

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

**A. GENERAL INFORMATION**Permit No: 95-16566

Exam Date: 5/20/2016

1. Does this qualify for an in-office field exam (IDAPA 035.02.r)? X Y    N
- 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: Tim and Vicky Racicot  
Owner of Record Correct?   X   Y    N  
Address of Record Correct?    Y    N  
If No: Address

Tax lot data shows Judd, Tom L. Estate; Racicot, Timothy D. & Vicky K. as the owners of the property.

3. Beneficial Use Fees have been paid:   X   Y    N Receipt No: C0
4. SOURCE TRIBUTARY  
Old Maid Creek Bayview Creek  
Method of Determination: GIS and Taxlot Data  
Change in Source:    Y   X   N

**B. OVERLAP REVIEW**

1. Other water rights with the same place of use: NO Overlap

| Water Right No. | Source         | Purpose of Use | Basis                   |
|-----------------|----------------|----------------|-------------------------|
| 95-9878         | Old Maid Creek | Domestic       | License and CSRBA Claim |
|                 |                |                |                         |

Comments: Water right 95-9878 is a domestic right from the same creek for in-house use and up to ½ acre of yard and garden irrigation. The field exam for 95-9878 doesn't have a good enough map, system diagram, photos, or description of the water use to determine exactly what is irrigated out of the domestic system and what is irrigated out of the irrigation system or even if they are the same system. The permit holder emailed me and told me that the house pump is further up stream and does irrigate ½ acre of ground. I assumed that the irrigation under 95-9878 was around the home, so I removed that portion that I thought would be irrigated with the house pump.

2. Other water rights with the same point of diversion: NO Overlap

| Water Right No. | Source         | Purpose of Use | Basis                   |
|-----------------|----------------|----------------|-------------------------|
| 95-9878         | Old Maid Creek | Domestic       | License and CSRBA Claim |
|                 |                |                |                         |

Comments: Water right 95-9878 is a domestic right from the same creek for in-house use and up to ½ acre of yard and garden irrigation. The field exam for 95-9878 doesn't have a good enough map, system diagram, photos, or description of the water use to determine exactly what is irrigated out of the domestic system and what is irrigated out of the irrigation system or even if they are the same system. The permit holder emailed me and told me that the house pump is further up stream and does irrigate ½ acre of ground. I assumed that the irrigation under 95-9878 was around the home, so I removed that portion that I thought would be irrigated with the house pump. Water right 95-9596 appears in the same 40 acre tract, but is for the property north of Bayview Creek.

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

| Source     | Govt. Lot | ¼ | ¼  | ¼  | Sec. | Twp. | Rge. |      | County |
|------------|-----------|---|----|----|------|------|------|------|--------|
| Creek Pump |           |   | NE | SW | 27   | 54N  | 2W   | B.M. | BONNER |
|            |           |   |    |    |      |      |      | B.M. |        |
|            |           |   |    |    |      |      |      | B.M. |        |

Method of Determination: GIS and Tax Lot data.Change in POD?   X   N Amendment Required?   X   N**2. PLACE OF USE:** Use: Irrigation

| TWP | RGE | Sec   | NE |     |     |    | NW |    |    |    | SW |    |    |    | SE |    |    |               | Totals |
|-----|-----|-------|----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|---------------|--------|
|     |     |       | NE | NW  | SW  | SE | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE            |        |
| 44N | 1W  | 8     |    | 0.4 | 3.1 |    |    |    |    |    |    |    |    |    |    |    |    |               | 3.5    |
|     |     | Lot # |    |     |     |    |    |    |    |    |    |    |    |    |    |    |    |               |        |
|     |     |       |    |     |     |    |    |    |    |    |    |    |    |    |    |    |    | Total Acres = |        |

Method of Determination: GIS and Tax Lot Data The tax lot straddles the 40 acre tract lineChange in POU?   X   N Amendment Required?   X   N   Delivery System Diagram Attached (required). Indicate all major components and distances between components.

Indicate weir size/pipe as applicable.

  X   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 |
|------------------------------------------|------------|----|------------------|-----------|-----------------------------------|
| Creek Pump                               | Unknown    | 5  |                  |           |                                   |
|                                          |            |    |                  |           |                                   |

\*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 |
|-------------------------|------|------|-----------|------------|------|-------------|
| NONE                    |      |      |           |            |      |             |
|                         |      |      |           |            |      |             |

2. Measurements: No measurement is required for an in-house exam. The application states that the permit holder uses a 5 Hp pump, so a theoretical analysis was done.

**E. FLOW CALCULATIONS**  X   Additional Computation Sheets Attached

Measured Method:

A theoretical calculation was used for this system to determine the flow rate. Using standard efficiency rates, this system could far exceed the permitted amount, but I am guessing that permit holder uses a gas powered pump, which generally has about 35% efficiency. Even using the lower efficiency, this system can easily supply the flow rate needed to irrigate this ground and provide for the additional uses.

