

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
IN-OFFICE REVIEW/BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATIONPermit No: 96-9669Exam Date: 9/18/2018

1. Does this qualify for an in-office field exam (IDAPA 035.02.r)? ☒ Yes ☐ No
- a. Irrigation of 5 acres or less
- b. Storage of up to 14.6 AF for stockwater purposes only
- c. **Combined diversion rate is less than 0.24 cfs**

2. Current Owner: Name: Damon T. and Gail A. Johnson
- Owner of Record Correct? ☒ Yes ☐ No
- Address of Record Correct? ☒ Yes ☐ No
- If No: Address

3. Beneficial Use Fees have been paid: ☒ Yes ☐ No Receipt No: C105633

4. SOURCE**TRIBUTARY**Pend Oreille RiverColumbia RiverMethod of Determination: GIS and USGS quad mapsChange in Source: ☐ Yes ☒ No**B. OVERLAP REVIEW**

1. Other water rights with the same place of use: ☒ Yes ☐ No

Water Right No.	Source	Purpose of Use	Basis
96-2258	Pend Oreille River	Irrigation	License
96-9444			
96-7815	Pend Oreille River	Irrigation	License
96-8209	Pend Oreille River	Domestic	License

Comments: Water right 96-2258 was licensed in 1965, but doesn't appear to have been used in some time. The area was subdivided prior to the 1980's, so the irrigation use associated with this right appears to have been forfeited. However, there is a farm next door to the place of use described in water right 96-9444 that appears to be for the same place of use as 96-2258. Therefore, I believe that 96-9444 overrides water right 96-2258. Therefore, this right should not affect this permit.

Water right 96-7815 is a direct overlapping water right for this property. However, it is diverted from a separate point of diversion used by the homeowner's association. In a phone conversation with Damon Johnson on September 17, 2018, Mr. Johnson said that only a portion of his property is irrigated by homeowners' association's water right, and the paved driveway prevents the extension of that irrigation system into the place of use for this permit.

Water right 96-8209 is also for the homeowner's associated and provided the domestic use for the property. There are several other water rights that are in the same 40 acre tract, but none of them appear to be associated with the property.

2. Other water rights with the same point of diversion: ☐ Yes ☒ No

Water Right No.	Source	Purpose of Use	Basis

Comments: There are no significant overlapping points of diversion.

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

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Pend Oreille River	4		SW	NE	9	56N	3W	B.M.	BONNER
								B.M.	
								B.M.	

Method of Determination: GIS and tax parcel informationChange in POD? ☐ Yes ☒ NoAmendment Required? ☐ Yes ☒ No**2. PLACE OF USE:** 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	
56N	3W	9			0.3											0.4			0.7
		Lot #			4											5			
Total Acres =																			0.7

Method of Determination: Satellite imagery and GISChange in POU? ☐ Yes ☒ NoAmendment Required? ☐ Yes ☒ No

4. Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
River Pump	Unknown	2 Hp	Unknown	Unknown	1 ½ inch

*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: This permit was reviewed as an in-house permit, so there were no measurements made. Although the application for permit planned on the use of a 5 Hp pump, during a phone conversation on September 17, 2018, Mr. Johnson said that a smaller pump was installed. Mr. Johnson could not remember if it was a 2 Hp or 2.5 Hp pump, so both were used to create a theoretical calculation.

E. FLOW CALCULATIONSX Additional Computation Sheets Attached

Measured Method:

Per App. Processing Memo #17, up to 0.03 cfs/acre for irrigation of up to 5 acres acceptable.

$$0.7 \text{ acres} \times (0.03 \text{ cfs} / \text{acre}) = 0.02 \text{ cfs}$$

Per theoretical Sheet (attached) = 0.10 cfs

Permit allowed = 0.03 cfs

License recommend for 0.03 cfs (The system was designed for the 0.03 cfs recommended in the permit. Therefore, it would cause some issues to prevent them from using the 0.03 cfs allotted due to a slightly smaller place of use.)

