

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

A. GENERAL INFORMATIONPermit No: 95-13790

Exam Date: 3/17/2016

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: Alan H. and Karen Zeuschel
 Owner of Record Correct? X Y N
 Address of Record Correct? Y N
 If No: Address

Tax lot data shows the Zeuschel's as the owners of the property.

3. Beneficial Use Fees have been paid: X Y N Receipt No: C101479

4. SOURCE TRIBUTARY
 Coeur D Alene Lake Spokane River

Method of Determination: GIS and Taxlot Data

Change in Source: Y X N

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
95-15521	Ground water	Domestic	Recommendation

Comments: Water right 95-15521 is the only water right that is actually an overlap of the place of use. Water right 95-15521 is a ground water right and this permit is a surface water right, so there shouldn't be an issue. Water right 95-8834 was included as an overlapping water right in conditions, but a review of the water right file for 95-8834 shows that this water right does not include the lot described in this permit. The place of use for 95-8834 overlays this permit in ArcMap, but it only supplies the 30 of the 33 lots of the Cove Point Subdivision west of the property described in this permit. Water right 95-8517 is also for the Cove Point Subdivision, but it also doesn't include the property described in this permit. Water right 95-8209 is a water right for the property that is south of the property involved in this permit. Water right 95-16114 is another water right that is for the neighbor west of the property in this permit.

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

Water Right No.	Source	Purpose of Use	Basis
NONE			

Comments: This is the only water right that is diverted from the point of diversion described in the permit. The water rights above give a description of other water rights from the same source and that have points of diversion in the same 40 acre tract, but none of those water rights are diverted from the same point of diversion described in this permit.

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

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Lake Pump	3		SE	NE	11	47N	04W	B.M.	KOTENAI
								B.M.	
								B.M.	

Method of Determination: GIS and Tax Lot 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	
47N	4W	11				D									D				
		Lot #				L3													
Total Acres =																			

Method of Determination: GIS and Tax Lot Data The tax lot straddles the 40 acre tract line. The home is in the NESE, but nudges up next to the 40 acre tract line, and some of the domestic irrigation use could be on either side.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
Lake Pump	Unknown	1			

*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, but a theoretical calculation was used to determine if the diversion rate is reasonable.

E. FLOW CALCULATIONS X Additional Computation Sheets Attached

Measured Method:

A theoretical analysis shows that a diversion rate of 0.04 cfs is possible with a 1 Hp pump. The owner supplied the horse power of the pump in the application for permit.

Theoretical Calculation = 0.04 cfs

Permit allowed = 0.04 cfs

I am recommending a diversion rate of 0.04 cfs, since it appears as though this pump can deliver the 0.04 cfs applied for in the permit.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{\quad X \ 3.5 \quad} =$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \underline{\quad X \ 214 \ X1.9835 \quad} =$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \underline{\hspace{2cm}}$$

2. Volume Calculations for Other Uses:

This is a domestic use. According to processing memo #22, and Domestic use for in-house and yard irrigation can have up to 1.2 acre feet of annual water use. I am recommending 1.2 af for this permit. The permit stated that domestic use would be for a home, and aerial photos show the home.

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

Other: < >

Change in Purpose of Use? Y N Method of Determination: Taxlot data and aerial photos.If Yes: From Use To Use Amount CFS AFA **H. NARRATIVE/REMARKS/COMMENTS**

This permit is qualified for an in-house exam. The application for permit states that this domestic use is for a single home, and aerial photography shows a home on the property. The only real issue with this permit is that a condition stated that water right 95-8834 was direct overlap, but the field exam for 95-8834 clearly shows that the tax lot associated with this permit is not included in the lands described in 95-8834.

The permit requires a fish screen on the property, and the proof of beneficial use didn't address the fish screen requirement. A letter was sent to the permit holder, and they replied by email that the submersible pump used does have a stainless steel screen.

Conditions 1 (004), 3 (X01), 4 (187, and X15 will be carried over to licensing. Condition 2 (26A) will be removed as is standard. Condition 6 (X35) will be removed, since water right 95-8834 does not directly overlap the place of use for this permit as discussed above.

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>
Domestic	01/01 to 12/31	0.04 CFS	1.2 AF
<u>Totals:</u>		0.04 CFS	1.2 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

Other: < >

J. AUTHENTICATION – DANIEL A. NELSON – STAFF HYDROLOGIST

Field Examiner's Name  Date 3-17-14

Reviewer _____ Date _____

SWNE 1

SENE 3

Cove Point Subdivision

47N04W

11

2160 Feet

2180 Feet

2200 Feet

2220 Feet

2240 Feet

2280 Feet

NWSW 2

12

Permit 95-13790 -- Field Exam
Map -- By Dan Nelson

The place of use is outlined in
Yellow, and the point of diversion
is the yellow dot. The tax lot for
this permit is described as Tax
#12565. Cove Point Subdivision
is marked in with the call out box,
and is some distance away from
the property described in this
permit.

NESE

SESW

2380 Feet

SESE

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 95-13790
 Reviewer: Dan Nelson
 Date of Review: 3/17/2016

P/D No.:

PUMP HORSEPOWER
 BOOSTER HORSEPOWER

PUMPING LEVEL

DISCHARGE PRESSURE

RATE OF FLOW (cfs)

Scenario 1
1
0
60
40
0.04
18

Scenario 2
1
0
60
50
0.04
16

Scenario 3
1
0
60
60
0.03
14

Average
 0.04
 15.94

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 permit states that a 1 Hp pump is used to pump water from the lake. The mapping contours shows that there is approximately 60 elevation difference (2200 ft to 2140 ft) from the lake to the home. A standard domestic pressure was used for the pressure for the system. The theoretical calculation shows that a 1 Hp pump would supply 0.04 cfs, which matches the flow rate requested in the permit.