

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

A. GENERAL INFORMATIONPermit No: 91-7904

Exam Date: 1/20/2016

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: Dave and Karen Trejbal
 Owner of Record Correct? X Y N
 Address of Record Correct? Y N
 If No: Address

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

3. Beneficial Use Fees have been paid: X Y N Receipt No: C0

4. SOURCE TRIBUTARY
 St Joe River Coeur D Alene Lake

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: NO Overlap

Water Right No.	Source	Purpose of Use	Basis
NONE			

Comments: There are no water rights that directly overlap the place of use. Water right 91-7193 is 2 lots to the southeast. Water right 91-7578 is for the lot directly to the north, Water rights 91-7373 and 91-7118 are for lots across the river.

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

Water Right No.	Source	Purpose of Use	Basis
NONE			

Comments: Water right 91-7578 is the only other water right with a point of diversion from the St. Joe River in this 40 acre tract, and it is on the tax lot north of this property. Water rights 91-7373 and 91-7118 are in the same tract, but are across the river and are from 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	9		SW	SW	31	46N	2E	B.M.	Shoshone
								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	
46N	2E	31											D	D					
		Lot #											9	9					
Total Acres =																			

Method of Determination: GIS and Tax Lot Data The tax lot straddles the 40 acre tract lineChange 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
River Pump	Unknown	.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, 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 0.05 cfs is possible with a 3/4 Hp pump. The owner supplied the horse power of the pump in the application for permit.

Theoretical Calculation = 0.05 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:

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

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

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

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 or Recreational Vehicle. This area is known for supplying weekend camping spots. No home has been built on the property, but it does appear as though the property has been maintained for camping.

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

Other: < >

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

This permit is qualifies for an in-house exam. The application for permit states that this domestic use is for a recreational vehicle or home. No home has been built on the property, but it is clear from the 2015 and 2011 aerial photos that lot has been maintained and mowed to provide an area for camping. The area maintained is approximately 1.5 acres. There is also an area in the northwest corner of the property below the road that looks like it was cleared of brush to make room for a recreational vehicle. This stretch along the river has very few homes, and most of the structures are pole barns to provide protection to recreational vehicles. Most of this stretch of the river is used for camping. Water rights 91-7578 and 91-7335 were both licensed with in-house field exams based on domestic uses for trailers. Water right 91-7193 was actually field verified and found similar circumstances and licensed as a domestic use. With this examples in this area, I feel we should license this permit for domestic use not exceed 1/2 acre of irrigation and in-house use for a recreational vehicle.

The application stated that a double fish screen had been installed on the pump intake. The double fish screen on the pump intake appears to comply with fish and game fish screening requirements.

All of the conditions on the permit will be carried forward to licensing. Condition 1 (X15) will be modified to state that the fish screen shall be maintained. Condition 3 (X01) will be modified to state the domestic use is for one recreational vehicle or home.

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 Daniel A. Nelson Date 1-20-16

Reviewer _____ Date _____

NWSW 7

NESW 6

NESW

NESW 5

SESW 8

SESW

SWSW 8

2240 Feet

2200 Feet

Permit 91-7904
by Dan Nelson
2015 Aerial Photo

The place of use has an area of approximately 1.5 acres that has been manicured in the 2015 and 2011 aerial photos. This leads me to believe the property has been used for camping.

31

46N02E

SWSW

SESW 9

SWSW 9

NWNW 3

NWNW

6

45N02E

NWNW 4

NENW

NENW 3

NENW 5

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS,
USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS
User Community

NWSW 7

NESW 6

NESW

NESW 5

SESW 8

SESW

SWSW 8

Permit 91-7904
by Dan Nelson
2011 Aerial Photo

31 46N02E

The place of use has an area of approximately 1.5 acres that has been manicured in the 2015 and 2011 aerial photos. This leads me to believe the property has been used for camping.

