

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

**A. GENERAL INFORMATION**

Permit No: 2-10326

Site Visit Date 12/8/2017

1. Does this qualify for an in-office field exam (IDAPA 035.02.r)? ☒ Yes ☐ No
- a. Irrigation of 5 acres or less
- b. Storage of up to 14.6 AF for stockwater purposes only
- c. Any use other than irrigation or storage, if the combined diversion rate is 0.24 cfs or less
- d. Other < >
2. Current Owner: Name: Randall L Hunter and Karen Hunter  
Owner-of-Record Correct? ☐ Yes ☒ No  
The permit was issued to Stephen A. Trulove. It has not been assigned to the Hunters.  
Address-of-Record Correct? ☒ Yes ☐ No  
If No:
3. Beneficial Use Fees have been paid: ☒ Yes ☐ No Receipt No: C087512

**4. SOURCE**

Snake River

Method of Determination: site visit

Change in Source:

**TRIBUTARY**

Columbia River

☐ 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 |
|-----------------|--------------|----------------|-------|
|                 | Ground water | Domestic       |       |
|                 |              |                |       |

Comments: The house is served by a separate domestic well. Water for irrigation is available through Opaline Irrigation District.

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

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

Comments: For cooling use only, no heating use from this system.

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

| Source      | Govt. Lot | % | %  | %  | Sec. | TWP | RGE |      | County |
|-------------|-----------|---|----|----|------|-----|-----|------|--------|
| Snake River |           |   | SW | SE | 06   | 01N | 03W | B.M. | OWYHEE |
|             |           |   |    |    |      |     |     |      |        |

Method of Determination: The diversion was GPS'd during the site visit.

Change in POD? ☐ Yes ☒ No

Amendment Required? ☒ Yes ☐ No The Permit PLS address was incorrect.

2. **LOCATION OF PLACE(S) OF USE:** Use: Cooling

| TWP | RGE | Sec | NE |    |    |    | NW |    |    |    | SW |    |    |    | SE |    |    |    | Totals |
|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|
|     |     |     | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE |        |
| 01N | 03W | 06  |    |    |    |    |    |    |    |    |    |    |    |    |    |    | C  |    |        |
|     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |

Method of Determination: Home is visible is aerial photography

Change in POU? ☐ Yes ☒ No Amendment Required? ☒ Yes ☐ No The permit PLS address was incorrect.

3.

☐ 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 |
|------------------------------------------|------------|----|------------------|-----------|-----------------------------------|
| A0019150 attached during the site visit  |            |    |                  |           |                                   |

\*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: In-office field exam paired with a site visit to confirm the source. No measurements were takenE. **FLOW CALCULATIONS**☐ Additional Computation Sheet Attached

|                               |                |  |
|-------------------------------|----------------|--|
|                               | <b>Cooling</b> |  |
| <b>Policy standard</b>        |                |  |
| <b>Permit allowed</b>         | 0.02 cfs       |  |
| <b>License recommendation</b> | 0.02 cfs       |  |

F. **VOLUME CALCULATIONS**

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{\text{N/A}}$$

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

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

Volume Calculations for Other Uses: Volume of a domestic internal use is limited to 0.6 AFA. Using Dr. Kavanaugh's spreadsheet for cooling use only, in a 3224 ft<sup>2</sup> home yields similar volume results. See the attached spreadsheet

**G. PURPOSE OF USE**

Irrigation ☐ Yes ☒ No # Stock NA Domestic # of Homes NA  
 Other: < Cooling >  
 Change in Purpose of Use? ☐ Yes ☒ No  
 Method of Determination: site visit 12/8/2017  
 If Yes: From Use \_\_\_\_\_ To Use \_\_\_\_\_ Amount \_\_\_\_\_ CFS \_\_\_\_\_ AFA \_\_\_\_\_

**H. NARRATIVE/REMARKS/COMMENTS**

Permit 2-10326 authorized diversion of 0.02 cfs for cooling use. Based on the small permitted diversion rate, this permit qualified for an in-office field exam but the source of the water was in question.

The legal description of the POU was used to locate the property. Available Owyhee County tax parcel information shows that Randall L Hunter and Karen Hunter are owners of the property containing the POU. An assignment of the permit is not in the file. Ownership change will be needed after licensing.

I created the POU shape based on the permit POU map. The home is visible in aerial photography. It is located in lot1 SWSE not in lot1 SESE.

I created the POD shape based on the GPS point collected during the site visit. The POD is located in SWSE not in lot1 SESE. The water source is the Snake River.

