

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

**A. GENERAL INFORMATION**

Permit No: 85-7655

Exam Date: 3/4/2014

1. Does this qualify for an in-office field exam (IDAPA 035.02.r)? ☒ Yes ☐ No
- 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: Darrell & Paula Colwell  
 Owner of Record Correct? ☒ Yes ☐ No  
 Address of Record Correct? ☒ Yes ☐ No  
 If No: Address
3. Beneficial Use Fees have been paid: ☒ Yes ☐ No Receipt No: C0
4. SOURCE TRIBUTARY  
 Spring Big Canyon Creek  
 Method of Determination: Information given on the permit. Supported with aerial photography and DRG map.  
 Change in Source: ☐ Yes ☒ No

**B. OVERLAP REVIEW**

1. Other water rights with the same place of use: Overlap? ☐ Yes ☒ No

| Water Right No. | Source | Purpose of Use | Basis |
|-----------------|--------|----------------|-------|
|                 |        |                |       |
|                 |        |                |       |

Comments: There are no other water rights established on the property.

2. Other water rights with the same point of diversion: Overlap? ☐ Yes ☒ No

| Water Right No. | Source | Purpose of Use | Basis |
|-----------------|--------|----------------|-------|
|                 |        |                |       |
|                 |        |                |       |

Comments: There are no other water rights using this spring diversion.

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

| Source                    | Govt. Lot | ¼ | ¼  | ¼  | Sec. | Twp. | Rge. |      | County    |
|---------------------------|-----------|---|----|----|------|------|------|------|-----------|
| Spring (Big Canyon Creek) |           |   | SW | NE | 14   | 36N  | 01W  | B.M. | Nez Perce |
|                           |           |   |    |    |      |      |      | B.M. |           |
|                           |           |   |    |    |      |      |      | B.M. |           |

Method of Determination: Map was provided with permit showing location of diversion. Stream location where POD description matches and seems a likely source.

Change in POD? ☐ Yes ☒ NoAmendment Required? ☐ Yes ☒ No2. **PLACE OF USE:** Use: Stock water & 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 |        |
| 36N | 01W | 14  |    | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |    |        |

Method of Determination:

Map was provided with permit showing location of use. Through the use of aerial photography, I was able to confirm there was developed property with a home and other structures on the land. The property lies on a boundary between the quarter sections referenced above.

Change in POU? ☐ Yes ☒ NoAmendment Required? ☐ Yes ☒ No
☐ Delivery System Diagram Attached (required). Indicate all major components and distances between components.

Indicate weir size/pipe as applicable.

☒ 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 |
|------------------------------------------|------------|----|------------------|-----------|-----------------------------------|
|                                          |            |    |                  |           |                                   |

\*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 |
|-------------------------|------|------|-----------|------------|------|-------------|
|                         |      |      |           |            |      |             |
|                         |      |      |           |            |      |             |

2. Measurements: No flow measurements were taken in the office. Theoretical found below.**E. FLOW CALCULATIONS**
☒ Additional Computation Sheets Attached

Measured Method:

Recommended diversion rates for stockwater per admin memo states 0-25 head of stock be granted 0.02 cfs.

See attached theoretical calculation sheet for estimated flow rate. The system is capable of carrying an average of 0.11 cfs over a range of scenarios.

Measurement = 0.11 cfs

Permit allowed = 0.02 cfs

License recommend for 0.02 cfs

**F. VOLUME CALCULATIONS**

## 1. Volume Calculations for Irrigation:

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

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

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

## 2. Volume Calculations for Other Uses:

For Domestic; 1.2 afa is recommended under Administrator's Memorandum #22

For Stockwater:  $11 \text{ head} \times 12 \text{ gpd} \times 365 / 325850 = 0.15 \text{ afa}$ .**G. PURPOSE OF USE**Irrigation ☐ Yes ☒ No # Stock 11 Domestic # of Homes 1

Other: Two (2) Recreational Vehicles used for 3-6 months.

Change in Purpose of Use? ☐ Yes ☒ No

Method of Determination: Application stated the specifics of the stock and domestic uses. Aerial photography supports evidence that water is being used for this purpose.

If Yes: From Use \_\_\_\_\_ To Use \_\_\_\_\_ Amount \_\_\_\_\_ CFS \_\_\_\_\_ AFA \_\_\_\_\_

**H. NARRATIVE/REMARKS/COMMENTS**

This permit was licensed as an in-office field exam. The application had a drawing of the water system for the property. To do a theoretical flow, I sent a request letter to the permit owner. Mrs. Collwell replied with an aerial photo of the property and marked where the POD and storage tanks were located. This allowed me to make a more accurate estimate for flows. Given the system in place, the beneficial use, and the amount of water being permitted, an in-office field exam seems reasonable.

The water source is coming from a spring located on property owned by a neighbor, Kenneth & Lori Fowler. A General Transfer/Grant of Water Right and Easement was agreed to and signed by both parties on May 19, 1999.

For the theoretical flow rate, I gathered lift information by topographic maps via ArcMap. A good estimate of 40 feet from diversion to storage was taken from the map. A strong guess of 10 psi for this level was used in the theoretical calculations. Extreme conditions were estimated for the system with a rate of 0.09, still capable of pumping the 0.02 limit by permit.

Have conditions of permit approval been met? ☒ 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 – 12/31        | 0.02                  | 1.2                  |
| Stockwater            | 01/01 – 12/31        | 0.02                  | 0.2                  |
| <u>Totals</u>         |                      | 0.02 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**

Field Examiner's Name Patricia Wiley Date 03-12-14

Reviewer Daniel A. Noh Date 3-13-14

State of Idaho  
Department of Water Resources  
**Field Exam Map**  
85-7655

This map depicts the DOMESTIC place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.



-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters

0 0.0175 0.035 0.07 Miles



State of Idaho  
Department of Water Resources  
**Field Exam Map**  
85-7655

This map depicts the STOCKWATER place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.



-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters

0 0.0175 0.035 0.07 Miles



STORAGE  
TANK  
LOCATION  
OF SKING  
(APPROXIMATE)

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 85-7655  
 Reviewer: Patrick Kelly  
 Date of Review: March 4, 2014)

| P/D No.:           | Senerio 1 | Senerio 2 | Senerio 3 |
|--------------------|-----------|-----------|-----------|
| PUMP HORSEPOWER    | 1.5       | 1.5       | 1.5       |
| BOOSTER HORSEPOWER | 0         | 0         | 0         |
| PUMPING LEVEL      | 40        | 50        | 60        |
| DISCHARGE PRESSURE | 10        | 15        | 20        |
| RATE OF FLOW (cfs) | 0.15      | 0.11      | 0.09 0.11 |

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:**

It appears from the topo map they are lifting water from the first tank to the second tank approximately 40-60 ft. We estimated the open discharge into the upper tank between 10-20 psi. The lowest diversion rate under most extreme conditions was 0.09 cfs which is greater than the 0.02 cfs allowed under permit.