snow on the exam date), run through 2" HDPE pipe into the residence's crawl space, through the heating and cooling system and then returned to the aquifer in the injection well (IDWR Tag#D0075047) as seen in Figure 1. The production well also serves as the domestic well for the residence as authorized under Idaho Statute 42-111A although it is not metered. The production pump is manufactured by Starite, 4" High-Flo model, and the production motor is a 7.5 HP Pentek 4" High-Flo. The serial number for the motor and the pump are not known.

The heating and cooling system is comprised of three identical Lochinvar boilers and eight Carrier water source heat pumps, and example of one of the units is shown in Figures 2 and 3. For reference, the Lochinvar boiler as shown has a serial number of 2101 122671740 and model number of WHB399N; model numbers for the additional boiler two units are identical. Additionally for reference, the Carrier water source heat pump has a serial number of 1617V58482, model number; GP024HELNxET1XX1; model numbers for the additional seven heat pumps are identical.

During the March 8th 2023 field exam, an existing in-line 3" ultrasonic meter made by Octave (serial number; 20807894, model number; 3" AWWA C750 Ultrasonic Meter) was used to observe instantaneous discharge rates and discharge volumes accrued over a forty-one-minute period on the heating and cooling return line only. Water pumped for domestic use is not run through the meter and is therefore not included in this analysis. Because the system is a closed loop system and there is no water lost in the system, all water entering the residence for heating and cooling leaves the residence.

The in-line ultrasonic meter registered a flow rate of 59.1 gpm at the beginning of the exam. This flow rate represents the usage required to heat the un-occupied residence during the date of the exam. The heating and cooling system was then run at a maximum output level, or 85 °F, for approximately thirty minutes. When the eight heating and cooling units responded to the 85 °F heating requirement, the ultrasonic meter registered a maximum average flow rate of 74 gallons per minute (gpm) or 0.16 cubic feet per second) (cfs).

Water temperature on the return flow line as reported on the in-line ultrasonic meter during this time was 44 °F. An example of an instantaneous flow rate and return flow temperature as shown on the meter readout screen can be seen in Figure 4.

The annual volume estimation for the residence was calculated two ways with the first using actual diversion volumes. The in-line ultrasonic meter was installed on 2/24/21 and a second reading of 16,163,670 gallons was taken at the end of the exam on March 8th 2023. If the total diversion volume is divided by the time the meter has been functional, the average daily volume equates to 21,784 gallons. If this daily volume is applied over the course of a year, the estimated annual diversion volume is 7,951,131 gallons or 24.4 acre-feet.

The second annual volume estimation is calculated using IDWR's methodology that was applied to heating and cooling permit 37-22685 wherein Mr. Bill Mills (IDWR Southern Region Senior Water Resource Agent) calculated yearly volumes likely used based on the number of days both above and below freezing using a nearby weather station, an assumed rate that water would be diverted for each heating and cooling uses and the flow rate observed in the system. For this analysis, the U.S. Forest Service's Sawtooth National Recreation Area North Fork RAWS weather station data was used to calculate daily average temperatures for the years 2018 through 2022. This weather station is located approximately 2.7 miles northwest of the permit holder's property. The number of days in each year both above and below freezing was then calculated (Table 1).

	Temp (oF) > 32	Temp (oF) < 32
Year:		
2018	234	131
2019	218	147
2020	229	136
2021	237	128
2022	219	146
AVG:	227	138

Table 1: Daily average temperatures per year, number above and below freezing at USFS North Fork RAWS weather station.

