

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 67-7752

Exam Date: 8/20/2012

1. Current Owner: E CATHERINE WILSON
11380 W. Mission Pointe Drive
Nampa, ID 83651
(208) 546-0065
2. Accompanied by: Nancy Wilson
Phone No: (208) 249-9682
Address:
Relationship to Permit Holder: Daughter
3. SOURCE TRIBUTARY
SPRING SINKS

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 67-2337, 67-7791
2. Other water rights with the same point of diversion: 67-2337

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

SPRING NE1/4NE1/4NE1/4 Sec. 30, Twp 16N, Rge 02W, B.M.
ADAMS County

Method of Determination: Arc Map (Aerial Photo); GPS – Latitude N.44°42.069', Longitude W.116°37.029'; Datum – NAD83.

2.

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
16N	02W	30	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	1.0
			1.0																

Total Acres: 1.0

DOMESTIC same as IRRIGATION

Method of Determination:

3. ☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
- ☒ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
- ☒ Aerial Photo Attached (required for irrigation of 10+ acres).
- ☒ Photo of Diversion and System Attached

4.

<u>Well or Diversion ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Pump Serial No. or Discharge Size</u>
N/A	N/A			N/A	(1 1/2")

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

<u>Measurement Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
Pitot Tube						

2. Measurements: No field measurement. Pitot tube too small for sprinkler head nozzle.

E. FLOW CALCULATIONS

____ Additional Computation Sheets Attached

Measured Method: (Continuity Equation – Pipe Flow)

$$V = 1.49/n(R)^{2/3}(S)^{1/2}$$

$$V = 1.49/0.013(0.031)^{2/3}(0.20)^{1/2} = (114.62)(0.098)(0.45) = 5.1 \text{ ft/sec}$$

$$Q = VA = 5.1 \times 0.012 \text{ ft}^2 = 0.06 \text{ cfs}$$

$$n = 0.013$$

$$R = D/4 = 0.125'/4 = 0.031'$$

$$S = 100/500 = 0.20$$

$$A = 0.012 \text{ ft}^2$$

Appears that the water supply system is not capable of attaining the permit diversion rate of 0.38 cfs. However, the irrigable area is approximately 1.0 acres, not 15 acres. Therefore, the required diversion rate for irrigation of 1.0 acres is 0.03 cfs, not 0.30 cfs as requested on the permit. With the reduction in the diversion rate, the water supply system appears capable of attaining a combined diversion rate 0.07 cfs for domestic use and irrigation.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1.0 \times 4.0 = 4.0 \text{ AFA}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.06 \times 231 \times 1.9835 = 27.5 \text{ AFA}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 4.0 \text{ AFA}$$

2. Volume Calculations for Other Uses: N/A

G. NARRATIVE/REMARKS/COMMENTS**WATER SUPPLY SYSTEM:**

A 48" diameter spring box, constructed of plastic pipe and a steel lid, collects spring water for domestic use for two cabins, and irrigation of lawn and landscaping for the right holder's cabin. The neighbors cabin to the north of the right holder's cabin shares the spring with the right holder and is assumed to still have water service from the spring (WR 67-7114). Only one screened supply line is in the spring box, so it is not clear how the neighbors cabin is served from the spring. A control valve box is located south of the spring box. This valve may be the flow control to the neighbors, but the right holder could not confirm.

The spring box is located approximately 100 feet higher in elevation than the right holder's cabin. Based on the estimated change in elevation, the elevation change produces a static pressure at the right holder's cabin of approximately 43 psi, which appears to be a sufficient operating pressure to meet the domestic and irrigation needs at the cabin site.

WATER DISTRIBUTION SYSTEM:

Approximately 500 lineal feet of 1 1/2" PVC pipe was installed to serve the domestic and irrigation needs for the right holder's cabin. Irrigation is for approximately 1.0 acre of lawn and landscaping around the cabin site, and for specialty planted trees within the property. However, according to the right holder, the specialty trees have not been irrigated for many years. Therefore, the irrigation beneficial use is only for the lawn and landscaping around the right holder's cabin.

OVERLAP ANALYSIS:

Point of Diversion: Decreed Water Right 67-2337, which is a domestic right for one home, has the same point of diversion as Water Right Permit No. 67-7752. Water Right 67-7114, which is for Cabin No.2, also uses this spring for domestic use.

Place of Use: Decreed Water Right 67-2337, which is a domestic right for one home, has the same place of use as Water Right Permit No. 67-7752. Likewise, Licensed Water Right 67-7791 diverts water from an unnamed stream for irrigation of pasture and the lawn and garden areas for the right holder's cabin.