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.7 \times 3 = 2.1 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.03 \times 214 \times 1.9835 = 12.7$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 2.1 \text{ af}$$

2. Volume Calculations for Other Uses:

G. PURPOSE OF USEIrrigation ☒ Yes ☐ No# Stock NADomestic # of Homes NAOther: NoneChange in Purpose of Use? ☐ Yes ☒ NoMethod of Determination: GIS, tax parcel data, and correspondence with the permit holder.**H. NARRATIVE/REMARKS/COMMENTS**

Damon T. and/or Gail A. Johnson filed an application for permit on August 17, 2017 for irrigation of a yard. An incomplete application was previously received on July 31, 2017. The permit authorized diversion from the Pend Oreille River within the boundaries of the applicants' property. The POD for the permit was a point located within the river. The POD for the license was changed to the point on the shoreline where the diverting works exit the river.

A water right belonging to the home owners' association (HOA) has the only place of use that was found to directly overlap with this permit's place of use. During a phone conversation on September 17, 2018, Mr. Johnson described the extent of the HOA's irrigation system, and there is no overlap. The authorized water use under this permit is for the portion of the yard between the home and the river that does not have access to the HOA's irrigation system.

This permit authorized the irrigation of 1.0 acres. Based on GIS analysis, only 0.7 acres of irrigable land are within the legal description of the permit. On September 18, 2018, I sent an email to Mr. Johnson offering the opportunity to amend the permit by extending the place of use eastward along the sides of the home for the full 1.0 acres of irrigation. The inclusion of the remaining 0.3 acres would still remain outside of the area served by the HOA, according to the description from Mr. Johnson. No response was received within the 30 day waiting period, and the licensing will continue for the 0.7 acres within the legal description of the permit.

The application for permit listed a 5 hp pump as the planned diverting works. During the phone conversation on September 17, Mr. Johnson said that the pump that was installed was 2.5 hp or 2.0 hp. The attached theoretical worksheet contains the estimated capacity of a 2.0 hp pump, which is more than enough to divert at the authorized rate.

Conditions #1 and #2 were removed. Condition #6 was corrected to include Government Lots 4 & 5. All other conditions will be carried forward to licensing.

Have conditions of permit approval been met?

☒ Yes ☐ No

I. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
Irrigation	04/01 to 10/31	0.03 CFS	2.1 AF
	<u>Totals:</u>	0.03 CFS	2.1 AF

2. Recommended Amendments

___ Change P.D. as reflected above ___ Add P.D. as reflected above X None

___ Change P.U. as reflected above ___ Add P.U. as reflected above X None

Other: None

J. AUTHENTICATION

Field Examiner's Name

Daryl B. Bitts

Date

October 22, 2018

Reviewer

Daniel A. Smith

Date

10-23-18

Permit 96-9669 – Field Exam Map

The aerial photo below shows the point of diversion (yellow dot) and place of use (yellow border). The water is diverted from the Pend Oreille River. The place of use is split between Government Lots 4 (SWNE quarter-quarter) and 5 (NWSE quarter quarter) of Section 9. The place of use was drawn to include the maximum amount of irrigable land within the legal description of the permit.



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 96-9669
 Reviewer: Dan Nelson and Dave
 Date of Review: 9/14/2018

P/D No.:

PUMP HORSEPOWER
 BOOSTER HORSEPOWER

PUMPING LEVEL

DISCHARGE PRESSURE

RATE OF FLOW (cfs)

Scenario #1
2
0
40
40
0.09
42

Scenario #2
2
0
40
45
0.09
38

Scenario #3
2.5
0
40
40
0.12
52

0.10
44.12

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:

A 5 hp pump is listed in the application for permit. During a phone conversation with the permit holder, Damon Johnson, on September 17, 2018, Johnson said that the pump was not 5 hp, but perhaps 2 or 2.5 hp.

The handwritten invoice had a model number beginning with 25GS, installed by Sandpoint Pump & Power, with a 6 gallon pressure tank.

Betts, David

From: Betts, David
Sent: Tuesday, September 18, 2018 3:30 PM
To: 'gailjohnson203@me.com'
Subject: Potential amendment and licensing of Water Right 96-9669

Dear Damon and Gail Johnson,

Your permit to appropriate water from the Pend Oreille River was filed on August 17, 2017, for the irrigation of a combined total of 1.0 acre of land within Government Lots 4 (SWNE) and 5 (NWSE) of Section 9, Township 56 North, Range 03 West. The application was approved and water right permit 96-9669 was issued on October 25, 2017. On September 10, 2018, the Idaho Department of Water Resources (Department) received the "Statement of Completion for Submitting Proof of Beneficial Use" claiming that you have completed the construction and development of the water system and supplied that water to the 1.0 acre of irrigation.