Using the average of days both above and below freezing, a percentage of time that a heating system is on was assumed to be associated with actual diversion of water for each use, 30% for cooling and 50% for heating. For the heating use, if the discharge rate of 0.16 cfs (measured maximum diversion rate) is allowed to run at 50% of the time when temperatures are below freezing, the resultant diversion volume for that 138 days is 21.9 AF $((0.16 \text{ cfs}) \times 138 \text{ days} \leq \text{freezing at North Fork} * (0.50 \text{ avg system operation time}) \times 1.983 \text{ AF/cfs} = 21.9 \text{ AF})$. Likewise for the cooling use, if the discharge rate of 0.16 cfs is allowed to run at 30% of the time when temperatures are above freezing, the resultant diversion volume for that 227 days is 21.6 AFA $((0.16 \text{ cfs}) \times 227 \text{ days} \geq \text{freezing at North Fork} * (0.30 \text{ avg system operation time}) \times 1.983 \text{ AF/cfs} = 21.6 \text{ AF})$. Therefore, the total heating and cooling diversion volume recommended for licensing should be 21.9 + 21.6 or 43.5 acre-feet annually.

Condition Review and Recommendations:

1. *Proof of application of water to beneficial use shall be submitted on or before April 01, 2023.*
 - a. Condition has been met with the filing of this exam.
2. *Subject to all prior water rights.*
 - a. Recommend condition remain on license.
3. *Project construction shall commence within one year from the date of permit issuance and shall proceed diligently to completion unless it can be shown to the satisfaction of the Director of the Department of Water Resource that delays were due to circumstance over which the permit holder had no control.*
 - a. Condition has been met, recommend condition be removed on license.
4. *Use of water under this right shall be non-consumptive.*
 - a. Condition has been met, recommend condition remain on license.
5. *Use of water under this right will be regulated by a Watermaster with responsibility for the distribution of water among appropriators within a water district. At the time of this approval, this water right is within State Water District No.37*
 - a. Condition has been met, recommend condition remain on license.
6. *Prior to diversion of water under this right, the right holder shall install and maintain a measuring device and lockable controlling works of a type acceptable to the Department as part of the diverting works.*
 - a. Condition has partially been met, measuring device is installed and operational, no lockable, controllable works were installed due to the nature of the diverting works (residential application). Recommend removing lockable controlling works from license or modify the language stating lockable controlling works may be required by IDWR.
7. *Return flow discharged to a subsurface system must be authorized by a separate injection well permit.*
 - a. Condition has been met, injection well permit has been issued by IDWR, recommend condition remain on license.
8. *This right is for the use of trust water, and it is subject to a review 5 years after its initial approval (date of permit approval) to re-evaluate the availability of trust water for the authorized use and to re-evaluate the public interest criteria for reallocating trust water.*
 - a. Recommend removal of condition prior to license approval. Water diverted under this right is non-consumptive and therefore condition is not warranted.
9. *Use of water to this right is either nonconsumptive or the right holder is required to provide ongoing mitigation to offset the depletion of water resulting from the use of this right. Regulation of this right to satisfy the minimum stream flow water rights in the Snake River at Murphy Gauge shall not be required.*
 - a. Condition has been met, recommend condition remain on license.
10. *Point of diversion and place of use are located with Tax Lot 4401 in Homestead Entry Survey (HES) no. 128, a location situated in Sections 23 and 24 of Township 5 North, Range 17 East, B.M. On the date of permit approval, the POD and POU are projected as located in the NWNE of Section 23 using the current version of the GCDB.*
 - a. Condition has been met, recommend condition remain on license.
11. *Place of use does not include federal public lands.*
 - a. Condition has been met, recommend condition remain on license.



Figure 1: Injection Well on South Side of Residence.



Figure 2: Lochinvar Boiler Units 1, 2 and 3.

