

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 22-14103
Exam Date: 05/27/2020

1. Current Owner:
WILLIAM GRAHAM 241 MELROSE AVE KENILWORTH IL 60043
2. Accompanied by: In-office field exam. Email exchange with Bill Graham
Phone No:
Address:
Relationship to permit Holder: Owner.

3. SOURCE:
GROUND WATER

Tributary
TETON RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NO Overlap

Water Right No.	Source	Purpose of Use	Basis

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

Water Right No.	Source	Purpose of Use	Basis

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER L2 (SE¼ NW¼ NE¼), Sec. 5, Twp 04N, Rge 45E, B.M. TETON County

Method of Determination: GPS coordinate and well log.



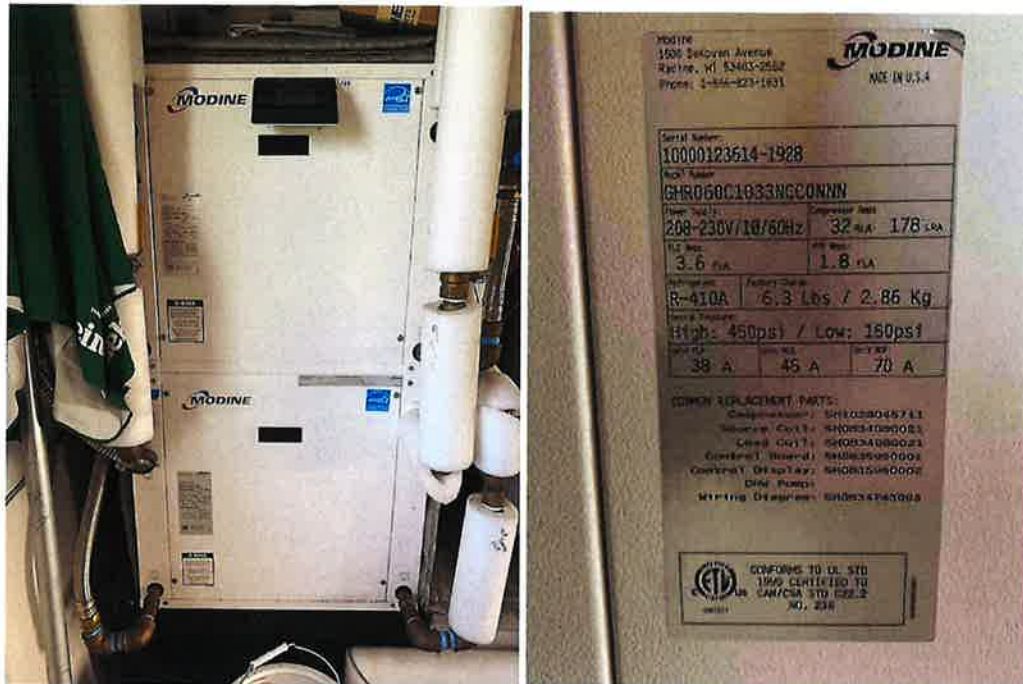


PLACE OF USE: HEATING

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
04N	45E	5		X L2															

Method of Determination: Aerial Photography





- 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

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date

2. Measurements:

E. FLOW CALCULATIONS

Additional Computation Sheets Attached

Measured Method: Rate of diversion is less than 0.24 cfs. No measurement was taken. According to application for permit the heat pump requirement is 46.0 gpm (0.1 cfs).

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

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

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

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

2. Volume Calculations for Other Uses:

Heat unit is used in November-June 30 minutes a day.

$$30 \text{ minutes} \times 243 \text{ days} \times 46 \text{ gpm} / 325850 \text{ gallons} = 1.0 \text{ AF}$$

G. NARRATIVE/REMARKS/COMMENTS

This water right is for heating one home. Modine 2-stage heat pump provides winter heat through a radiant floor system to one home. The heat pump is not used for cooling purposes. Ground water is pumped from a well to the home. Ground water flows through the heat pump system and then is discharged into a slough located to the south of home. According to Bill Graham (right holder) heat pump is in operation from November-June for approximately 30 minutes a day. Bill Graham provided GPS coordinates for the ground water well and injection point into the slough. He also provided pictures of water system and heat exchange unit.

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>	<u>Annual Volume</u>
HEATING	01/01 to 12/31	0.10 CFS	1.0 AF

Totals: 0.10 CFS 1.0 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

Blake Jordan - Water Rights Supervisor

Field Examiner's Name Blake Jordan Date 5/27/2020

Reviewer _____ Date _____

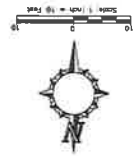
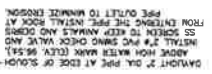


Beneficial Use Map:
Water Right 22-14103

-  Point of Diversion
-  Injection Point
-  Water Line
-  Place of Use
-  Township/Range
-  Sections
-  QQ

0 79.5 159 318 Feet
1 inch = 159 feet





IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1 WELL TAG NO. D 0063594
DRILLING PERMIT NO _____
Water Right or Injection Well No. 22-14103

2 OWNER:
Name: William Graham
Address: 241 Melrose Ave
City: Kenilworth State: IA Zip:

3 WELL LOCATION:
You must provide address or Lot, Blk. Sub. Or Directions to well.

Twp 04 ☒ North or ☐ South
Rge 45 ☒ East or ☐ West
Sec 05

1/4 NW 1/4 NE 1/4
10 Acres 40 Acres 160 Acres

Gov't Lot _____ County Teton

Lat: 43° 42.329' (Deg. & Dec Min.)
Long: 111° 9.966' (Deg. & Dec Min.)