On October 18, 2017, I spoke to Randal Hunter and confirmed that he and his wife are current owner of the POU. I discussed the permit requirements, the licensing process and my review. Mr. Hunter stated that the system was used for cooling only and the spent water was returned to the river. It was not used for irrigation on the property. He stated that they have shares from Opaline Irrigation District for irrigation. He also stated that the source water was a spring that daylighted between the house and the river. The permit authorized a diversion from the Snake River not a spring. On October 25, I sent a letter requesting confirmation of the POU and POD locations and Mr. Hunter responded. An amendment is needed to correct the POU and the POD addresses.

On December 7, I spoke with Randal Hunter about a possible site visit. I expected to be in the vicinity the next day and I asked if he would be available to show me the POD. He was in Coeur D'Alene at the time of my phone call, but gave directions to the diversion location within his property and permission to view it. He also stated that the system would not be running as it was for cooling only.

On December 8, 2017, Dan Nelson and I located the POD, GPS'd the location and attached an IDWR tag to the pump house frame. As expected, the cooling system was not running but it was in place. The Snake River is the source of the water based on the depth of the culvert and its proximity to the river. This is an open-loop system and non-consumptive. The spent cooling water is returned to river with essentially the same quality it had when it was diverted.

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> |
|-----------------------|----------------------|-----------------------|----------------------|
| Cooling               | 06/01-11/01          | 0.02 cfs              | 0.6 af               |
| <u>Totals</u>         |                      | 0.02 cfs              | 0.6 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 ☐ Other

**I. AUTHENTICATION**

Field Examiner's Name Michele Edl assisted by Dan Nelson Date December 8, 2017

Reviewer \_\_\_\_\_ Date \_\_\_\_\_

**Workflow**

Exam Date Entered ☒  
 POU/POD shapes ☒  
 Combined Rights Entry ☐  
 Wild & Scenic Entry ☐  
 Draft License and Maps ☒

**Supporting Documents**

Historical Imagery ☐ Well Log ☐  
 Photographs ☒ Diagrams ☐  
 LandSat ☐ Theoretical ☒ spreadsheet  
 Other: realtor listing and photos



## Heating, and Cooling Energy Estimator\*

### Heating Estimator

|           |                            |         |          |                   |                                       |
|-----------|----------------------------|---------|----------|-------------------|---------------------------------------|
| FloorArea | 3224 ft <sup>2</sup>       | Read Me | GPMpTonH | 0 Gal/min         | 2.5 gpm/ton is optimal for open loops |
| HeatLoss  | kBtu/h                     |         | GPMpTonC | 2.5 Gal/min       |                                       |
| HeatSqFt  | 0 kBtu/h-ft <sup>2</sup> → |         | Heating  | 0 Gal/year        |                                       |
| HeatReqd  | 0.0 kBtu/h                 |         | Cooling  | 161200 Gal/year   |                                       |
| HeatHours | 0 Hours/year               |         | Total    | 161200 Gal/year   |                                       |
|           |                            |         |          | 21551 Cu.Ft./year |                                       |
|           |                            |         |          | 0.495 AcreFt/year |                                       |

| HeatHours Estimates |        |      |      |
|---------------------|--------|------|------|
| Region              |        | Low  | High |
| South               | House  | 600  | 800  |
|                     | School | 200  | 400  |
|                     | Office | 200  | 700  |
| Mid-USA             | House  | 800  | 1000 |
|                     | School | 300  | 500  |
|                     | Office | 700  | 900  |
| North               | House  | 1000 | 1500 |
|                     | School | 500  | 600  |
|                     | Office | 900  | 1100 |

| HeatSqFt Estimates (kBtu/h per 1000 ft <sup>2</sup> of Floor Area) |        |              |              |             |            |
|--------------------------------------------------------------------|--------|--------------|--------------|-------------|------------|
| Region                                                             |        | Poor Quality | Std. Quality | Hi. Quality | Super Eff. |
| South                                                              | House  | 30           | 20           | 15          | 10         |
|                                                                    | School | 30           | 22           | 15          | 10         |
|                                                                    | Office | 22           | 18           | 14          | 11         |
| Mid-USA                                                            | House  | 40           | 32           | 25          | 16         |
|                                                                    | School | 35           | 27           | 20          | 13         |
|                                                                    | Office | 25           | 22           | 15          | 12         |
| North                                                              | House  | 50           | 40           | 30          | 20         |
|                                                                    | School | 40           | 30           | 25          | 15         |
|                                                                    | Office | 30           | 24           | 18          | 13         |

### Cooling Estimator

|           |                             |                                                      |
|-----------|-----------------------------|------------------------------------------------------|
| HeatGain  | kBtu/h                      |                                                      |
| CoolSqFt  | 20 kBtu/h-ft <sup>2</sup> → |                                                      |
| CoolReqd  | 64.5 kBtu/h                 |                                                      |
| CoolHours | 200 Hours/year              | well controlled cooling; less than average occupancy |