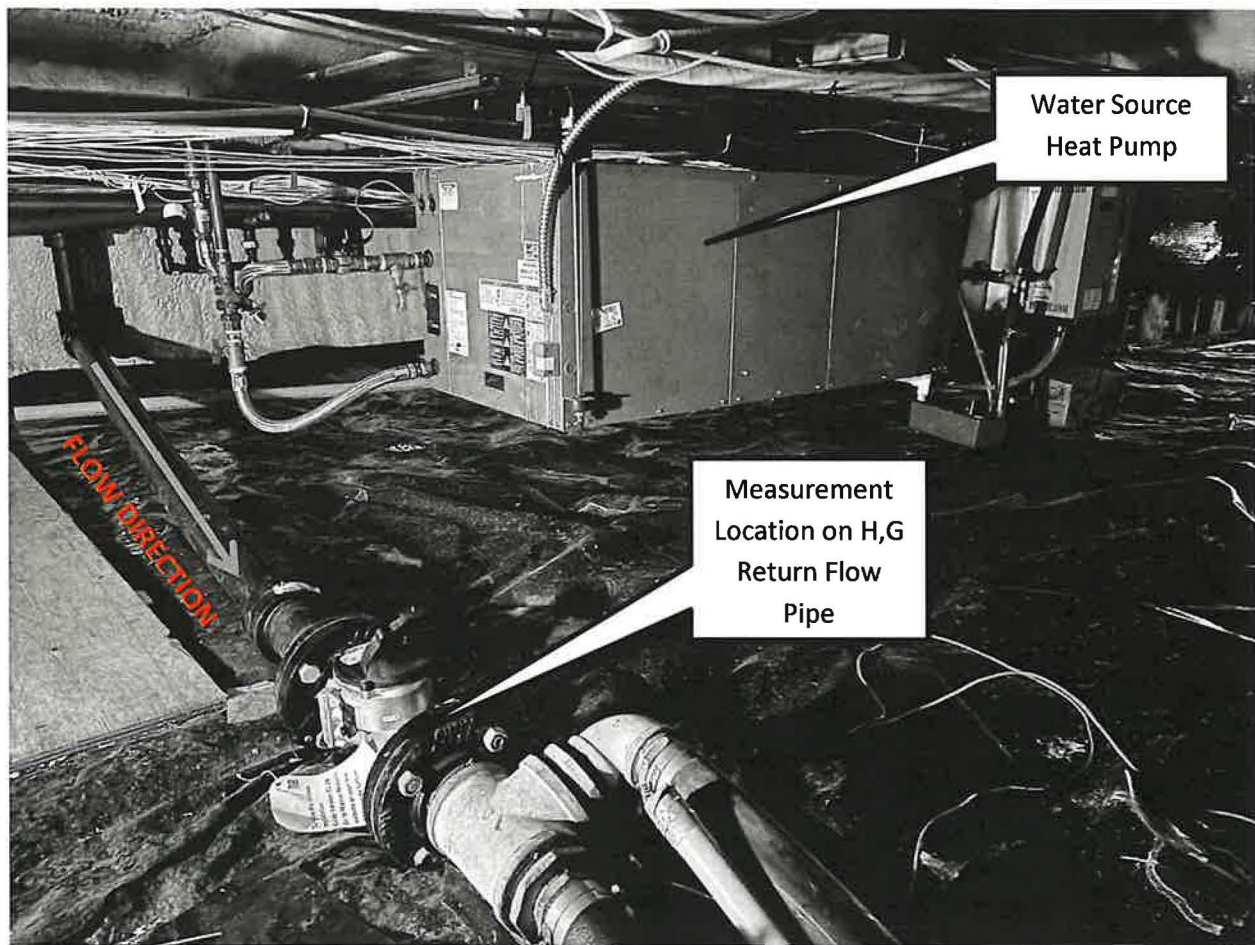


Figure 3: Water Source Heat Pump, Flow Meter in Foreground.



Figure 4: Heating and Cooling Measurement Meter Location.

