

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-12240

Exam Date: ~~4/8/2016~~

4-7-16
DAN

1. Current Owner:
WILLIAM H THOMPSON 4870 N SKYLINE DR EAGLE ID 83616 And
ANDREA H THOMPSON 4870 N SKYLINE DR EAGLE ID 83616

2. Accompanied by: Andrea Thompson
Phone No: Same as Above
Address: Same as Above
Relationship to Permit Holder: Owner

3. SOURCE: GROUND WATER**B. OVERLAP REVIEW**

1. Other water rights with the same place of use: None
2. Other water rights with the same point-of-diversion: None

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

GROUND WATER NW¼SE¼ Sec. 30, Twp 05N, Rge 01E, B.M. ADA County

GROUND WATER NW¼SE¼ Sec. 30, Twp 05N, Rge 01E, B.M. ADA County

Method of Determination: GPS and Visual Inspection

2.

PLACE OF USE: DOMESTIC

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
05N	01E	30														X			

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
05N	01E	30													1.3	2.3			3.6

Total Acres: 3.6

Method of Determination: Visual Inspection and GIS

3.

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

X 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.

XX Aerial Photo Attached (required for irrigation of 10+ acres).X 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
House Well A0019182	Goulds	2	59720457	Goulds	13GS20412
Irrigation Well D0064672	Franklin	10	10HP652	Franklin	10HP652

*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

2. Measurements: No measurement was possible. The pipeline were all buried, so I had to use a theoretical calculation.**E. FLOW CALCULATIONS**

Measured Method:

 X Additional Computation Sheets Attached

The house well and the irrigation well are not connected together, so the water right will need to be split. Therefore, we will need to split the water right into the house and yard system and the pasture irrigation system.

House System:

House Well = 0.03 cfs per theoretical calculation

Permit allowed 0.04 cfs for the domestic use.

The yard irrigation would be limited to 0.6 acre X 0.03 cfs/acre or 0.18 cfs, however, the entire house well water would be used to properly irrigate the yard. Therefore I am allowing 0.03 cfs for the irrigation use and 0.03 cfs for the in-house use and limiting the total use from the house well to the capacity of the well -- 0.03 cfs when the two uses are combined together.

Irrigation System:

Irrigation well = 0.17 cfs per theoretical

Permit allowed = 0.20 cfs (minus the 0.03 cfs allowed for the yard = 0.17 cfs maximum allowable.)

The permit allowed 0.02 cfs per acre for 10 acres, but the actual acres developed were 3 acres (not including the yard), which would allow a total of 0.09 cfs (3 acres X 0.03 cfs/acre for a total of 0.09 cfs.

I am recommending a total of 0.09 cfs for the irrigation system.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation of Pasture system:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 3 \times 4.5 = 13.5 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.09 \times 260 \times 1.9835 = 46.4 \text{ af}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 13.5 \text{ max allowable for irrigation system}$$

1. Volume Calculations for yard in house system:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.6 \times 4.5 = 2.7 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.03 \times 260 \times 1.9835 = 15.5 \text{ af}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 2.7 \text{ max allowable for yard irrigation in the house system}$$

Total volume for all irrigation including pasture and yard = 16.2 af

2. Volume Calculations for Other Uses:

Administrative processing memorandum #22 allows 0.6 af for in house use. I recommend 0.6 af for the in-house use.

G. NARRATIVE/REMARKS/COMMENTS

The water for this permit is diverted from one of two wells. The first well is the House Well that was drilled in 1997. The House Well has a 2 Hp pump and can divert approximately 0.03 cfs, This well is located just south of the home in the NWSE quarter of Section 30 Township 5 North, Range 1 East. The house well mainly supplies the in-house use for the home and the barn and the irrigation around the home.

The second well is the Barn Well that was drilled in 2013, and is located just northeast of the barn also in the NWSE quarter of Section 30. The Barn Well has a 10 Hp pump and can divert approximately 0.17 cfs. The water from the Barn Well is used mainly to irrigate the pasture.

The owner confirmed that there are two separate systems in an email dated 5/6/2016. Therefore, once the permit is amended it will need to be split into two water rights to reflect the two systems.

