

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 47-7829
Exam Date: 06/05/2002

1. Current Owner:
M H SPRINGS LLC PO BOX 588 BUHL ID 83316-0588
2. Accompanied by: Nathan Olsen
Phone No: (208) 543-6002
Address: Same as above
Relationship to permit Holder: Part Owner

3. SOURCE: GROUND WATER

Method of Determination: On-site inspection

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
47-2242	Ground Water; Springs	Stockwater/Heating	Decreed
47-4296	Unnamed Spring	Irrigation	Decreed
47-16808	Ground Water	Heating	License

Comments: Permit 36-16808 will be recommended for licensing with this water right

2. Other water rights with the same point-of-diversion: NO Overlap

Water Right No.	Source	Purpose of Use	Basis
47-2242	Ground Water; Springs	Stockwater/Heating	Decreed
47-16808	Ground Water	Heating	License

Comments:

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
GROUND WATER NW¼ NE¼, Sec. 31, Twp 08S, Rge 14E, B.M. TWIN FALLS County

Method of Determination: On-Site inspection

PLACE OF USE: Commercial

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
08S	14E	31		X															

PLACE OF USE: Heating

[illegible]

PLACE OF USE: Domestic

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
08S	14E	31		X															

PLACE OF USE: Recreation

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
08S	14E	31		X															

PLACE OF USE: Aesthetic

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
08S	14E	31		X															

Method of Determination:

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.

☒

Indicate weir size/pipe as applicable.

Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.

☒☒ Aerial Photo Attached (required for irrigation of 10+ acres).☒

Photo of Diversion and System Attached

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
A0003170	Baldor	7.5	F0103023005	Berkeley	B3ZP1S

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Ultrasonic	Portaflow	Fuji	FLCS011			

2. Measurements: Measured by Jim Stanton on 6/5/2002. 4482 gallons/12 minutes = 373.5 gpm = **0.83 cfs** (see Attachment #1)

E. FLOW CALCULATIONS

Additional Computation Sheets Attached

Measured Method: N/A

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

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

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 =$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$$

2. Volume Calculations for Other Uses: This system operates 24/7, 365 days a year. All volumes are based on continuous flows:

Commercial: $0.83 \text{ cfs} \times 365 \times 1.9835 = \mathbf{601.0 \text{ af}}$

Heating: 0.42 cfs (maximum applied for on application for permit) $\times 365 \times 1.9835 = \mathbf{304.0 \text{ af}}$

Domestic: Recommend IDWR standard diversion rate of 0.06 cfs for two homes and $\mathbf{1.2 \text{ af}}$

Recreation: $0.83 \text{ cfs} \times 365 \times 1.9835 = \mathbf{601.0 \text{ af}}$

Aesthetic: $0.83 \text{ cfs} \times 365 \times 1.9835 = \mathbf{601.0 \text{ af}}$

Total Diversion: 601.0 af

G. NARRATIVE/REMARKS/COMMENTS

This field exam was originally completed by Jim Stanton on 6/2/2002. I have included what was available from Jim's field report as Attachment #1. For various reasons, this permit has not been licensed although a field exam was completed in 2002. Most recently, it was picked up by Blake Buchard in the state office and he completed a memo (dated 11/15/2022) that basically recommended the same rates and volumes as the field examiner, which are the same rates and volumes I'm recommending.

On 1/30/2025, Corey Skinner and I met with Enoch & Calem Olsen (current owners), to discuss this and permit 47-16808, hoping to find a path forward for licensing both permits. After the meeting, it appeared that we could move forward with the rates that were recommended in the initial field exam and license both permits.

According to Jim Stanton's field report, the commercial, heating, recreation, aesthetic and domestic uses applied for on the application for permit were developed, while irrigation and fish propagation were not. There were fishing ponds, and an alligator pond was developed, but that use is covered under recreation and aesthetic use. Jim Stanton did not recommend Fish propagation as a beneficial use because that use "implies a concerted effort to raise quantities of fish" (Attachment #1, page 2).

