

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

A. GENERAL INFORMATIONPermit No: 94-7560Exam Date: 12/6/2016

1. Does this qualify for an in-office field exam (IDAPA 035.02.r)? X Y N
- Irrigation of 5 acres or less
 - Storage of up to 14.6 AF for stockwater purposes only
 - Any use other than irrigation or storage, if the combined diversion rate is 0.24 cfs or less
 - Other < >

2. Current Owner: Name: Don Mac Donald and Rick Jost
- Owner of Record Correct? X Y N
- Address of Record Correct? Y N
- If No: Address

Tax lot data shows Donald Mac Donald as the owner of the property. PLEASE NOTE: Mr. Mac Donald owns 2 separate parcels. The permit only described one parcel, so I only licensed the lands that appear to have been irrigated on the parcel described in the permit. Including the other parcel in this permit could cause issues down the road if Mr. Mac Donald chooses to sell the other parcel.

3. Beneficial Use Fees have been paid: X Y N Receipt No: C0
4. **SOURCE** TRIBUTARY
- Coeur D' Alene River Coeur D' Alene Lake
- Method of Determination: GIS, and Tax Parcel Data
- Change in Source: Y X N

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
94-7853	Ground Water	Domestic	Recommendation

Comments: Water right 94-7853 is a domestic right that supplies 2 trailers for domestic use on the same property. Aerial photos show between 8 and 10 trailers on the property, but it appears as though only two are hooked up to the well. This recommendation hasn't been decreed yet, so I can't use an X35 condition to cover any possible overlapping use. However, it appears as though this permit is for the irrigation of the property and the domestic ground water right is for the in-house use only. I found 11 other water rights in the same 40 acre tract, but they were all located northeast of this property. This property borders the section line.

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

Water Right No.	Source	Purpose of Use	Basis
NONE			

Comments: There are no other water rights that share this point of diversion. However, there are 12 rights in the same 40 acre tract who divert from the same river or ground water.

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

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
River Pump	2		SW	SE	27	50N	2E	B.M.	SHOSHONE
								B.M.	
								B.M.	

Method of Determination: GIS and Tax Parcel data.Change in POD? X N Amendment Required? X N**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	
50N	2E	27															1		1
		Lot #															2		
Total Acres =																			1

Method of Determination: GIS and Tax Parcel.Change in POU? X N Amendment Required? X N Delivery System Diagram Attached (required). Indicate all major components and distances between components.

Indicate weir size/pipe as applicable.

 X 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
2 River Pumps	Unknown	0.75			

*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
NONE						

2. Measurements: No measurement is required for an in-house exam. Theoretical Calculation sheet was used based on application for permit information.

E. FLOW CALCULATIONSYES Additional Computation Sheets Attached

Measured Method:

The application for permit stated that 2 – 0.75 Hp pumps were going to be used. A theoretical calculation was done that showed 1 – 0.75 Hp pump could provide approximately 0.04 cfs, so 2 pumps could provide a diversion rate of 0.08 cfs.

Theoretical Calculation = 0.08 cfs

Maximum allowed per acre = 0.03 cfs X 0.8 acre = 0.024 cfs

Permit allowed = 0.03 cfs

I am recommending a diversion rate of 0.03 cfs as allowed by the permit, since the system was designed to carry this amount of water.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1 \text{ ac} \times 3.0 \text{ af/ac} = 3 \text{ af}$$

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

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 3 \text{ af}$$

PLEASE NOTE: This is a surface water irrigation right, so no volume will be carried forward to the license. The above calculations are just for reference to use in conditioning of the license.

2. Volume Calculations for Other Uses:

G. PURPOSE OF USEIrrigation Y N # Stock _____ Domestic # of Homes 1

Other: < >

Change in Purpose of Use? Y NMethod of Determination: Tax data, GIS, and Well Driller's Report.

If Yes: From Use _____ To Use _____ Amount _____ CFS _____ AFA _____

H. NARRATIVE/REMARKS/COMMENTS

This permit qualifies for an in-house exam. Reviewing the 2015 aerial photography, it is difficult to define exactly what is being irrigated. However, most of Department's aerial photos show the entire lot as being lush and green. Therefore, I included the entire lot. I used the 2013 aerial image of this property, since this aerial photo appears to shows the most current year that the entire lot was irrigated.

Season of use on permit was 4/15 to 10/31. Standard season of use is 4/1 to 10/31. Administrative Memorandum # 9 states that all seasons of use must be changed to the standard. However, the season of 4/15 to 10/31 was part of a settlement agreement, so we need to maintain that season of use.

There appears to be well on the property providing domestic water for two recreational trailers from water right 94-7853. Water right 94-7853 is a recommendation in the Coeur D' Alene – Spokane River Basin Adjudication. Since this right has not been licensed or decreed, we cannot include it in combined limitations on the license for this permit. 94-7853 is limited to a daily water use of 13,000 gallons per day. The well is a hand dug well, so there is no well driller's report for the well. Being hand dug, it is probably hydraulic connected to the river. All of the conditions on the permit should be carried forward to licensing.