Address of Well Site: 2754 S Bates Rd
City: Driggs

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

Lot _____ Blk _____ Sub. Name: _____

4 USE: ☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

5 TYPE OF WORK: ☒ New well ☐ Replacement Well ☐ Modify existing well
☐ Abandonment ☐ Other

6 **DRILL METHOD:**
☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

Seal Material	From (ft)	To (ft)	Qty (lbs or ft³)	Placement Method/Procedure
bentonite	0	10	2700lbs	overbore
bentonite/cement	10	40	300/564lbs	pumped

8 CASING/LINER:

Dia. (Nom.)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Welded	Threaded
6"	+2	92	.250	steel	☒	☐	☒	☐
5.5"	92	95	.250	steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Yes ☐ No Shoe Depth(s) 95

9 PERFORATIONS/SCREENS:
Perforations ☐ Yes ☒ No Method _____
Manufactured screen ☒ Yes ☐ No Type _____
Method of installation _____

From (ft)	To (ft)	Slot Size	Number/ft	Diameter (Nom)	Material	Gauge/Schedule
95	100	.020	factory	5"	SS	wire wrap

Length of Headpipe: 3' Length of Tailpipe: _____
Packer ☒ Yes ☐ No Type: K

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

11 **FLOWING ARTESIAN:**
Flowing Artesian? ☐ Yes ☒ No Pressure (PSIG) _____
Describe control device _____

12 STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 8' Static water level (ft) 1'
Water temp (°F) _____ Bottom hole temp (°F) _____

Describe access port

Well Test: _____ Test Method: _____

Drawdown (ft)	Discharge or yield (gpm)	Test duration	Pump	Bailer	Air	Flowing artesian
50'	65+	2 hr	☐	☐	☒	☐
			☐	☐	☐	☐

Water quality test or comments:

LITHOLOGIC LOG and/or repairs or abandonment:

[illegible]

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

Company Name Andrew Well Drilling Services, Inc. Co. No. 5

*Principal Driller Roger Buchan Date: 11-21-2014

*Driller Daniel Stennell Date: 11-21-14

*Operator II Date:

Operator I _____ Date: _____

* Signature of Principal Driller and rig operator are required

Jordan, Blake

From: BILL GRAHAM <billgraham65@icloud.com>
Sent: Thursday, May 28, 2020 7:39 AM
To: Jordan, Blake
Subject: Re: License Field Exam for Water Permit 22-14103 William Graham

30 minutes a day, average, November thru June. Pretty much zero rest of year.

On May 27, 2020, at 3:16 PM, Jordan, Blake <Blake.Jordan@idwr.idaho.gov> wrote:

Hi Bill,

For your water right license I need to calculate an annual volume diverted through your heat exchanger. Can you give me an estimate on the # of hours the heat exchanger runs in a given year? I assume it would run quite a bit during the cold season (November-March) and not so much during the warmer part of the season (April-October). The # of hours of operation does not have to be exact. A best estimate will work.

Thanks,
Blake

From: BILL GRAHAM [<mailto:billgraham65@icloud.com>]
Sent: Wednesday, May 27, 2020 10:20 AM
To: Jordan, Blake <Blake.Jordan@idwr.idaho.gov>
Subject: Re: License Field Exam for Water Permit 22-14103 William Graham

Yes

On May 27, 2020, at 10:06 AM, Jordan, Blake <Blake.Jordan@idwr.idaho.gov> wrote:

Thanks for the data Bill. Just to verify, the Modine 2-stage heat pump only provides heat to your home? Cooling is done by other source?

Blake

From: BILL GRAHAM [<mailto:billgraham65@icloud.com>]
Sent: Wednesday, May 27, 2020 9:10 AM
To: Jordan, Blake <Blake.Jordan@idwr.idaho.gov>
Cc: Jeff Klausmann <jeff@intermountainaquatics.com>
Subject: Re: License Field Exam for Water Permit 22-14103 William Graham

Blake- I'm guessing this attached folder covers almost everything you need. Please note there are two photos where the file name is the location of the GPS coordinates. I just took a photo with a Garmin at each place— well and outflow (as requested).

The well provides household service as well as “pump/dump” for the Modine 2-stage heat pump. There is also a back-up boiler should the heat pump fail (or the load requires boil feed). The Modine unit only provides winter heat through radiant floors. It doesn’t chill.

If you have more on-site questions, I am here thru Friday— then not back until July.

THANKS- Bill Graham. Cell 847-274-7946

On May 26, 2020, at 1:14 PM, Jordan, Blake <Blake.Jordan@idwr.idaho.gov> wrote:

Hi Jeff,

My name is Blake Jordan and I am a Water Rights Supervisor for Idaho Dept. of Water Resources (IDWR) in the Idaho Falls office. Our records show that you are the contact person for IDWR when we conduct a license field examination for water right 22-14103 (heating/cooling)? I am thinking that I can complete the licensing exam in the office. If I can get a little information about the heat exchange unit and water delivery system along with some pictures. What I need is a picture of the well and a GPS coordinate of the well location. Picture of heat exchange unit along with info pertaining to the exchange unit and a picture and GPS coordinate at the location where the ground water injects into the slough. Is it possible to get this info from you? If not then I can schedule a time to meet with you on the property.

Thanks,

Blake Jordan
Water Rights Supervisor
Idaho Dept. of Water Resources
900 N Skyline Dr. Suite A
Idaho Falls, ID 83402
(208)497-3777