Commercial, recreation, and aesthetic uses are based on the 0.83 cfs the well produces and the volume that rate yields year-round. Jim Stanton recommended these rates and volumes stating: "All the available water in this well is used in this facility. The measured flow represents the sustainable yield of the well. The water is used as efficiently as possible wherever the water and/or heat are needed at any given time. It is not possible to determine the annual volume for the various uses, but the overall diversion volume remains the same" (see Attachment #1, page 2).

The low temperature geothermal water diverted from the well is used to heat geodesic domes, sidewalks, dressing rooms, restrooms and homes. This is a popular commercial establishment where visitors pay to soak in open and private pools or spend the night in a heated geodesic dome or cabin. Typically, we use a spreadsheet based on degree days, thermal efficiency of heated buildings and square footage to calculate the volume of water used for heating the interior of a building. But in this case, the reality of this system is that almost all of the water diverted from this system, whether it be for commercial use, aesthetic use, recreation use or heating use, is used for the heat it produces in one way or another. It logically follows that the heating volume should not be based on a calculation designed for interior heated spaces but should be based on the amount of water that is diverted from the well and used through the system for all beneficial uses that utilize the heat derived from the water. I'm recommending licensing the full rate of heating applied for on the application for permit,

which is 0.42 cfs and the volume that rate yields over the course of a year, which is 304.0 af.

Domestic use is based upon Department standards and includes 0.06 cfs and a volume of 1.2 af for 2 homes.

Most of the water use in this system is non-consumptive (except domestic use) and that water is eventually diverted out to Salmon Falls Creek after it has been utilized through the system.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	
RECREATION	1/01 to 12/31	0.83 CFS	601.0 AF
AESTHETIC	1/01 to 12/31	0.83 CFS	601.0 AF
COMMERCIAL	1/01 to 12/31	0.83 CFS	601.0 AF
HEATING	1/01 to 12/31	0.42 CFS	304.0 AF
DOMESTIC	1/01 to 12/31	0.06 CFS	1.2 AF

Totals: 0.83 CFS 601.0 AF

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None

☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☒ None

I. AUTHENTICATION Bill Mills - Water Resource Agent, Senior

Field Examiner's Name Bill Mills Date 2-13-2025

Reviewer Peg Shinn Date 2-28-2025



Figure 1: Distant shot of open soaking pools and dressing rooms
(taken from a distance to prevent including guests soaking in pools)