Have conditions of permit approval been met? ☒ Yes ☐ No

RATE &/OR STORAGE RECOMMENDED FOR LICENSING

Description	Rate of Flow (cfs)		Storage (af)
Permit Amount	0.38	&/or	N/A
Beneficial Use Limit	0.38	&/or	N/A
System Measurement	0.06	&/or	N/A
Proof Fee Amount	1.00	&/or	100
Recommended Amount	0.07	&/or	4.0

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
DOMESTIC	1/01 to 12/31	0.040 CFS	
IRRIGATION	3/15 to 11/15	0.030 CFS	4.0 AFA
<u>Totals:</u>		0.070 CFS	4.0 AFA

2. Recommended Amendments

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

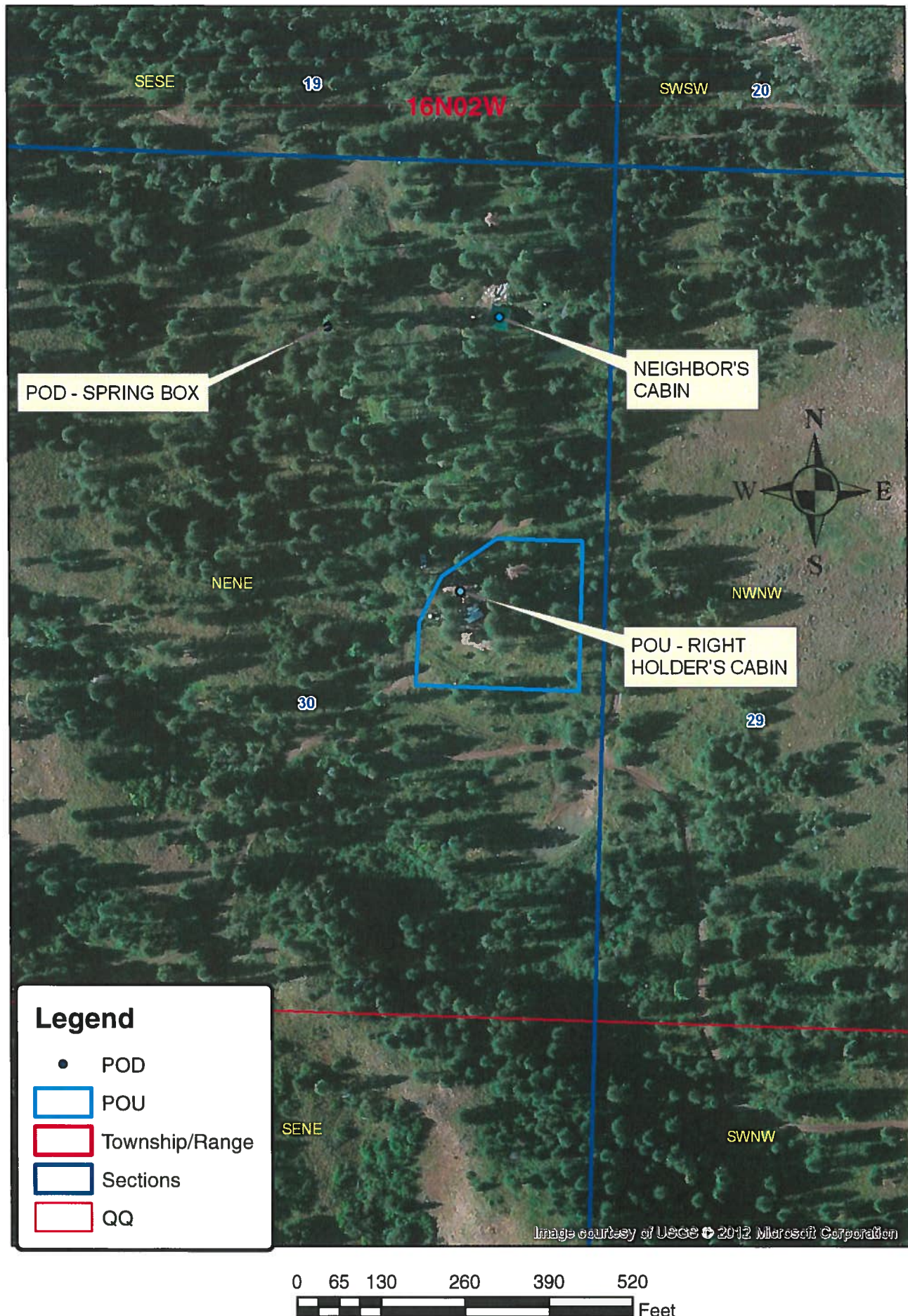
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. AUTHENTICATION