This water use is small enough to allow us to review the water use and possibly license this permit without performing an on-sight field examination. I spoke with Mr. Johnson yesterday (September 17), who was able to give me the remaining information that I needed to complete my review. Before submitting the license for final approval, I wanted to give you a chance to respond to a potential reduction in the number of acres that can be irrigated under the final license.

The following table is a computer generated version of the legal description for the place of use as defined by Permit 96-9669.

Place Of Use

IRRIGATION within BONNER County

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
56N	03W	9			0.5											0.5			1.0
					L4											L5			

POU Total Acres: 1.0

When an on-site field exam is not required, the Department uses satellite imagery to confirm the water use. Within the legal description of the area to be irrigated (see the table above), I could not identify a full 1.0 acre. I was only able to identify 0.7 acres which I have outlined in yellow in the image below. Based on my understanding of the phone conversation yesterday, I have extended the borders of the area intended to be irrigated with a red line. If the area outlined in red is correct, it would add the remaining 0.3 acres of use for the full 1.0 acres that are authorized under the permit.



If you choose to amend the permit, please let me know if I need to make any changes any portion of the boundaries I have drawn, in red or yellow. Once the boundaries of the place of use are represented correctly, the Department can then change the legal description of the place of use and send you an updated copy for your approval and signature. Amending the permit requires a \$100 filing fee which can be submitted when you return the signed form to approve of the changes.

Please let me know if you are interested in amending the permit. You can reply to this email or contact me by phone. My direct telephone line is at the bottom of this email. If the Department does not receive your response within 30 days, or by October 18, 2018, the Department will proceed with the licensing of the 0.7 acres currently identified by the permit.

Thank you for your assistance with this matter. Feel free to contact me regarding this issue. I would be happy to answer any questions you may have.

Dave Betts
Water Resource Agent
Water Rights Section
Idaho Department of Water Resources
322 East Front St., PO Box 83720
Boise, ID 83720-0098

Phone: (208) 287-4826
Fax: (208) 287-6700

MEMORANDUM

To: Water Right File No. 96-9669
From: Dave Betts
Per: Phone Conversation with Damon Johnson
Date: September 17, 2018
Re: Additional information to complete In-House Licensing

The water use for permit 96-9669 is small enough to allow the Department to review and possibly license the water use without an on-sight examination. I called Damon Johnson on September 17, 2018, to request additional information necessary to complete the In-House review.

Place of Use

I asked Mr. Johnson if he could clarify the area developed for the place of use under the permit, because of an overlap with 96-7815 which belongs the homeowners' association (HOA). I also told Mr. Johnson that I wanted the license to include as much of the permitted number of acres as possible under the permit.

Mr. Johnson said that a small portion of his property is irrigated by the HOA, but there is no overlap between his permit and the HOA's water right. The paved driveway that runs between the home and two outbuildings on the property prevents the expansion of the HOA irrigation system to the areas irrigated under Mr. Johnson's permit.

The permit authorizes 1.0 acre of irrigation. Based on satellite imagery, the legal description of the place of use is limited to 0.7 acres, ending halfway along the east-west axis of the house. I asked Mr. Johnson how far the permitted irrigation extends to the east from the river. Mr. Johnson used the paved driveway to describe the boundary, with the irrigation extending past the home and towards the two outbuildings.

Satellite imagery and GIS confirm that there is at least 1.0 acre of irrigable land within the boundary described by Mr. Johnson.

Irrigation system

The application for permit lists a 5 hp pump as part of the diverting works. 5 hp is a large pump for 1 acre of irrigation. I asked about the size of the pump and if the pump was gas powered. Gas powered pumps are less efficient than electric, requiring more horsepower. Mr. Johnson said that they did not install a 5 hp pump, and that the pump was electrical. He said that he thought the pump was 2 or 2.5 hp. Looking at a handwritten invoice, the model number began with 25GS, installed by Sandpoint Pump & Power, with a 6 gallon pressure tank.