Figure 2: Two of the heated domes

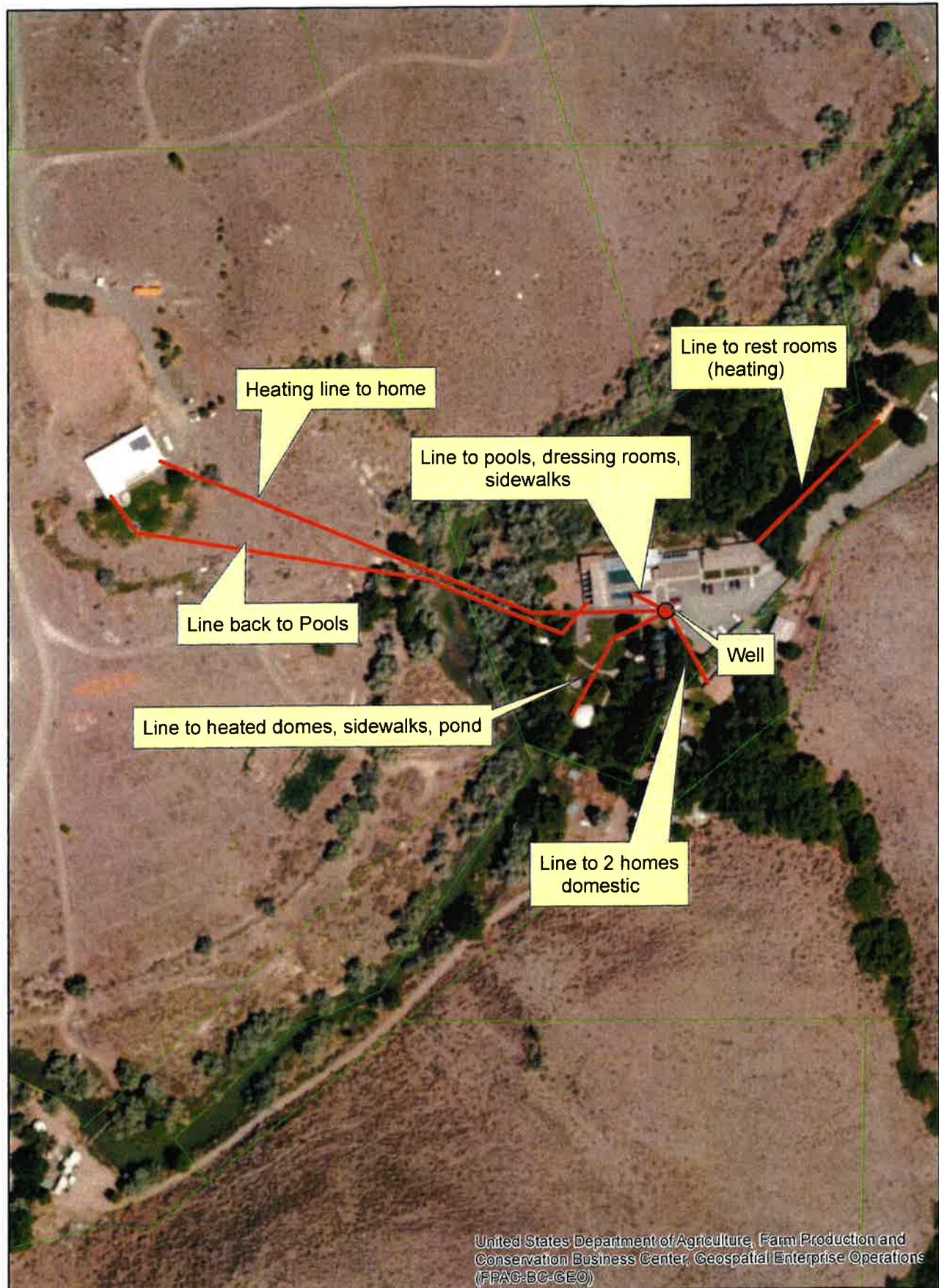


Figure 3: The well and distribution system

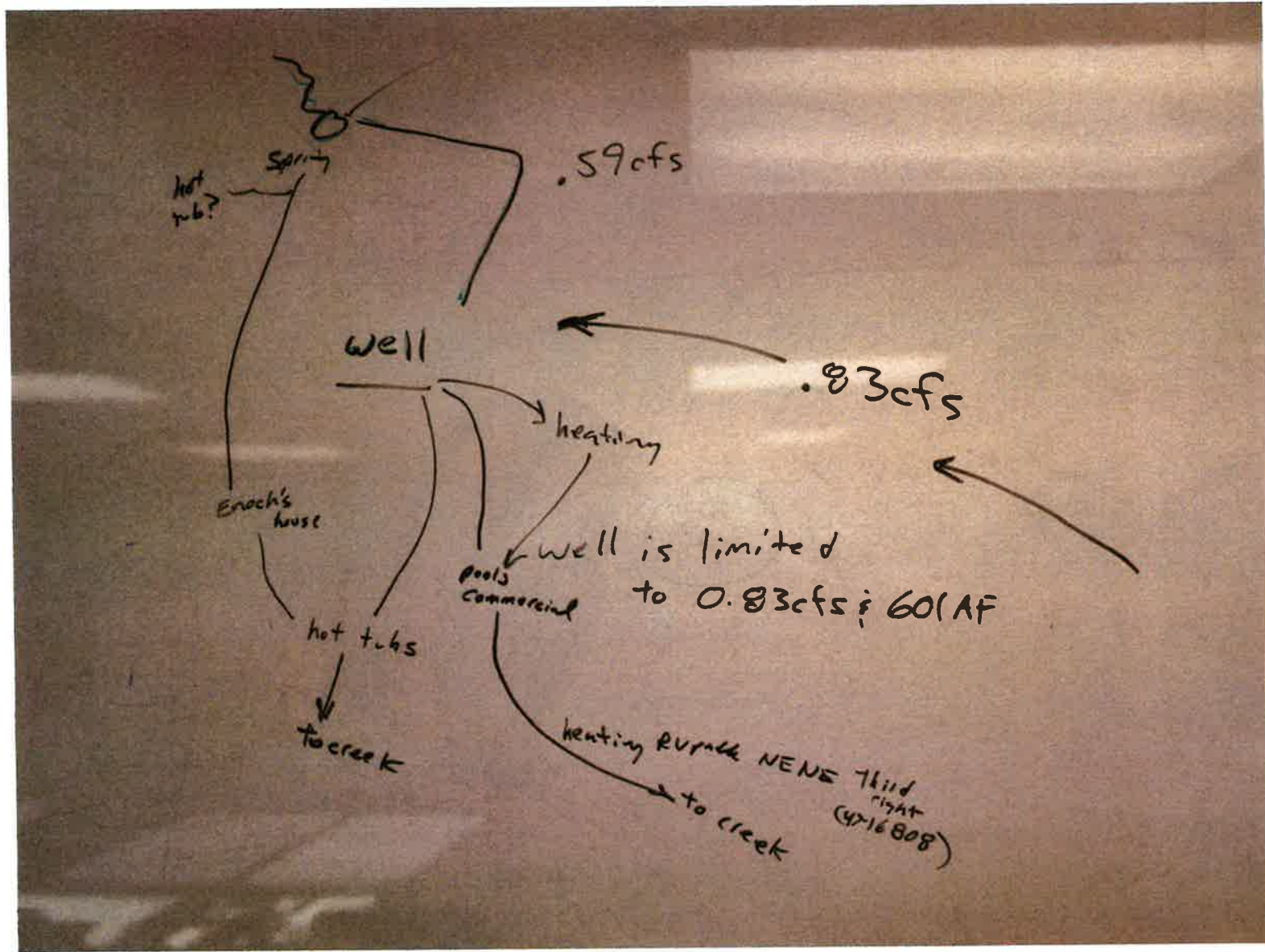


Figure 4: Heated Restrooms

System Diagram



System Diagram for M H Springs LLC



Memorandum

Date: November 15, 2023

From: Blake Burkard

To: Water Right File 47-7829

Subject: Licensing Review of 2002 Beneficial Use Field Report

Water Right Permit 47-7829 was authorized in 1982 for several beneficial uses from a low-temperature geothermal (LTG) well in Buhl, Idaho, Twin Falls County. Proof of beneficial use was submitted in 1985 after an order was sent pursuant to Idaho Code Section 42-203D. After it was determined that the project was not yet complete, the full development period was granted to allow further development up to August 1, 1987. An extension of time was approved in 1987, with proof due January 1, 1990. The permit lapsed on that date, but proof was received on August 20, 1998, detailing developments up to 1990. The permit was reinstated on June 16, 1999, and the priority date was advanced to August 20, 1998.

The field exam for this right was performed by IDWR employee on June 5, 2002. Elements of the water right were confirmed by the examiner, including a measurement of the diversion rate. The Department at the time was cautious to authorize a 24/7 volume limit from the artesian well located in the Banbury Hot Springs Ground Water Management Area and subsequently the Snake River Basin Moratorium area. The purpose of this memo is to review the recommendations made in the field exam report and to make another attempt to license this water right.

Ownership:

The permit was assigned to M H Springs, LLC in 2002. It was reassigned in 2012 to M H Springs, LLC and Region IV Development Association, Inc. in 2012, and it was reassigned to M H Springs, LLC in 2020. M H Springs, LLC continues to own the place of use and the point of diversion. The operator of Miracle Hot Springs is currently Enoch Olsen.

Point of Diversion and Place of Use:

The reviewer determined that the POD was accurately described in the permit to be in the NWNE Sec. 31 08S 14E. The places of use were determined for each developed use as below:

PLACE OF USE: COMMERCIAL (Soaking pools + hot spring amenities)

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
08S	14E	31	X	X															

PLACE OF USE: HEATING (Heating for homes, overnight domes, bathrooms, facilities, sidewalks)

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
08S	14E	31	X	X															

PLACE OF USE: DOMESTIC (2 homes)

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
08S	14E	31		X															

PLACE OF USE: RECREATION (Fishing ponds)

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
08S	14E	31	X																

PLACE OF USE: AESTHETIC (Alligator ponds)

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
08S	14E	31		X															

Irrigation and fish propagation uses were not developed; fishing ponds were constructed, but the use is better described under recreation.