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

DP

1. WELL TAG NO. D 00 75047

Drilling Permit No. 884343

Water right or injection well # _____

2. OWNER: Lee / Gilman Builders

Name Lee / Gilman Builders

Address P.O. Box 5348

City Ketchum State Id Zip 83340

3. WELL LOCATION:

Twp. 5 North ☒ or South ☐ Rge. 17 East ☒ or West ☐

Sec. 23 1/4 NW 1/4 NE 1/4

Gov't Lot _____ County Blaine

Lat. 43 ° 45 ' 191 (Deg. and Decimal minutes)

Long. 114 ° 23 ' 736 (Deg. and Decimal minutes)

Address of Well Site 13370 Hwy 75

City Ketchum

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

Lot _____ Blk. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☒ Other Heating & Cooling

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 ft ³)	Placement method/procedure
Bentonite Chips	20	+1.5	1000 lbs	Dry Pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/Schedule	Material	Casing Liner	Threaded	Welded
8	60ft	+1.5	250	Steel	☒	☐	☒

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

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method _____

Manufactured screen ☐ Y ☒ N Type _____

Method of installation _____

From (ft)	To (ft)	Slot size	Number/ft	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 ft ³)	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) 20 Static water level (ft) 14

Water temp. (°F) Cold Bottom hole temp. (°F) Cold

Describe access port Well Cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
40	140	20	☐	☐	☒	☐

Water quality test or comments: Good

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
12	0	2	Top Soil		X
12	2	16	Gravel & Boulders		X
12	16	20	Clay & Gravel		X
8	20	26	Clay & Gravel	X	
8	26	60	Gravel & Sand	X	

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SOUTHERN REGION

884343

Completed Depth (Measurable): <u>60ft</u>
Date Started: <u>11/10/2017</u> Date Completed: <u>11/13/2017</u>

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 Dirt Works Co. No. 652

*Principal Driller Brian McJannet Date 11/24/2017

*Driller _____ Date _____

*Operator II _____ Date _____

Operator I _____ Date _____

* Signature of Principal Driller and rig operator are required.



HARTLEY ROGERS
HEATING & COOLING BENEFICIAL USE EXAM
37-23099

- Place of use
- Parcel
- Injection Well
- Production Well
- Delivery Lines

BROCKWAY ENGINEERING, PLLC.
JJJ - Date: 3/10/2023

2022 BLAINE COUNTY NEARMAP AERIAL



State of Idaho

DEPARTMENT OF WATER RESOURCES

322 East Front Street • P.O. Box 83720 • Boise, Idaho 83720-0098

Phone: (208) 287-4800 • Fax: (208) 287-6700 • Website: www.idwr.idaho.gov

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

May 03, 2018

Hartley Rogers
610 Fifth Ave. Suite 401
New York, NY 10020

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MAY 07 2018

Re: Permit for the Operation of Injection Well 37W-106-001

Dear Mr. Rogers,

Enclosed is a copy of the approved permit for your injection well. The Conditions of Approval are specific to the operation of your well. Attachment I is a copy of your permit application.

The permit to operate this well will expire on 5/1/2028. If use of the well is desired beyond this date, a new application must be filed. If you have any questions, please call me at (208) 287-4991.

Regards,

Nathaniel Fischer
UIC Hydrogeologist

cc: File
Zach Latham, Brockway Eng.

Please Note: Injection wells represent potential hazards to groundwater resources through intentional or unintentional injection of contaminating substances. The well owner and/or operator may incur considerable costs for mitigation, cleanup, and legal fees in the event that contamination is caused through an injection well. An injection well permit does not release the well owner and/or operator from such potential liability.

Well closure is encouraged wherever practical, and requires prior approval. Please contact IDWR for further information.



**State of Idaho
Department of Water Resources**

Injection Well Permit No. 37W-106-001

Permit Holder: Hartley Rogers
610 Fifth Ave. Suite 401
New York, NY 10020

Facility: 13370 Hwy 75
Ketchum, ID 83340

Expiration Date: 5/1/2028

Injection Well Classification: 5A7

Injection Well Location:

<u>PLSS</u>	<u>Latitude/Longitude</u>	<u>County</u>
T5NR17ES23SWNWNE	43.752749 N 114.395361 W	Blaine

Well Construction Information:

<u>Well Casing Diameter</u>	<u>Well Depth</u>
6 inches	60 feet

Injectate: Heat Exchange Return Flow

Pretreatment Method: N/A

Injection Activity:

<u>Frequency</u>	<u>Maximum Average Weekly Injection Rate</u>
Continuous	75 gpm

Land Use in Drainage Area: N/A

Conditions of Approval:

1. This injection well is administered under IDAPA 37.03.03, Rules and Regulations for the Construction and Use of Injection Wells, and IDAPA 37.03.09, Well Construction Standards & Rules.
2. The facility owner and operator bear sole responsibility to mitigate for harm or degradation resulting from the injection activities authorized in this permit.
3. Violating the water quality standards stated in IDAPA 37.03.03.070.05, degrading the quality of the groundwater, or impacting a beneficial use of groundwater resources through the use of this injection well is prohibited and is cause for cancellation of this permit.
4. In the event that existing or future points of diversion for beneficial use are suspected by IDWR of being contaminated by injection activities at this well, IDWR will require



**State of Idaho
Department of Water Resources**

Injection Well Permit No. 37W-106-001

that injection activities at this well cease immediately. Burden of proof that injection activities at this well are not contaminating existing or future points of diversion is the responsibility of the injection well owner.

5. Approval of this permit does not authorize diversion or beneficial use of water. This permit is not a Water Right nor does approval of this permit guarantee the approval of any Water Right being sought for this well.
6. The system must be closed to the surface to prevent contamination of the injectate. A protected air vent may be installed if needed, and a sampling port is required.
7. The injectate entering this well must be restricted to heat exchange unit return water. Prior approval from the IDWR UIC Program is required for the use of additives.
8. Discharge water from the heat exchange into the well is recommended to be delivered via a drop pipe that terminates below the static water level in the well. Seasonal fluctuations in groundwater levels should be considered when determining the depth of the drop pipe to insure that the outflow end is submerged at all times. A pitless adaptor should be used to create a watertight seal between the drop pipe and conductance pipe delivering water to the well to prevent contamination of the discharge water.
9. The temperature of injected water must be maintained below 85° F. If the injectate temperature exceeds 85° F, the Department of Water Resources must be notified within 48 hours of the increased injectate temperature.
10. If use of this injection well at any injection rate is desired after the expiration date of this permit, this permit must be renewed. If at any time use of this injection well is not desired, the owner/operator must contact the IDWR UIC Program to obtain approval prior to decommissioning.
11. Approval of this permit constitutes a waiver of IDAPA 37.03.03.070.05.d.i so that this injection well can be located within the prescribed set back distance of an existing point of diversion for beneficial use. This waiver is contingent upon the injectate quality meeting the MCL's listed in IDAPA 58.01.11.200 and the injection activities not degrading the ground water resource or impacting beneficial uses of groundwater resources.
12. This permit includes Attachment I – Permit Application.

This permit will be administered in accordance with Idaho law and applicable rules of the Idaho Department of Water Resources.

Date this 2ND day of MAY, 20 18


Manager, Groundwater Protection Section



**State of Idaho
Department of Water Resources**

Injection Well Permit No. 37W-106-001

ATTACHMENT I

PERMIT APPLICATION

RECEIVED

FEB 12 2018

DEPARTMENT OF
WATER RESOURCES

Permit No. 37W-106-001



APPLICATION FOR PERMIT TO CONSTRUCT, MODIFY
OR MAINTAIN AN INJECTION WELL

IDAHO DEPARTMENT OF WATER RESOURCES
322 East Front St., PO Box 83720, Boise, ID 83720-0098
Under the Provisions of Title 42, Chapter 39 of the Idaho Code

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DEPT OF WATER RESOURCES
SOUTHERN REGION

I. INFORMATION REQUIRED FOR ALL INJECTION WELLS

A. Application Type:

- ☒ New Injection Well Operating Permit (A Drilling Permit is also required prior to construction)
☐ Permit to Modify an Existing Injection Well
☐ Renew Operating Permit of an Existing Injection Well