SWSW

SESW 9

SWSW 9

NWNW 3

NWNW

6

45N02E

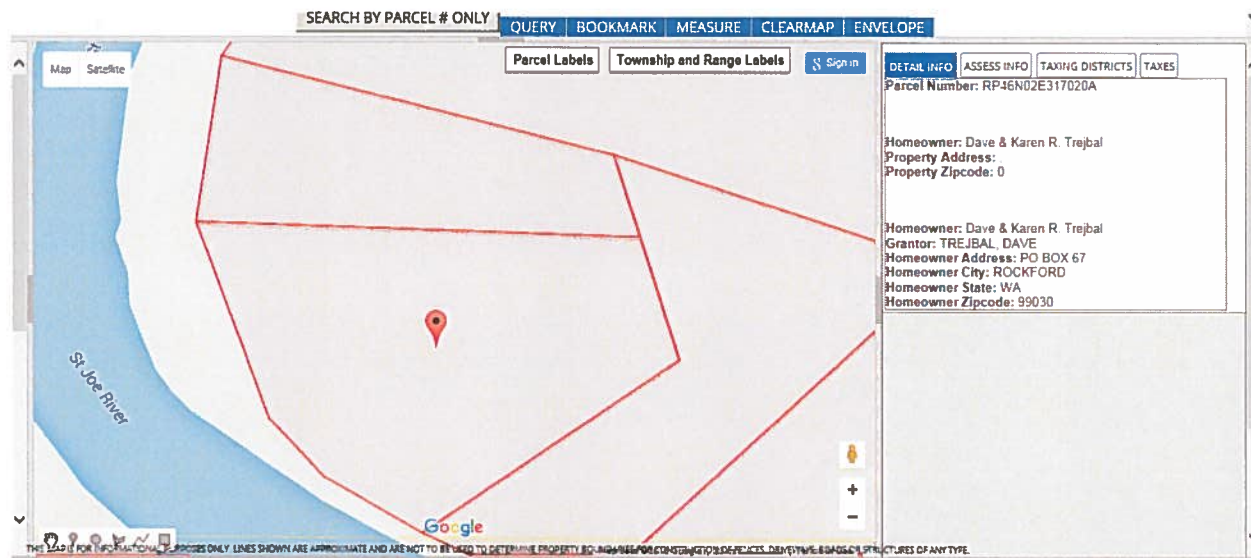
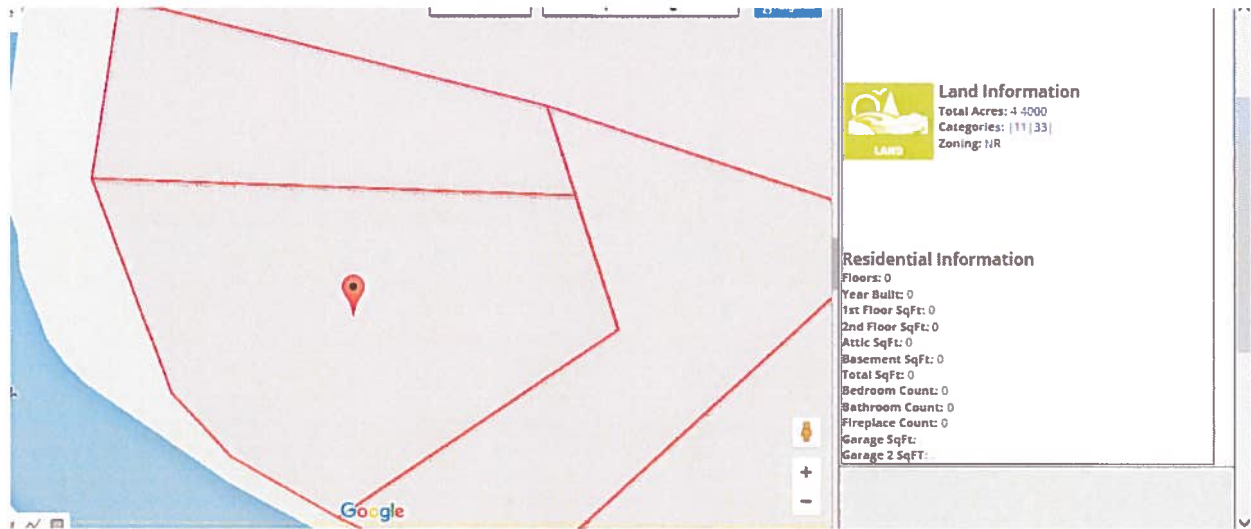
NENW 3

NENW

NWNW 4

NENW 5

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Shoshone County Tax lot data shows no home has been constructed on the property.

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 91-7904
 Reviewer: Dan Nelson
 Date of Review: 1/19/2016

P/D No.:

	Scenario 1	Scenario 2	Scenario 3	
PUMP HORSEPOWER	0.75	0.75	0.75	
BOOSTER HORSEPOWER	0	0	0	
PUMPING LEVEL	40	50	60	
DISCHARGE PRESSURE	20	20	20	
RATE OF FLOW (cfs)	0.05	0.05	0.04	Ave
	24	22	20	0.05
				21.71

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 application states that a 3/4 Hp pump will be used for this permit. I assumed a standard of 40 to 60 psi will be used for this system. The contour lines for this area seems realitively flat, so I used an assumed lift of 20 feet. These numbers show an average flow rate of 0.05 cfs, which is in line with the permit.