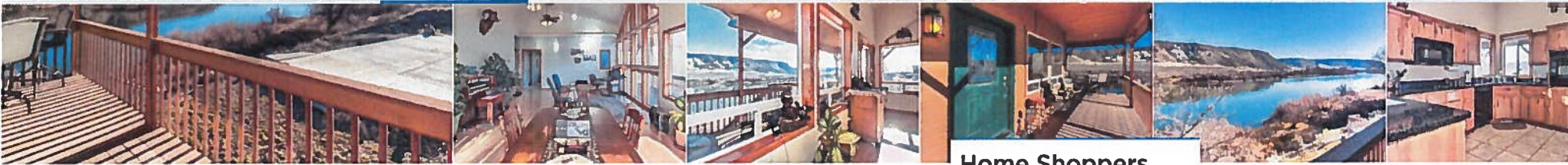
| CoolHours Estimates |        |      |      |
|---------------------|--------|------|------|
| Region              |        | Low  | High |
| South               | House  | 1100 | 1600 |
|                     | School | 600  | 1000 |
|                     | Office | 1200 | 1800 |
| Mid-USA             | House  | 800  | 1000 |
|                     | School | 400  | 550  |
|                     | Office | 700  | 1100 |
| North               | House  | 200  | 300  |
|                     | School | 200  | 300  |
|                     | Office | 300  | 600  |

| CoolSqFt Estimates (kBtu/h per 1000 ft <sup>2</sup> of Floor Area) |        |              |              |             |            |
|--------------------------------------------------------------------|--------|--------------|--------------|-------------|------------|
| Region                                                             |        | Poor Quality | Std. Quality | Hi. Quality | Super Eff. |
| South                                                              | House  | 32           | 25           | 17          | 10         |
|                                                                    | School | 65           | 53           | 36          | 31         |
|                                                                    | Office | 35           | 28           | 20          | 15         |
| Mid-USA                                                            | House  | 30           | 22           | 15          | 9          |
|                                                                    | School | 60           | 48           | 38          | 28         |
|                                                                    | Office | 30           | 25           | 17          | 14         |
| North                                                              | House  | 28           | 20           | 14          | 8          |
|                                                                    | School | 50           | 42           | 30          | 26         |
|                                                                    | Office | 28           | 22           | 16          | 12         |

\* adapted from HeatCoolWater.xlsx with permission from the spreadsheet author, Dr. Steve Kavanaugh

Calculated by Michele Edl  
12/8/2017  
Water Right 02-10326

ATTACHMENT TO FIELD REPORT



Home Shoppers

## 8900 Quail Run Rd, Melba, ID 83641

2 beds · 1.5 baths · 3,224 sqft

*Note: This property is not currently for sale or for rent.  
The description below may be from a previous listing.*

LIVE in your vacation home close to town on over 5 irrigated acres overlooking dredge island along the Snake River! 253Ft of riverfront along with the 3224 sq.ft. home with a 360 degree deck and commanding views of the canyon and wildlife. NO CC and R's or HOA's so bring your animals and RV. Lot has pad poured for the detached shop and access for boats to the water from property! Add more bedrooms in the partially finished and insulated daylight basement as needed. Theater room with all equipment included!

WR# 02-10326

### Facts and Features

|                                                                                           |               |                                                                                              |         |                                                                                             |           |
|-------------------------------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------|---------|---------------------------------------------------------------------------------------------|-----------|
|  Type    | Single Family |  Year Built | 2004    |  Heating | Heat pump |
|  Cooling | No Data       |  Parking    | No Data |  Lot     | 5.6 acres |

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No commissions.  
No cleaning. No fixing.**

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ATTACHMENT TO FIELD REPORT



WR# 02-10326

ATTACHMENT TO FIELD REPORT



WR# 02-10326

ATTACHMENT TO FIELD REPORT

RECEIVED

NOV 16 2017

DEPARTMENT OF  
WATER RESOURCES

8900 Quail Run Drive  
Melba, ID 83641  
November 14, 2017

State of Idaho  
Dept. of Water Resources  
P.O. box 83720 322 E. Front St.  
Boise, Idaho 83720-0098

Dear Michele:

Thanks for the follow-up on permit #2-10326. To confirm the use and location—

- 1) The location as shown on the map is correct.
- 2) The water source is from a well/spring located about 50 to 60 feet from the river with a submersible pump. The pump is located in a perforated culvert, 36 inches x 16 feet.
- 3) We use the water source for heat pump cooling only for 6 months with all water circulated returning to the river. It is not in use other than that.

Thank you for your time and attention to this matter.

Sincerely,

A handwritten signature in dark ink, appearing to read "Randy Hunter". The signature is fluid and cursive, with a large initial "R" and a long, sweeping underline.

Randy Hunter  
208-993-0207



*\*this is correct.*