B. Legal Owner:

Name Hartley Rogers
Organization Name _____
Mailing Address 810 Fifth Avenue, Suite 401
City New York State NY Zip Code 10020
Phone No. 1 1-212-752-7850 Phone No. 2 _____

**If the property will change ownership soon, provide contact information for future owner:
N/A

C. Well Location:

Facility Name Rodgers Residence
Address 13370 HWY 75
City Kelchum State ID Zip Code 83340
County BLAINE Facility Phone No. _____

Provide one of the following two options:

1) GPS Location (Datum = WGS84):

Latitude 43.752750 Longitude -114.395382

(You can check the accuracy of your GPS data with the "Well Diller's Locator Tool" here:
<http://maps.idwr.idaho.gov/locator/default.aspx>)

2) A USGS Topographic Map or aerial photo with the well location marked and Township,
Range, Section information.

Township	Range	Section	1/4, 1/4, 1/4 Section	1/4, 1/4 Section	1/4 Section
5N	17E	23	SW	NW	NE

(Get free maps using this tool: <http://maps.idwr.idaho.gov/IrrigationRightsFinder>)

D. Well Operation:

Frequency of Injection: ☒ Continuous (24 hr/day, 7 day/wk) ☐ Intermittent

Maximum Average Weekly Rate 75 ☐ cfs ☒ gpm
(guidance attached)

E. Injection Well Classification: (Circle the proper code. In PDF version use: Tools → Comments & Markup → Oval Tool)

Code:	Injection Activity Associated With:	Code:	Injection Activity Associated With:
5A5	Electric Power Generation	5W10	Cesspools
5A6	Geothermal Heat (Source H ₂ O Temp > 85° F)	5W11	Septic Systems (General)
5A7	Closed-Loop Heat Pump Return (Source H ₂ O Temp < 85° F)	5W12	Water Treatment Plant Effluent
5A8	Aquaculture Return Flow	5W20	Industrial Process Water
5A19	Cooling Water Return (Industrial Cooling)	5W31	Septic Systems (Well Disposal)
5B22	Saline Water Intrusion Barrier	5W32	Septic Systems (w/ Drainfield)
5D2	Storm Water Runoff (Roadway/Pavement Drainage)	5X13	Mine Tailing Backfill
5D3	Improved Sinkholes	5X14	Solution Mining
5D4	Industrial Storm Runoff (Building/Pavement Drainage)	5X15	In-Situ Fossil Fuel Recovery
5F1	Agricultural Runoff Waste (Agricultural Drainage)	5X16	Spent Brine Return Flow
5G30	Special Drainage Water (Rarely Used)	5X25	Experimental Technology
5N24	Low-Level Radioactive Waste	5X26	Aquifer Remediation
5R21	Aquifer Storage & Recharge	5X27	Other Wells (Rarely Used)
5S23	Subsidence Control	5X28	Service Station Wells (Motor Vehicle Waste Disposal)
5W9	Untreated Sewage	5X29	Abandoned Drinking Wells (Converted from Domestic)

F. Well Construction Information: (Attach well log, if available)

☐ As Built ☒ Expected Construction ☐ Well Modification

Total Well Depth: 60 (ft)

Well Casing: Diameter 6 (in) Depth 60 (ft)

Ht. above Ground Surface 2 (ft) Casing Type STEEL

Perforation: From 20 (ft) To 40 (ft)

Surface Seal: Depth 20 (ft) Seal Type Bentonite chips

Construction Date (Indicate Actual, Approximate or Anticipated): Spring 2018

Driller's Name: Dirt Works

For well modifications describe purpose and intended changes:

N/A.