There are numerous water rights that are in this same location, but none of them are a direct overlap to this specific property described as Lot 7, Blk1 of Talon Ridge Subdivision. Water right 63-11287 is actually south of this property on Skyline Acres #2 and is located in the SESE of Section 30. The field examiner was unsure of the place of use, so they included in the NESE of Section 30. Water right 63-10861 is actually in the SWSE and is designated as being on Lot 4 of Skyline Subdivision unit No. 1. ArcMap also shows permits 63-12389 and 63-32185 with the same place of use, but 63-12389 is actually located south of Kuna and 63-32185 is over by Parma. This place of use is north of Eagle, so it appears as though there was an error when attaching the shape files to permit 63-12389 and 63-32185 to the Department's data base files.

I removed conditions 1(26A), 2(046), 3(004), and 6(165) as is standard. This property lies north of the Boise Restricted area so condition 6 was removed and condition 7 (Water Bearing Zone) was also removed. The water bearing zone condition was met, and is no longer needed. Condition 8 (121) was



Permit 63-12240 -- Field Exam Map -- By Dan Nelson

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The second well is the Barn Well that was drilled in 2013, and is located just northeast of the barn also in the NWSE quarter of Section 30. The Barn Well has a 10 Hp pump and can divert approximately 0.17 cfs. The water from the Barn Well is used mainly to irrigate the pasture.

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 63-12240
 Reviewer: Dan Nelson
 Date of Review: 5/2/2016

P/D No.:

PUMP HORSEPOWER
 BOOSTER HORSEPOWER

PUMPING LEVEL

DISCHARGE PRESSURE

RATE OF FLOW (cfs)

House Well
2
0
280
46
0.03
14

Irrigation Well
10
0
263
46
0.17
75

Total
 0.20 cfs
 89.18 gpm

The above calculates the formula =

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Assumptions: %70 efficiency.
 No Friction

Examiners Notes:

The Hp was determined during the field examination from the pump tags on both well's power panels. The Pressure was taken from the pressure gauge on the house well at 46 psi. The lift was determined from the well driller's reports. The house well's driller report shows a pumping level of 280 feet. The irrigation well doesn't show a pumping level, but the pump tags show the pump was placed at 273 feet. A general rule of thumb for a smaller system is that the pumping water level is generally 10 feet above the pump, or 263 feet. This does make sense, since the contour lines show that the irrigation well is approximately 20 feet lower in elevation than the house well. Therefore, it makes sense that the pumping level for the irrigation well would be approximately 20 feet higher in the well than the house well, which has a higher elevation.

The permit allows a total of 0.20 cfs and it appears from this calculation, they are able to divert that amount of water. The total irrigation found was 3.6 acres, which can have up to 0.03 cfs per acre for a total of 0.11 cfs for the irrigation use with an additional 0.04 cfs for the home for a grand total of 0.15 cfs. It appears as though the irrigation well was designed to cover the entire diversion rate for the system if needed.

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064672

Drilling Permit No. 963936-869995 ✓
Water right or injection well # 63-12240

2. OWNER:

Name William & Andrea Thompson
Address 4870 N Skyline Dr
City Eagle State ID Zip 83616

3. WELL LOCATION:

Twp. 5 North ☒ or South ☐ Rge. 1 East ☒ or West ☐
Sec. 30 1/4 NW 1/4 SE 1/4

Gov't Lot _____ County ADA
Lat. 43 44.401 (Deg and Decimal minutes)
Long. 116 22.856 (Deg and Decimal minutes)
Address of Well Site 4870 N Skyline Dr

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

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft ³)	Placement method/procedure
3/8 bentonite	0	40	1700lbs	dry pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/Schedule	Material	Casing	Liner	Threaded	Welded
8"	+2	308	.250	steel	☒	☐	☐	☒
5"	303	308	.258	steel	☐	☐	☐	☒

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 308ft

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☐ N Method _____

Manufactured screen ☒ Y ☐ N Type johnson

Method of installation wash-in

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
308	318	.020	---	5"	stainless	

Length of Headpipe 5ft Length of Tailpipe _____

Packer ☒ Y ☐ N Type 6x8 single wiper

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft ³)	Placement method
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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) 212 Static water level (ft) 208
Water temp (°F) 58degF Bottom hole temp (°F) _____
Describe access port sanitary well seal

