

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 85-15751

Exam Date: 9/6/2012

1. Current Owner: BILL COWGER
927 GUN CLUB RD
LEWISTON ID 83501-9789
(208)746-9594

2. Accompanied by: Mr. and Mrs. Cowger

3. **SOURCE**
GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NONE (37-7658 is for domestic use and irrigation of lawn that are on the east side of Cowger Additions, this right is for the west side and shop—no overlap)
2. Other water rights with the same point of diversion: NONE

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

GROUND WATER L4 (NW1/4NW1/4) Sec. 4, Twp 35N, Rge 05W, B.M. NEZ PERCE County

Method of Determination: field visit and GPS (46.410834, -116.976544)

2.

PLACE OF USE: IRRIGATION AND 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	
35N	05W	4																	
																			1.0

Total Acres: 1

Method of Determination: Field visit and aerial imagery

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.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
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A0017572 not known—well was drilled in the 70's and no records available, Mr. Cowger stated that the well is 65' deep

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Bucket and stopwatch						

2. Measurements:

I filled a calibrated 5 gallon bucket a few times to get an average in order to determine the diversion rate of the PD.

To check the measured diversion rate, I also will back-calculate the hp equation.

E. FLOW CALCULATIONS

Measured Method:

1). On average it took 21.5 seconds to fill the bucket.

5 gallons x (60 seconds/21.5 seconds) = 14 gpm or 0.03 cfs

2). $8.8 \times 0.7 \times \text{HP} / 65 + (2.31 \times 36) = 0.03 \text{ cfs} \rightarrow \underline{\frac{3}{4} \text{ hp}}$

Conclusion: The measured diversion rate of 0.03 cfs was not only confirmed via a physical measurement but also it makes sense when plugged-into the hp equation. I back-calculated for hp and got a result of $\frac{3}{4}$ horsepower which makes sense for a low demand system such as this.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$V_{\text{I.R.}} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1 \text{ acre} \times 4 \text{ af} = 4 \text{ afa}$

$V_{\text{D.R.}} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.03 \times 294 \text{ days} \times 1.9835 = 17.5 \text{ af}$

$V = \text{Smaller of } V_{\text{I.R.}} \text{ and } V_{\text{D.R.}} = 4 \text{ af}$

2. Volume Calculations for Other Uses: Shop bathroom—the diversion rate is based on one 4-5 gpm fixture. The shop is intermittently used by the Cowgers and I believe that the minimum volume of 0.1 afa would be sufficient for their needs. Note that describing the shop on the license, even though it wasn't identified in the permit, is not an enlargement. The shop simply has one fixture and historically been associated with Cowgers' home. The shop meet the domestic definition.

G. NARRATIVE/REMARKS/COMMENTS

There are two wells that are part of two separate systems at Cowger Additions (POU). One well is used for irrigation purposes for the west side of the subdivision (with the exception of the Cowger's home which is the most southern home) and domestic use for the shop (one bathroom). The old well (drilled around the 70s?) was originally going to be used for the domestic use for the 9 homes but it did not meet quality standards. A new well was put in 1999 and is used for in-house use of 9 homes, irrigation for the east side of the subdivision, and the Cowger's home.

The old well is apparently 65' deep according to the Cowger's and I was able to measure a flow rate at the hydrant that is located at the well—average of 22 seconds to fill a 5 gallon bucket or $5 \times 60 / 22 = 14 \text{ gpm}$. Can back-calculate the hp equation with the psi of 36, depth of well is 65' and diversion rate of 0.03 cfs.

The old well is equipped for 2 pressure tanks for use at the bathroom.

The new well has a 2 horsepower pump and is pumped into 2-1500 gallon storage tanks that are located upstairs at the shop that sit 15' high. From the storage tank there is a 7 horsepower pump that conveys the water to a 3" mainline that then goes to the homes.

Since the system is not integrated, an amendment was necessary to add a PD to 85-7658. I received the amendment and split 85-7658 into 85-15750 (new well) and 85-15751 (old well).

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

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	0.010 CFS	0.1 AF
IRRIGATION	2/15 to 11/30	0.030 CFS	4.0 af
	<u>Totals:</u>	0.030 CFS	4.1 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