G. Adjacent Features:

Depth to Groundwater 14 (ft) ☐ Estimate ☒ Measured Date Measured 11/10/17

Distance to Nearest Domestic Well Approx. 200 (ft) Direction NNW

II. INFORMATION REQUIRED ONLY FOR HEAT EXCHANGE (CLASS 5A7) INJECTION WELLS

Please check all of your domestic uses served by your groundwater well:

- ☒ Household ☐ Irrigation ($\leq \frac{1}{2}$ acre) ☐ Livestock
☒ Heat Pump ☐ Other _____

What is your total domestic groundwater usage? 108,800 Gallons Per Day
(Guidance on page 6)

Are you connected to a city or community drinking water system? ☐ Yes ☐ No

Do you have a water right for the heat pump? ☐ Yes ☒ No Water Right # See Attached Permit Application

Have you applied for a water right for the heat pump? ☒ Yes ☐ No Water Right Application # See Attached Permit App.

* Attach documentation from your heat pump manufacturer that indicates how many gallons per day your heat pump will use during peak heating and cooling days.

** Applicants seeking permits for a Heat Exchange Injection Well can skip Section III.

III. INFORMATION REQUIRED FOR ALL INJECTION WELLS, EXCEPT HEAT EXCHANGE (CLASS 5A7) INJECTION WELLS

A. Alternative Methods to Injection Well Use:

Describe alternatives to the use of an injection well for waste disposal _____

Why were the above alternative methods rejected? _____

B. Water Treatment Prior to Injection:

- ☐ None ☐ Chemical Treatment ☐ Ultra-Violet Treatment
☐ Settling Pond ☐ Filtration
☐ Other _____

C. Is this Injection well part of a contamination remediation system? ☐ Yes ☐ No
If yes, please attach a copy of the signed regulatory approval for the remediation action, description of the remediation system, and intended use of the injection well.

D. Constituents in Waste Stream:

- ☐ None ☐ Hazardous wastes ☐ Automotive fluids ☐ Pesticides
☐ Herbicides ☐ Other additives or chemicals _____

E. Attach a topographic map or aerial photo showing a one-mile radius of the injection well. Identify the following on the map/photo:

1. Location of the injection well.
2. Location of domestic wells.

You can use the IDWR Well Drillers' Locator to map the existing wells near your location by:

- Open the Well Drillers' Locator: <http://maps.idwr.idaho.gov/locator/default.aspx>
- Enter your GPS location into the "Find a Location in Idaho" window. The map will zoom to that location and mark it with a yellow dot.
- Click the down-arrow on the zoom slider button twice (upper left corner of the map) to zoom out. You should now see a map which shows all wells within a one-mile radius of your site
- Click "Wells", in the list of layers on the right side of the map
- Click the "Print Map" button on the left side of the map

IV. SIGNATURE OF LEGAL OWNER

I hereby submit this Application for Permit to Construct or Maintain an Injection Well. The information herein is true and correct to the best of my knowledge.

1/30/2018 [Signature] _____
Date Signature Title

Harley R. Rogers
Print Name

FOR OFFICE USE ONLY:

Fees paid: \$100.00 Date: 2/8/2018
Receipt No.: S036569 By: DM

V. PROCESSING FEE

A \$100.00 processing fee must be submitted for each permit application. A separate permit application and processing fee must be submitted for each injection well. Make checks payable to: Idaho Department of Water Resources.

All sections of this form must be complete and accurate. Incomplete forms will be returned to applicant. The information submitted is subject to verification by IDWR or its agents. Applications and fees can be submitted your nearest IDWR office:

IDWR Northern Region
7600 N Mineral Dr., Suite 100
Coeur d'Alene, ID 83815
Ph: (208) 762-2800

IDWR Southern Region
650 Addison Ave., Suite 500
Twin Falls, ID 83301
Ph: (208) 736-3033

IDWR Eastern Region
900 North Skyline
Idaho Falls, ID 83402
Ph: (208) 525-7161

IDWR Western Region
2735 Airport Way
Boise, ID 83705
Ph: (208) 334-2190

IDWR State Office
322 East Front St., PO Box 83720
Boise, ID 83720-0098
Ph: (208) 287-4800.