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
	75gpm	240minutes

Test method:

Pump	Bailer	Air	Flowing artesian
☐	☐	☒	☐

Water quality test or comments:

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
"	2	10	sandy brown clay		X
"	10	28	sand		X
"	28	40	sandy clay		X
8"	40	54	sandy clay		X
"	54	78	tan clay		X
"	78	91	sand		X
"	91	124	sandy clay		X
"	124	138	sand		X
"	138	167	tan clay		X
"	167	180	sand		X
"	180	195	tan clay		X
"	195	200	coarse sand		X
"	200	210	tan clay		X
"	210	225	sand	X	
"	225	241	sandy clay		X
"	241	250	sand	X	
"	250	265	sandy clay		X
"	265	271	sand	X	
"	271	275	tan clay		X
"	275	290	sand	X	
"	290	292	sandy clay		X
"	292	300	coarse sand	X	
"	300	307	tan clay		X
"	307	318	sand	X	

RECEIVED

SEP 27 2013

WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 318

Date Started: Sep 10, 2013

Date Completed: Sep 16 2013

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 Coons Well Drilling Co. No 409

*Principal Driller [Signature] Date Sep 23, 2013

*Driller [Signature] Date Sep 23, 2013

*Operator II [Signature] Date _____

Operator I [Signature] Date Sep 23, 2013

* Signature of Principal Driller and rig operator are required.

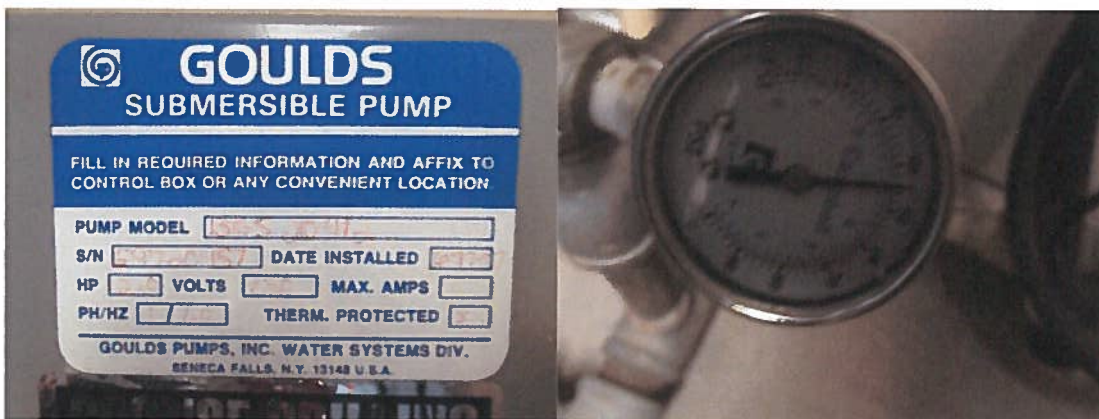
IRRIGATION well

PHOTOGRAPHER AND DATE OF PHOTOS Daniel Nelson and Wilma Roberts
4/23/2013

FILE NUMBER 63-12240



The above photo shows the house well. The bottom photos show the information on the house well pump.



Please note, we were unable to acquire pictures of the barn well.

PHOTOGRAPHER AND DATE OF PHOTOS Daniel Nelson and Wilma Roberts
4/23/2013

FILE NUMBER 63-12240



The photos above show the pictures of the pastures. The pictures below show the back yard.



PHOTOGRAPHER AND DATE OF PHOTOS Daniel Nelson and Wilma Roberts
4/23/2013

FILE NUMBER 63-12240



The above pictures show the front yard (west) and side yard (south).

changed to condition 103 as is standard. I added condition X59 to describe the locations of the points of diversion.

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

H. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	03/01 to 11/15	0.12 CFS	16.2 AF
DOMESTIC	01/01 to 12/31	0.03 CFS	0.6 AF
	<u>Totals:</u>	0.120 CFS	16.80 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 – Daniel A. Nelson – Staff Hydrologist and Wilma Robertson – GIS Analyst Senior.