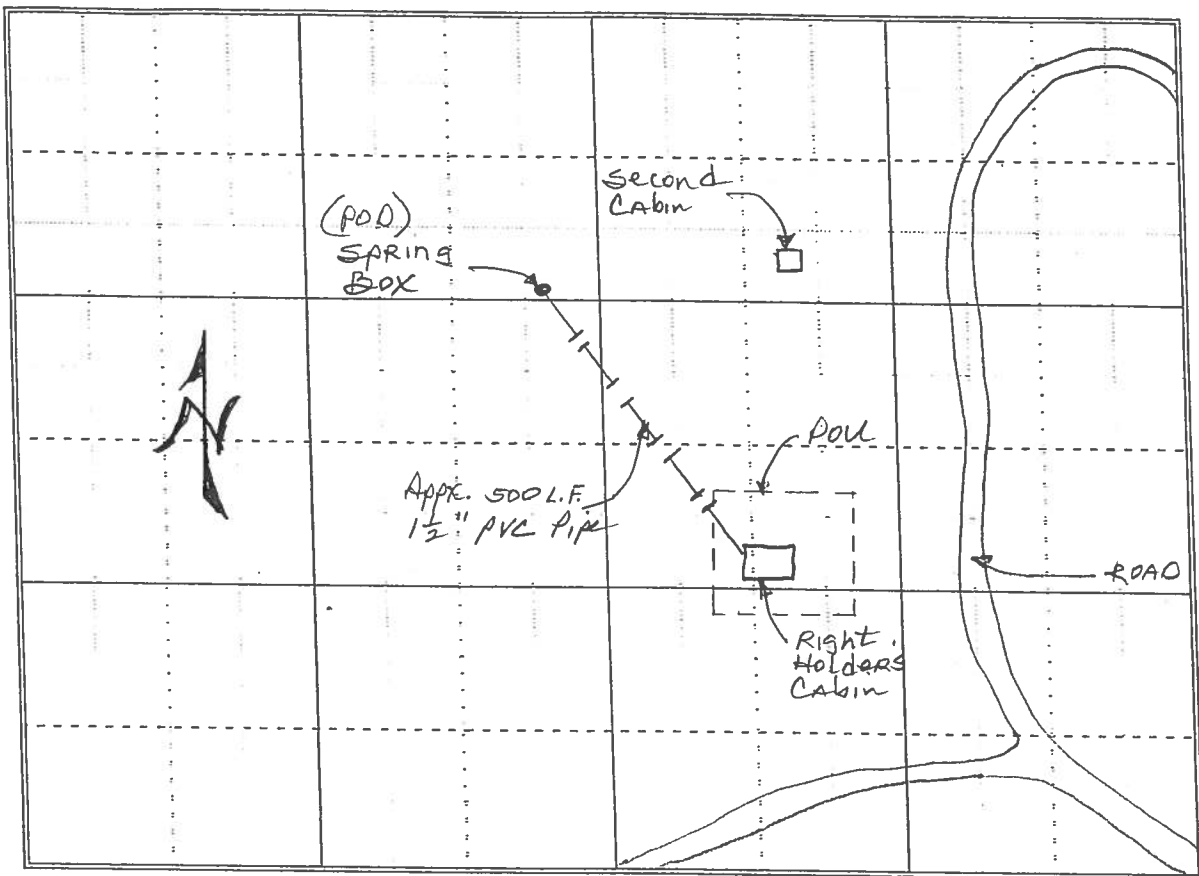
Field Examiner's Name Rick Collingwood Date 2/6/13
 Reviewer _____ Date _____

67-7752

BING AERIAL PHOTO - 2011



3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☐ see attached.



Scale: 1" = NTS

- ☐ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (required)
☒ Aerial photo attached (required for irrigation of 10+ acres)
☒ Photo of diversion and system attached

FIELD EXAM PHOTOS

Water Right Permit: 67-7752

Field Exam Date: 8-20-12

PLS: NE1/4, NE1/4 Section 30, T.16N, R.02W.

Field Examiner: RC



Point of Diversion: View of spring box. Spring box is constructed of 4' diameter plastic pipe with steel lid. The spring serves two homes for domestic use and lawn irrigation.



Point of Diversion (Neighbor's Cabin): View of valve box located approximately 6' south of the spring box. Although unable to confirm with the right holder, and since the spring is shared with the neighbor, it is assumed that the valve box contains the flow control valve to the neighbor's cabin.



Place of Use: View southeasterly of the right holder's cabin. Spring water is diverted to the cabin by approximately 500 lineal feet of 1 ½" PVC pipe from the spring box.



Place of Use: View easterly from near the spring box of the neighbor's cabin served from the spring. It is assumed that the neighbor's service line is teed into the right holder's 1 ½" main line. A valve box located south of the spring box is believed to contain the control valve for regulating the flow to the neighbor's cabin.