Diversion Rate and Volume:

The examiner measured the system capacity to be 0.83 cfs with a flowmeter; the flowing well does not have a submersible pump as it is naturally flowing, and any rate greater than 0.83 is not sustainable for the system operation. The uses that were permitted at 3 cfs were recommended a rate matching the well's capacity. The heating use was permitted for 0.42 cfs and was intended to be expanded upon by permit 47-16808 (see field exam for context). A domestic rate was not recommended, although the domestic culinary use was confirmed. I recommend the standard rate of 0.06 cfs for in-house use for two homes.

After the uses were confirmed, the examiner stated that due to the cascading uses of the geothermal water and the lack of measuring device (requirement was waived November 22, 2002), a volume could not be quantified. An overall annual volume of 600.9 acre-ft was recommended based on a 24/7 rate. Due to the fact that it has been 33 years since the end of the beneficial use development period, and we are not any closer to determining the volume put to use, I am also recommending a total volume of 601 (600.9 rounded to 3 significant figures).

HEATING USES

47-7829 POU
47-16808 POU

47-2242 POU
(NWNE only)

Well POD
47-2242: 0.59 cfs
47-7829: 0.42 cfs
47-16808: 0.20 cfs
Well Capacity: 0.83 cfs
(measured)

Spring POD
47-2242: 0.59 cfs
47-17613: 0.05 cfs
47-17574: 0.07 cfs
C.U. Limit: 0.64 cfs

Condition on 47-2242:
"The amount of water diverted from the well located in the NWNE S31 T8S 14E shall not exceed 0.64 cfs minus the amount of water flowing from the spring located in the SWNE S31 T8S R14E."

47-17574 POU

This permit shares a POD and POU with decreed right 47-2242. After a split in 2013, 47-2242 authorizes 0.59 cfs from ground water and a spring for heating use in the NWNE Sec. 31, Twp 08S Rge 14E. The ground water point of diversion for 47-2242 is conditioned:

“The amount of water diverted from the well located in the NWNE S31 T8S 14E shall not exceed 0.64 cfs minus the amount of water flowing from the spring located in the SWNE S31 T8S R14E.”

Both sources are used for 47-2242, as confirmed in the field exam for water right 47-17574 (which shares the spring source POD). Assuming the hot springs facility can divert 0.59 cfs from the spring and 0.83 cfs from the well, no combined use limits are needed and the combined rate for heating can be 0.59 cfs + 0.42 cfs in the NWNE (1.01 cfs).

Permit 47-7829 also shares a POD and POU with Permit 47-16808, which authorizes an additional 0.20 cfs for heating use from the well at Miracle Hot Springs. 47-16808 was applied for when the resort planned to reroute hot water that was previously cooled in the Salmon Falls Creek to new greenhouses in the NWNE, where the heat can be used instead of wasted. 47-16808 was conditioned:

“This permit authorizes the development of additional heating uses of water already diverted for the beneficial uses authorized under Right 47-7829. The right holder shall not divert or use water (either rate or volume) that is not also used under Right 47-7829.”

In correspondence with John A. Rosholt, Alan Merritt justified the processing of the application for permit by saying:

“For your information application includes the following remarks: “Application will provide water from existing geothermal well on east side of Salmon Falls Creek to new greenhouses & other structures to be built on both sides of the creek. This water is now run thru cooling pipes in Salmon Falls Creek so that it can be used in commercial hot baths. We plan to run this water thru the additional greenhouses to make better use of the heat value, and then back into the existing system. The annual diversion volume will not increase as a result of this new use.” In reviewing this intent it was decided to process the application.”

Conditions:

The permit for 47-7829, signed in 1982, had only three conditions:

1. Upon notification from the Department, the right holder shall measure and report diversions of water and/or other pertinent hydrologic and system information as required under Section 42-701, Idaho Code.

2. 007 The right holder shall not assign or sell the permit without first securing the written approval of the Department of Water Resources.
3. 09C Return flow if discharged to a subsurface system must be authorized by a separate injection well permit, and return flow if discharged to a surface water system shall meet Idaho Water Quality Standards.

