

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 2-7479

Exam Date: 6/18/2012

1. Current Owner: DONALD D DENTON
13395 Frost Road
Caldwell, ID 83607-9377
(208)453-9799
2. Accompanied by: Donald Denton
Phone No: (208) 453-9799
Address: 13995 Frost Road, Caldwell, ID 83607-9377
Relationship to Permit Holder:

3. SOURCE

SNAKE RIVER

TRIBUTARY

COLUMBIA RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: None
2. Other water rights with the same point of diversion: None

C. DIVERSION AND DELIVERY SYSTEM1. LOCATION OF POINT(S) OF DIVERSION:

SNAKE RIVER

L3 NE1/4NE1/4SW1/4

Sec. 27, Twp 03N, Rge 04W, B.M.

CANYON County

Method of Determination: Arc Map (Aerial Photo)

2.

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			<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>	
03N	04W	27									X								
											L 3								

* See 10/16/2012 memo ugr

Method of Determination: Arc Map (Aerial Photo)

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</u> <u>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</u> <u>Size</u>
		5		Monarch	2301 (2")

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

D. FLOW MEASUREMENTS

1.

<u>Measurement</u> <u>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: Pitot tube sprinkler pressure measurement. Rainbird sprinklers. Head size – 7/64". Operating pressure measured – 28 psi. During field exam, two stations with a total of twelve sprinklers in operation. IDWR Sprinkler Discharge Nozzle Size Table – 1.88 gpm. $Q = 12 \times 1.88 \text{ gpm} = 22.56 \text{ gpm}$ (0.05 cfs).

E. FLOW CALCULATIONS

____ Additional Computation Sheets Attached

Measured Method: (Theoretical, Pitot Tube, & Sprinkler Discharge Table)

$$Q(\text{theoretical}) = 8.8 \times 0.7 \times 5/50 + (2.31 \times 28) = 30.8/114.68 = 0.27 \text{ cfs}$$

$$P(\text{pitot tube}) = 28 \text{ psi}$$

$$Q(7/64" \text{ head}) = 1.88 \text{ gpm @ } 28 \text{ psi}$$

$$Q = 12 \times 1.88 \text{ gpm} = 22.6 \text{ gpm} (0.05 \text{ cfs})$$

(IDWR Sprinkler Discharge Table)

$$Q(\text{measured}) = 0.05 \text{ cfs} > 0.02 \text{ cfs } Q(\text{permit})$$

$$S(\text{sprinkler heads}) = 12 \text{ (two stations)}$$

Pumping diversion system rate of 0.05 cfs exceeds the permit diversion rate of 0.02 cfs.

Appears that the pumping system is greatly oversized as indicated by the theoretical calculation and the sprinkler discharge measurement.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.5 \times 4.5 = 2.3 \text{ AFA}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.02 \times 260 \times 1.9835 = 10.3 \text{ AFA}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 2.3 \text{ AFA}$$

2. Volume Calculations for Other Uses: (N/A)

G. NARRATIVE/REMARKS/COMMENTS**PUMP DIVERSION SYSTEM:**

A screened 2" PVC suction line is attached to a dock in the Snake River. The 2" PVC suction line extends approximately 100' to the east to a 5 hp pump, which is located approximately 10' – 15' above the Snake River. The 5 hp 2" PVC discharge line delivers the irrigation water to the pressurized irrigation system for sprinkling of lawn and landscaping. The home and irrigable area is located on a bench, approximately 50' – 60' above the Snake River.

IRRIGATION SYSTEM:

The lawn and landscaping is irrigated by a pressurized irrigation system. The pressurized irrigation system is comprised of five stations, with approximately six pop-up sprinklers per station.

COMMENTS:

Based on the operating pressure of the pressurized irrigation system, and the sprinkler head discharge table, the right holder is diverting 0.05 cfs from the Snake River, which exceeds the permit diversion rate of 0.02 cfs. Likewise, the measured irrigable area of approximately 0.80 acres exceeds the permit area of 0.50 acres.

Spring box shown in photo no.1 is for domestic internal use and is included in Water Right Permit No. 63-12600.

The address as shown on the permit is no longer valid. The address in the Beneficial Use Report reflects the current address.

Have conditions of permit approval been met? ____Yes ____X____No

★

CONDITION NO.4 (x01): Domestic use is for up to ½ acre of lawn irrigation. Right holder is currently irrigating approximately 0.80 acres, which exceeds the ½ acre of irrigation domestic use limit.