Have conditions of permit approval been met? X 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	
<u>Totals:</u>		0.03 CFS	

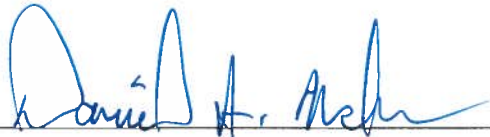
2. Recommended Amendments

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

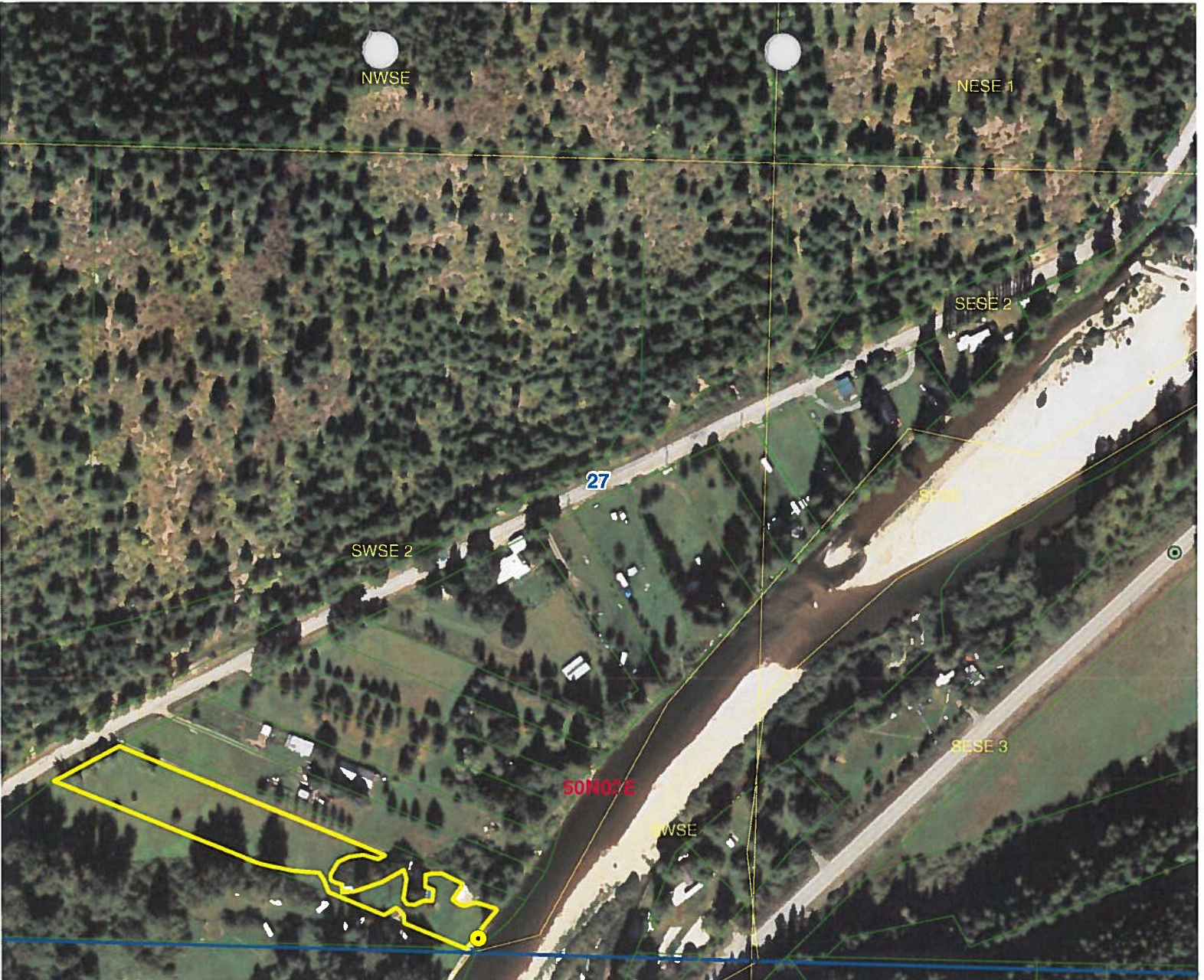
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ None

Other: < >

J. AUTHENTICATION – DANIEL A. NELSON – Analyst 3

Field Examiner's Name  Date 12-6-16

Reviewer _____ Date _____



Permit 97-7560 - Field Exam Map

The place of use is designated by the yellow border, and the point of diversion is designated by the yellow dot. The tax parcel south of the place of use is also owned by the permit holder, but it was not included in the place of use on the permit.



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 94-7560
 Reviewer: Dan Nelson
 Date of Review: 12/5/2016

P/D No.:

PUMP HORSEPOWER
 BOOSTER HORSEPOWER

PUMPING LEVEL

DISCHARGE PRESSURE

RATE OF FLOW (cfs)

Scenario 1
0.75
0
10
40
0.05
20

Scenario 2
0.75
0
10
50
0.04
17

Scenario 2
0.75
0
10
60
0.03
14

Average
 0.04
 18.39

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:

This is a fairly flat area, so I used an estimated 10 feet of lift. I also estimated the diversion pressure as being between 40 and 60 psi. Using these numbers, the 0.75 Hp pump that the permit holder stated in the application that they use for this facility should provide more than enough water for the irrigation system. The application states that they use 2 - 0.75 Hp pumps, so they should be using almost twice as much as they applied for in the application for permit.