

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

A. GENERAL INFORMATIONPermit No: 92-11006

Exam Date: 2/3/2016

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: Walter Hendricks
Owner of Record Correct? X Y N
Address of Record Correct? Y N
If No: Address

Tax lot data shows Walter Hendricks as the owner of the property.

3. Beneficial Use Fees have been paid: X Y N Receipt No: C0
4. **SOURCE** **TRIBUTARY**
Spring Cherry Creek
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 rights 92-10036, 92-10776, and 92-10428 are for properties east of the property in the same 40 acre tract.

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 water rights that directly overlap the point of diversion. Water right 92-10036 is also from a spring, but the spring is supposed to be on the property east of the permits holder's property. Water rights 92-10776 and 92-10428 are ground water rights for the properties to the east of the permit holder's property. Therefore, there are no water rights being diverted from springs found on the permit holder's property. The springs may be connected, but I cannot confirm that with an in-office field exam.

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

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Spring		NW	SE	SW	20	46N	2W	B.M.	Benewah
								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: 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	
46N	2W	20												D					
		Lot #																	
Total Acres =																			

Method of Determination: GIS and Tax Lot DataChange 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
Spring Pump	Unknown				

*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 3/4 Hp pump.

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 a standard domestic 1 Hp pump can deliver the 0.04 cfs applied for in the permit.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{\hspace{1cm}} \times 3.5 = \underline{\hspace{1cm}}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \underline{\hspace{1cm}} \times 214 \times 1.9835 = \underline{\hspace{1cm}}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \underline{\hspace{1cm}}$$

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.

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 GIS mapping.If Yes: From Use To Use Amount CFS AFA **H. NARRATIVE/REMARKS/COMMENTS**

This permit is qualified for an in-house exam. The permit states that this use is for one home with up to ½ acre of yard irrigation. Aerial photos show the home and possible yard irrigation, so this permit can be licensed for domestic use.

Condition 3 (004) will be removed from the license, since the maps clearly show the spring on the owner's property. The remainder of the conditions will be moved 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>
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

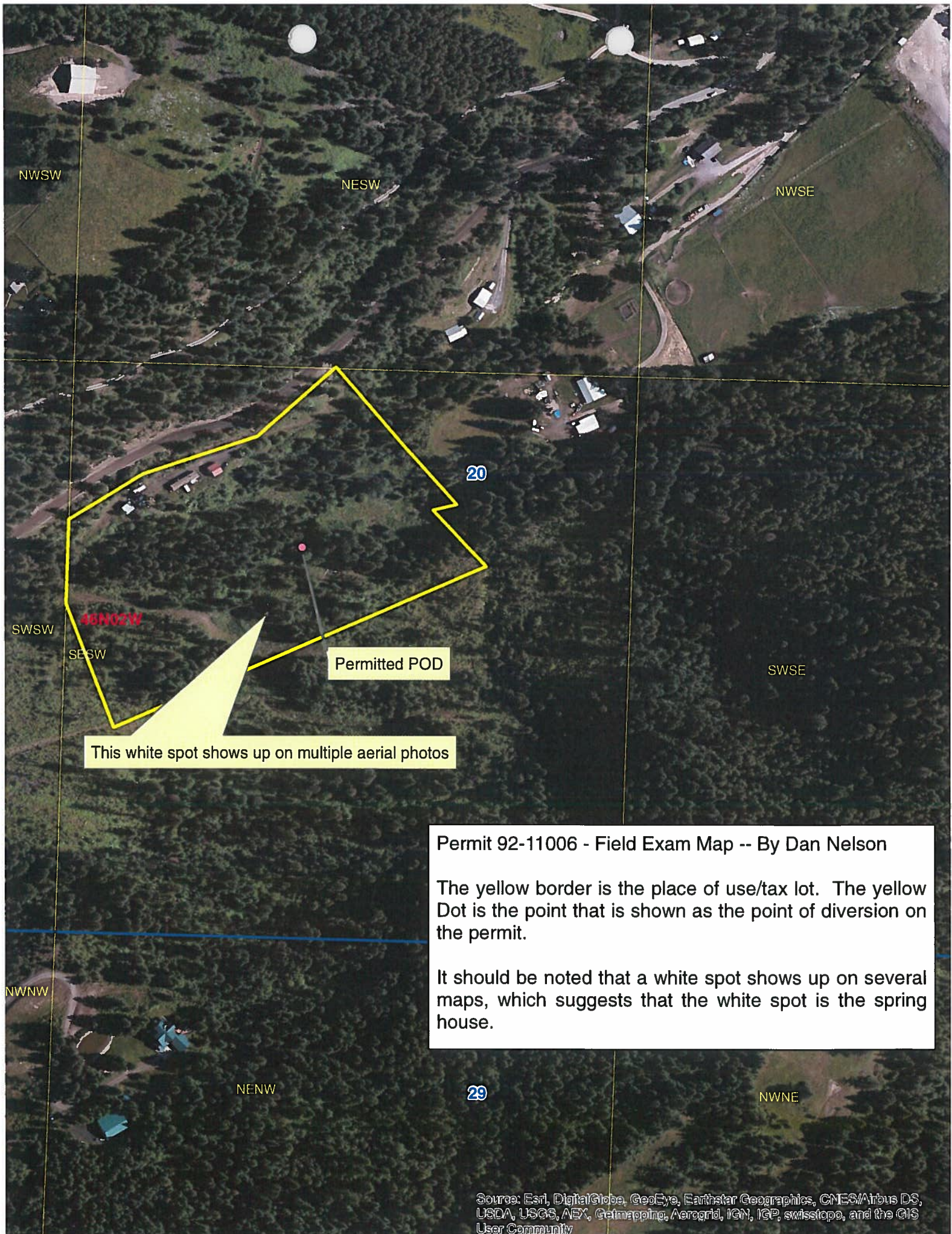


Date

2-3-16

Reviewer

Date



Permit 92-11006 - Field Exam Map -- By Dan Nelson

The yellow border is the place of use/tax lot. The yellow Dot is the point that is shown as the point of diversion on the permit.

It should be noted that a white spot shows up on several maps, which suggests that the white spot is the spring house.

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 92-11006
 Reviewer: Dan Nelson
 Date of Review: 2/3/2016

P/D No.:

PUMP HORSEPOWER
 BOOSTER HORSEPOWER

PUMPING LEVEL

DISCHARGE PRESSURE

RATE OF FLOW (cfs)

Scenario 1
0.5
0
10
50
0.02
11

Scenario 2
0.75
0
10
50
0.04
17

Scenario 3
1
0
10
50
0.05
22

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 contour lines in mapping show that the spring is actually uphill of the home, so there would be very little lift. I used an minimal estimated lift of 10 feet. I used an average pressure of 50 psi, since most domestic systems operate between 40 and 60 psi. Using the above theoretical calculations, I determined that 0.04 cfs could be diverted using a 1/4 Hp pump. This sounds reasonable for a single domestic system. The permit allowed up to 0.04 cfs, so it reasonable to allow the full permitted amount of 0.04 cfs.