★ SEE 10/16/2012 memo
JL

RATE &/OR STORAGE RECOMMENDED FOR LICENSING

Description	Rate of Flow (cfs)		Storage (af)
Permit Amount	0.02	&/or	N/A
Beneficial Use Limit	0.02	&/or	N/A
System Measurement	0.05	&/or	N/A
Proof Fee Amount	0.20	&/or	N/A
Recommended Amount	0.02	&/or	N/A



H. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	03/01 to 11/15	0.020 CFS	2.3 AFA
<u>Totals:</u>		0.020 CFS	2.3 AFA

2. Recommended Amendments

___ Change P.D. as reflected above ___ Add P.D. as reflected above X ___ None

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

I. AUTHENTICATION

Field Examiner's Name Rick Collingwood Date 9-17-12

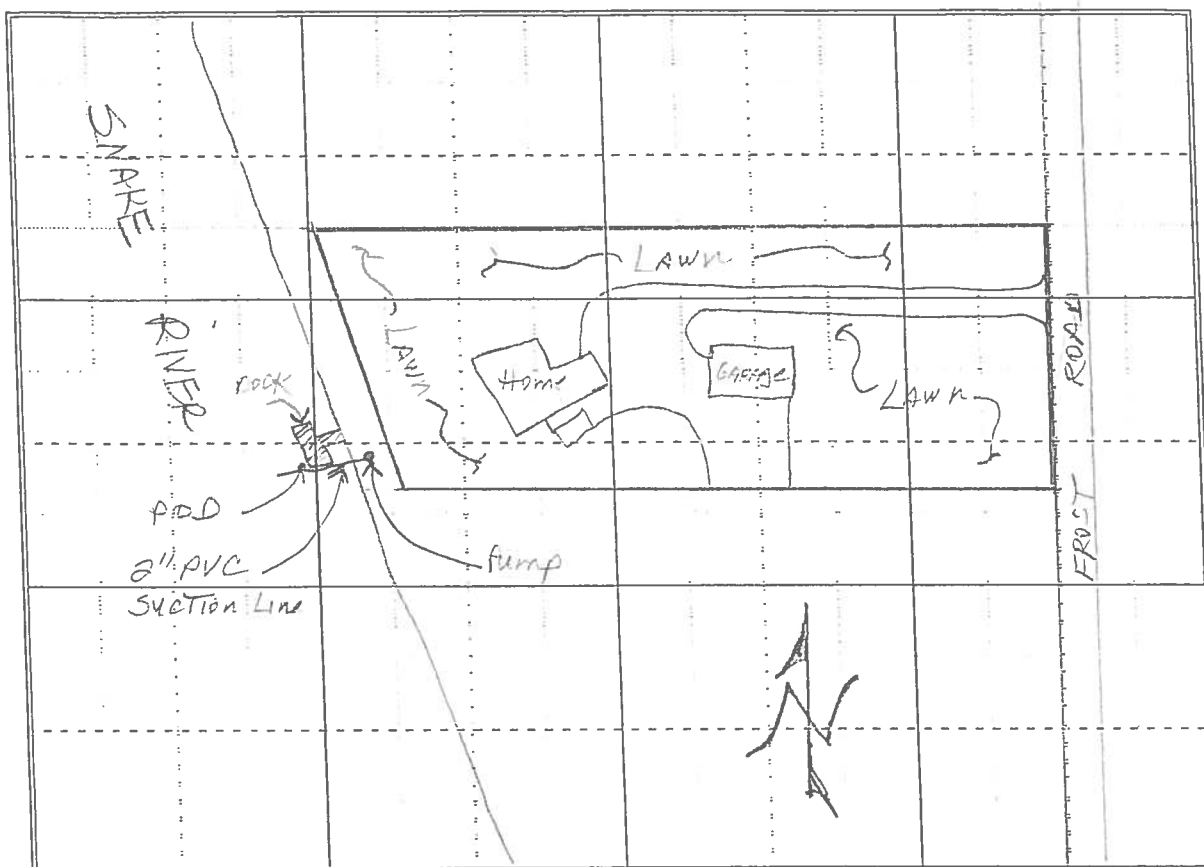
Reviewer _____ Date _____

* Fee 10/16/2012 memo -SL

02-7479
Gov't. Lot 3



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" = 1175

- ☐ 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: 02-7479

Field Exam Date: 6-18-12

PLS: NE1/4, SW1/4 Section 27, T.03N, R.04W.

Field Examiner: RC



Point of Diversion: View westerly of dock where the screened 2" PVC suction line is attached. The 5 horizontal and the 2" PVC discharge line is shown west of spring box.



Point of Diversion: The 2" PVC screened suction line attached to dock.



Place of Use: View easterly of lawn and landscaping.