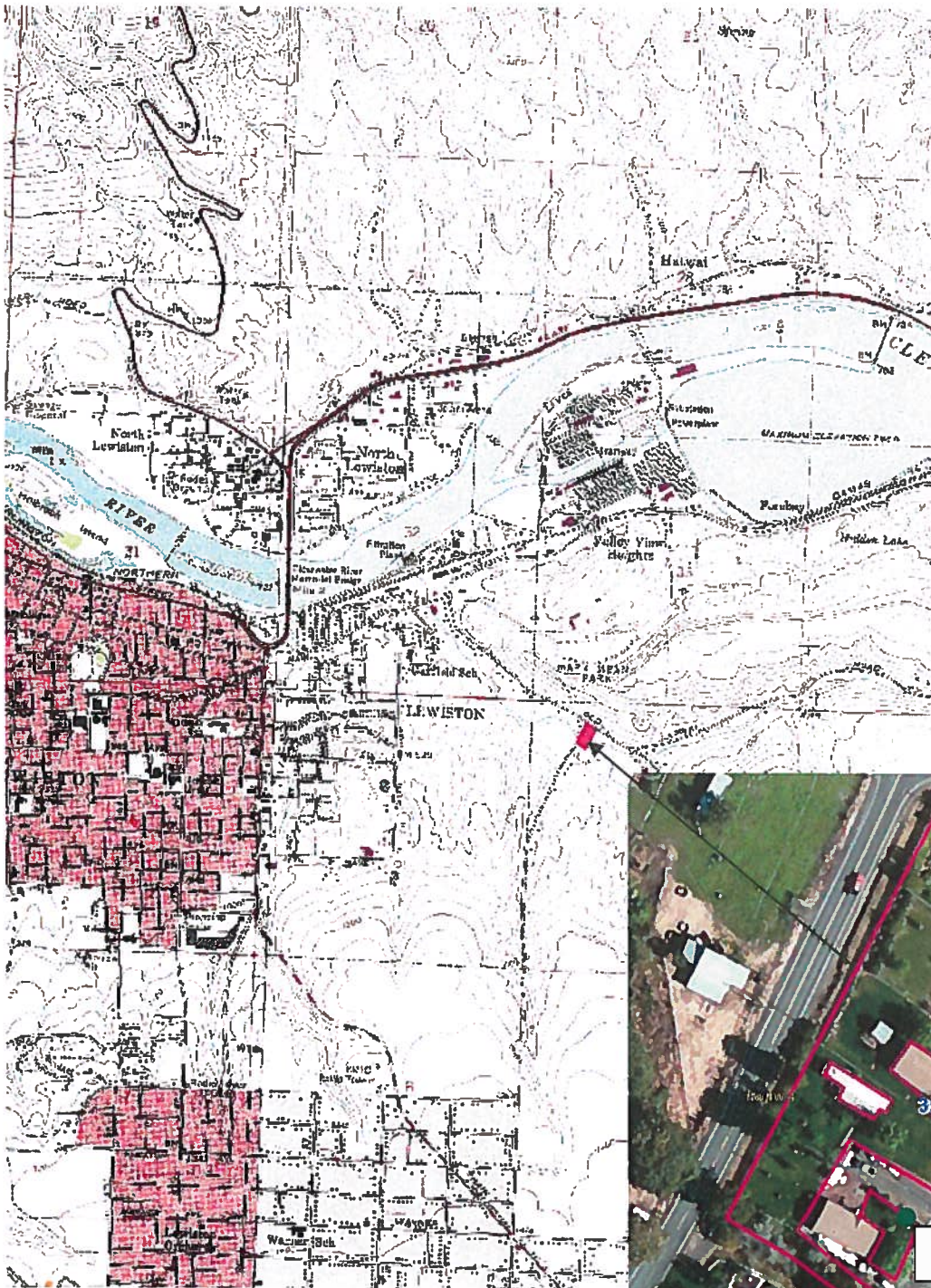
Field Examiner's Name Cherie Palmer Date 1/29/13

Reviewer _____ Date _____

System Diagram

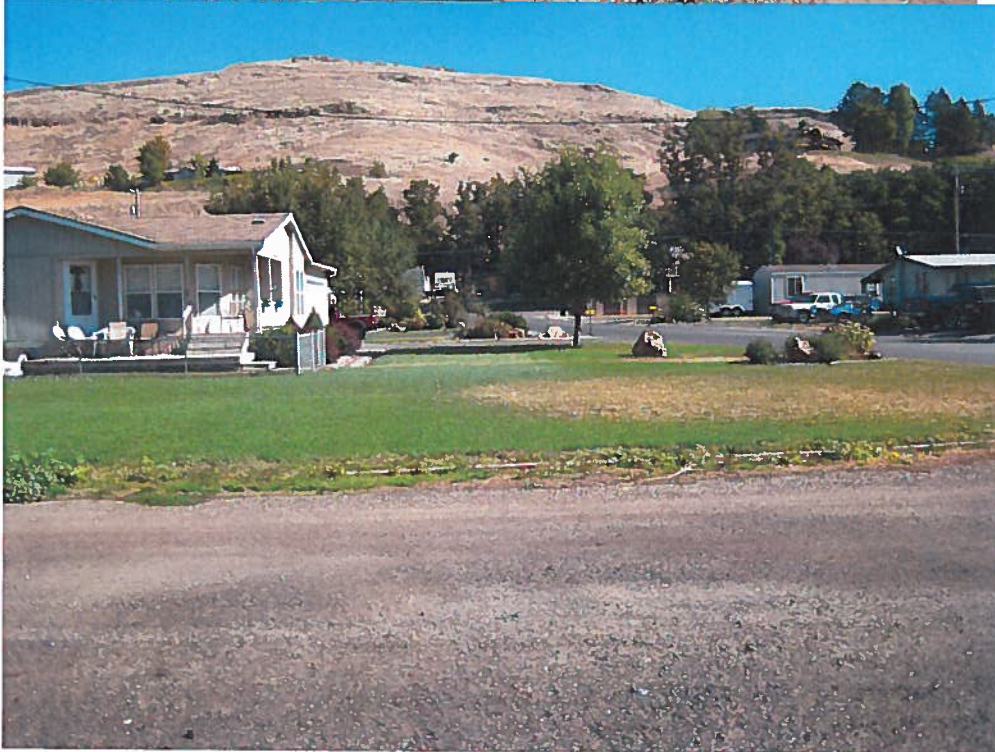


MAP AND AERIAL IMAGERY





Well A0017572



Place of use