Field Examiner's Name

 Daniel A. Nelson

Date

5-17-16

Reviewer

Date

Nelson, Dan

From: Nelson, Dan
Sent: Thursday, May 12, 2016 7:13 AM
To: 'Thompson, William (Boise VAMC)'
Subject: RE: Thompson irrigation permit

Bill and Andrea,

This sounds great. I will start the work to get the amendment put together and mail it out to you. You should receive it within the next week to two. What we will do is to amend the permit to include both wells on the permit. Once the amendment of permit is signed and returned to our office with the fee, we will then split the water right into two separate rights. One of the rights will be for the irrigation well and the pasture, and the other right will be for the house well, house, barn, and yard irrigation. There will be no cost to split the water right into separate portions. Once the right is split, then we will license the two splits, and you have all of your water uses covered by the two water rights.

If you have any questions, please don't hesitate to contact me. I would be happy to go over it with you to make sure you understand what is happening.

Respectfully,

Daniel Nelson
Staff Hydrologist
Idaho Department of Water Resources
Telephone (208) 287-4856
Fax (208) 287-6700 (attn: Dan Nelson)

From: Thompson, William (Boise VAMC) [<mailto:William.Thompson2@va.gov>]
Sent: Thursday, May 12, 2016 6:47 AM
To: Nelson, Dan
Cc: Andrea Thompson
Subject: Thompson irrigation permit

Dan,
I'm not sure if you have our correct e-mails. After not receiving an e-mail in follow up to your phone message last week, I thought I would just send an e-mail to you and then you will have our addresses as well.

To clarify our well situation, the irritation well by the barn and the house well up by the house are NOT connected. The pipes run relatively close to each other and thus it would not be too difficult to connect them. However, doing so would mean significant changes to how our home pressure tank is set up, requiring significant expense to make these changes. Thus, we would prefer to pay the \$100 to make the changes to our current permit.

Let us know how you would like us to proceed from here.

Thanks, Bill and Andrea Thompson

Nelson, Dan

From: Nelson, Dan
Sent: Friday, May 06, 2016 2:04 PM
To: 'william.thompson2@va.gov'; 'billandreat@jaro.com'
Subject: Water Right Permit 63-12240

Dear William and Andrea;

I just left a rather long telephone message with Andrea, and I wanted to go back over everything in the email. After Wilma and I visited your property, we spoke by telephone discussing the issue raised during our field examination of 2 wells being used for the property and that they may or may not be connected together. You were going to contact me to let me know if they were connected together, and I was going to discuss the ways we could license this permit with my supervisor.

The following are the issues that we discussed:

- 1.) If the wells were tied together, we could do an amendment to correct the permit and license the water right as a single water right license. There is a \$100.00 fee to amend the permit.
- 2.) If the wells were separate and not tied together, there were the following two options:
 - a. Amend the permit and pay the \$100.00 amendment fee and then split the water right after licensing.
 - b. License the permit for the pasture irrigation only, and file a new application for permit with a \$100.00 fee for the permit and another \$50.00 fee for the proof of beneficial use. This option also had the opportunity of being protested, which could cost additional legal fees.

After speaking with my supervisor, we are now down to just the two options:

- 1.) If the wells were tied together, we could do an amendment to correct the permit and license the water right as a single water right license. There is a \$100.00 fee to amend the permit.
- 2.) If the wells were separate and not tied together we can amend the permit and pay the \$100.00 amendment fee and then split the water right after licensing at no additional cost.

Fortunately, we can move forward without worrying about filing for a new water right. We can handle everything with this water right by splitting it or not splitting it dependent on whether or not the wells are tied together. The costs would be the same either way, so there really difference between the two situations.

Please let me know as soon as you can if the two wells are tied together or not. Once I get that information, I will move forward with the processing of your permit. Once I find this out, I will prepare an amendment form for your review. If you feel the form is correct, then you will need to sign the amendment form and return the form with the \$100.00 fee. The process should be finalized approximately 2 to 3 weeks after we receive the amendment form back from you.

If you have any questions, please don't hesitate to contact me.

Respectfully,

Daniel Nelson
Staff Hydrologist
Idaho Department of Water Resources
Telephone (208) 287-4856
Fax (208) 287-6700 (attn: Dan Nelson)