Condition one was complied with and should be carried to the license. Assignments of permit were always approved by the Department and the condition can be removed. Return flows for the water not consumed has not been injected and there are no water quality concerns noted by DEQ that the Department is aware of.

I recommend adding condition WB5 to limit the diversion for domestic uses for in-house use.

E. NARRATIVE/REMARKS/COMMENTS

An artesian hot-water well, with a booster pump to supply additional operating pressure, provides geothermal water to Magic Hot Springs Resort. There are 30 hot baths (small concrete rooms with a hot pool to sit or stand in), 2 outdoor pools, a small dirt pond with alligators (being re-worked during my exam & not in use), 6 dome-shaped structures for camping, heated sidewalks, heated restrooms & dressing rooms, sinks & washing machines, heating & culinary uses in 2 homes near the well. This is all in the NW/NE Sec, 31.

There is a separate campground in the NW corner of the NE/NE Sec, 31. Geothermal water heats 2 homes & a restroom here, and provides a small flow of water to 2 small fish ponds at the park. Hot water is not provided to the camping spaces, however.

Water used for the pools, hot baths, etc, goes to Salmon Falls Creek for cooling (in small pipelines) before entering the pools, etc.

All the available water in this well is used at this facility. The measured flow represents the sustainable yield of the well. The water is used as efficiently as possible wherever the water and/or heat are needed at any given time. It is not possible to determine the annual volume for the various uses, but the overall diversion volume remains the same.

Owner stated that this well is not used for irrigation.

Customers can fish in some of the ponds for the few tilapia that are present. I am calling this recreation rather than fish propagation, which implies a concerted effort to raise quantities of fish.

Aesthetic use refers to the alligator pond.

Have conditions of permit approval been met? ☒ yes ☐ no



Geothermal Well & Outlets To Various Uses
By J E Stanton 6-5-2002 Permit 47-7829



Outlets For Various Uses
By J E Stanton 6-5-2002



Geothermal Well, Pump For Additional Pressure Looking **NE**
 By J E Stanton 6-5-2002 Permit 47-7829 **S**



Hot Baths & Swimming Pool West of Well Looking **SW**
 By J E Stanton 6-5-2002 **N**



Heated Camping Domes SE of Hot Well Looking ~~SE~~ ^{SW}
By J E Stanton 6-5-2002 Permit 47-7829



Alligator Pond South of Hot Well Looking ~~South~~ ^{West}
(Currently Undergoing Reconstruction)
By J E Stanton 6-5-2002



More Hot Baths & Other Facilities ~~West~~^N of Well Looking ~~NW~~^E
 By J E Stanton 6-5-2002 Permit 47-7829



Geothermally-Heated Home ~~East~~^{SE} of Hot Well Looking ~~Easterly~~^{South}
 By J E Stanton 6-5-2002



Interior View of Hot Bath (19 total)
By J E Stanton 6-5-2002 Permit 47-7829



Cooling Pipes In Salmon Falls Creek West of Hot Well
By J E Stanton 6-5-2002



Discharge of Used Hot Water Toward Salmon Falls Creek
By J E Stanton 6-5-2002 Permit 47-7829



Discharge of Hot Water Toward Salmon Falls Cr.
By J E Stanton 6-5-2002



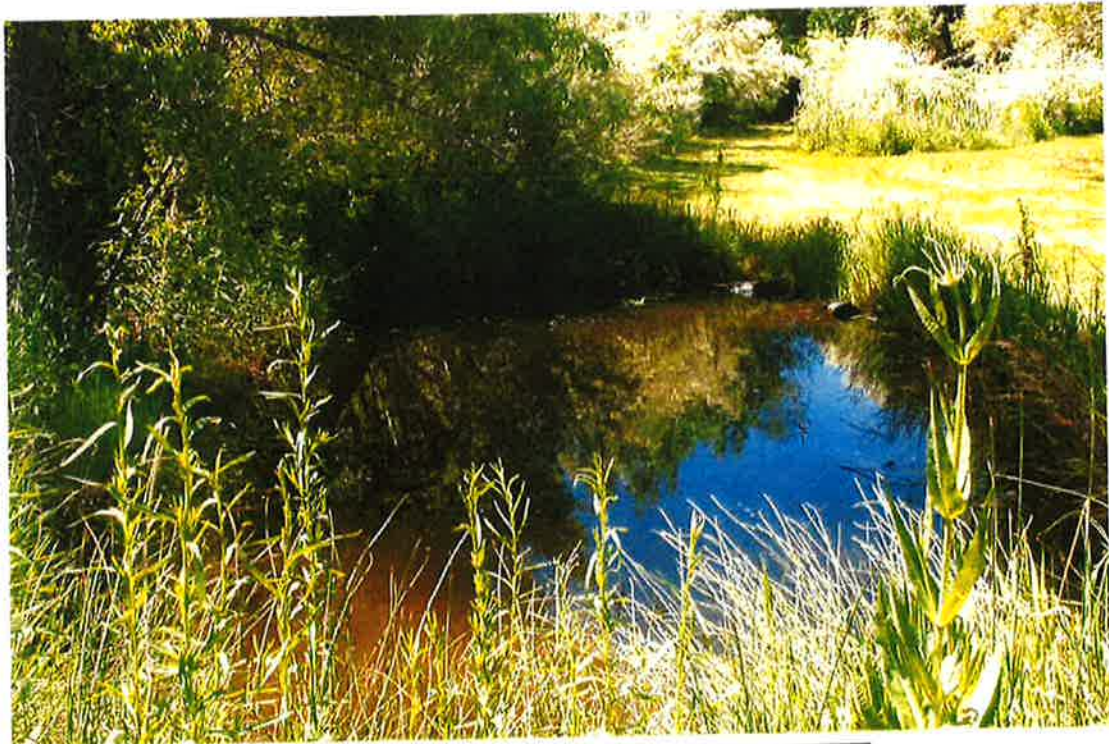
Un-finished Hot Baths At West End of Facility
By J E Stanton 6-5-2002 Permit 47-7829



Heated Restroom At Campground NE of Hot Well Looking West
By J E Stanton 6-5-2002



Campground NE of Hot Well (No Hot Water Outlets For Camp Spaces)
By J E Stanton 6-5-2002 Permit 47-7829



Fish Pond At Campground NE of Hot Well
By J E Stanton 6-5-2002



Another Heated Pond At Campground (white hot-water pipe at right)
By J E Stanton 6-5-2002 Permit 47-7829



Heated Residence Near SE Corner of Campground Looking East
By J E Stanton 6-5-2002

LD02

No.02

LOG NAME:

START :06-05 10:20

END :06-05 10:30

INTERVAL:00:00:01

6/5/2002 10:20

+4.012E+0 ft/s

+6.188E+0 gal/s

+3.712E+2 gal/m

+TOTAL 0010767 gal

-TOTAL 0000000 gal

NORMAL

6/5/2002 10:21

+3.982E+0 ft/s

+6.141E+0 gal/s

+3.685E+2 gal/m

+TOTAL 0011114 gal

-TOTAL 0000000 gal

NORMAL

6/5/2002 10:22

+4.007E+0 ft/s

+6.179E+0 gal/s

+3.707E+2 gal/m

+TOTAL 0011485 gal

-TOTAL 0000000 gal

NORMAL

6/5/2002 10:23

+4.016E+0 ft/s

+6.194E+0 gal/s

+3.716E+2 gal/m

+TOTAL 0011859 gal

-TOTAL 0000000 gal

NORMAL

6/5/2002 10:24

+4.018E+0 ft/s

+6.197E+0 gal/s

+3.718E+2 gal/m

+TOTAL 0012233 gal

-TOTAL 0000000 gal

NORMAL

6/5/2002 10:25

+3.961E+0 ft/s

+6.109E+0 gal/s

+3.665E+2 gal/m

+TOTAL 0000143 gal

-TOTAL 0000000 gal
NORMAL

6/5/2002 10:26

+3.957E+0 ft/s
+6.102E+0 gal/s
+3.661E+2 gal/m
+TOTAL 0000512 gal
-TOTAL 0000000 gal
NORMAL

6/5/2002 10:27

+3.989E+0 ft/s
+6.152E+0 gal/s
+3.691E+2 gal/m
+TOTAL 0000849 gal
-TOTAL 0000000 gal
NORMAL

6/5/2002 10:28

+4.007E+0 ft/s
+6.179E+0 gal/s
+3.707E+2 gal/m
+TOTAL 0001220 gal
-TOTAL 0000000 gal
NORMAL

6/5/2002 10:29

+3.933E+0 ft/s
+6.066E+0 gal/s
+3.639E+2 gal/m
+TOTAL 0001588 gal
-TOTAL 0000000 gal
NORMAL

6/5/2002 10:30

+4.049E+0 ft/s
+6.244E+0 gal/s
+3.746E+2 gal/m
+TOTAL 0001958 gal
-TOTAL 0000000 gal
NORMAL

6.65" OD

now will put in flow meter if required.

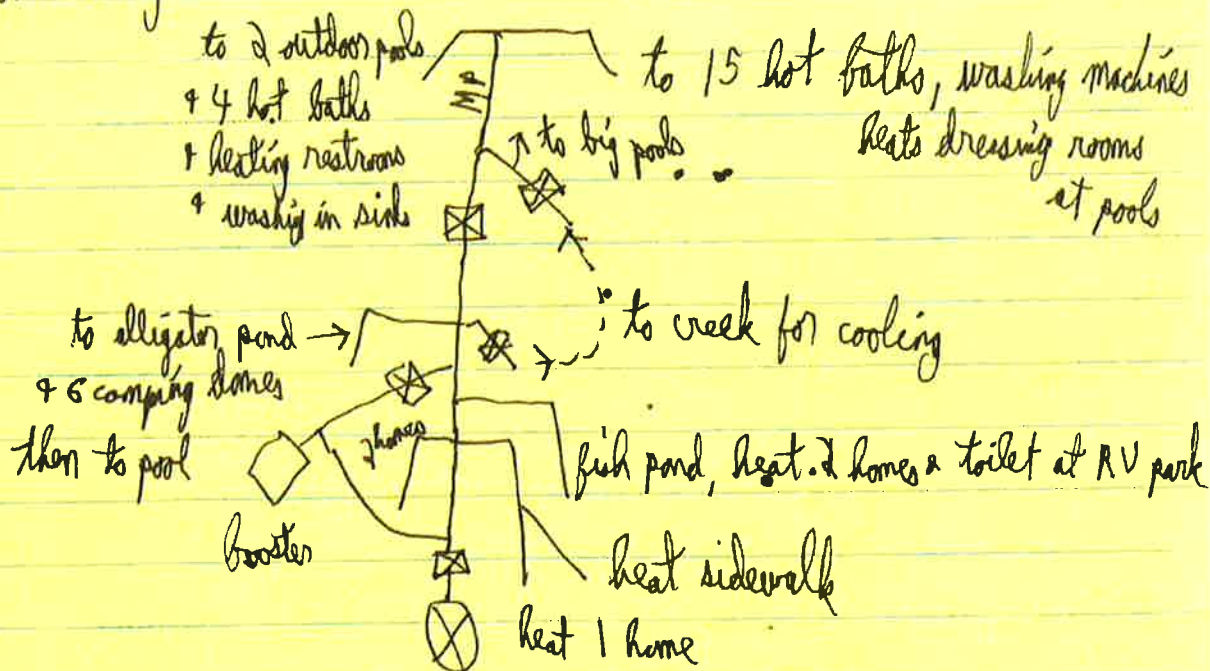
114° at MP = 5043"/sec velocity

4.197
~~5.374~~ spacing on ^{large} ~~small~~ transducer

= 0.83 cp

360-382 gpm 4482 gal/12 min. = peak flow = 373.5 gpm ave

Outflow from pools goes into some natural ponds with a few fish, & then into creek. outflow from RV park goes to fish pond & then into stream, hot spring runs directly to hot pools & then into ponds & creek
no irrigation. fish in ponds for customers to fish for at no charge. alligators in one pond for viewing



2 culinary uses (showers, etc)

run 1/2" line along with drain line to field across creek

Baldor 7½ hp booster motor F0103023005

Berkeley pump Model B3ZP15 #1 9338

total of 20 small hot baths