Theoretical Calculation = 0.16 cfs

Acre Limits = 4.3 acres X 0.03 cfs per acre = 0.13 cfs

Stockwater = 0.02 cfs for 0 to 25 head of sheep per Field Examiner's Handbook (permit states 11 sheep)

Permit allowed = 0.15 cfs for irrigation – 0.15 cfs for fire protection and 0.02 cfs for stockwater for a total of 0.17 cfs.

I am recommending a diversion rate of 0.13 cfs for irrigation, 0.02 cfs for stockwater, and 0.15 cfs for fire protection for a total of 0.17 cfs.

**F. VOLUME CALCULATIONS**

## 1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 4.3 \text{ acres} \times 3 = 12.9 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.14 \text{ cfs} \times 214 \times 1.9835 = 59.4 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \underline{\hspace{2cm}} \text{ (This is a surface water permit, so no volume is required.)}$$

## 2. Volume Calculations for Other Uses:

Stockwater = 11 sheep X 2gpd X 365 days / 325850 = 0.0246 af (round to 0.1 af)

No volume is required for fire protection use.

**G. PURPOSE OF USE**Irrigation   X   Y      N # Stock   11   Domestic # of Homes     Other: Fire ProtectionChange in Purpose of Use?      Y      NMethod of Determination: Taxlot data and conversations with owner.If Yes: From Use      To Use      Amount      CFS      AFA     **H. NARRATIVE/REMARKS/COMMENTS**

This permit is qualifies for an in-house exam. The water is diverted from Old Maid Creek for irrigation. You can see the pastures and areas around the home that have been irrigated. The irrigation appears to have been in place since the early 1980s, but no water right was sought for the pasture. Permit 95-9878 was filed for water for domestic use from Old Maid Creek to the home, yard and garden. The field exam for 95-9878 doesn't have a good enough map, system diagram, photos, or description of the water use to determine exactly what is irrigated out of the domestic system and what is irrigated out of the irrigation system or even if they are the same system. The permit holder emailed me and told me that the house pump is further up stream and does irrigate ½ acre of ground. I assumed that the irrigation under 95-9878 was around the home, so I removed that portion that I thought would be irrigated with the house pump. By limiting the irrigation under this permit to 4.3 acres, the permit holder can still irrigate the full 4.8 acres found irrigated using the ½ acre of irrigation from the domestic water right.

All of the conditions on the permit will be carried forward to licensing. A condition will be needed to address the volume for the stockwater, since the total volume cannot be addressed in this permit.

Have conditions of permit approval been met?   X   Yes      No

**I. RECOMMENDATIONS****1. Recommended Amounts**

| <u>BENEFICIAL USE</u> | <u>PERIOD OF USE</u> | <u>DIVERSION RATE</u> | <u>ANNUAL VOLUME</u> |
|-----------------------|----------------------|-----------------------|----------------------|
| Irrigation            | 04/01 to 10/31       | 0.13 CFS              |                      |
| Stockwater            | 01/01 to 12/31       | 0.02 CFS              | 0.1 AF               |
| Fire Protection       | 01/01 to 12/31       | 0.15 CFS              |                      |

Totals: 0.15 CFS

**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 – DANIEL A. NELSON – STAFF HYDROLOGIST**

Field Examiner's Name  Date 5-24-15

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

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## Permit 95-16566 by Dan Nelson

Domestic water right 95-9878 overlaps this place of use. The field exam wasn't adequate to determine actual irrigation location provided for by 95-9878, so I created a shape that shows the approximate 0.5 acres irrigated under 95-9878. Permit 95-16566 allows an additional 4.3 acres of irrigation for a total of 4.8 acres irrigated.

28

27

Yellow Border is the Place of Use. I found for permit 95-16566 of 4.3 acres being irrigated.

54 N 12 W

26

Red Border is the assumed irrigation around the home for water right 95-9878.

Point of Diversion per permit/application

35

33

34

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 95-16566  
 Reviewer: Dan Nelson  
 Date of Review: 5/19/2016

P/D No.:

PUMP HORSEPOWER  
 BOOSTER HORSEPOWER

PUMPING LEVEL

DISCHARGE PRESSURE

RATE OF FLOW (cfs)

| 5 Hp pump<br>70 %<br>efficiency |
|---------------------------------|
|                                 |
| 5                               |
| 0                               |
|                                 |
| 5                               |
|                                 |
| 40                              |
|                                 |
| 0.32                            |
| 142                             |

| 5 Hp pump<br>70 %<br>efficiency |
|---------------------------------|
|                                 |
| 5                               |
| 0                               |
|                                 |
| 5                               |
|                                 |
| 50                              |
|                                 |
| 0.26                            |
| 115                             |

| 5 Hp pump<br>at 35 %<br>efficiency |
|------------------------------------|
|                                    |
| 5                                  |
| 0                                  |
|                                    |
| 5                                  |
|                                    |
| 40                                 |
|                                    |
| 0.16                               |
| 71                                 |

Average  
 0.24  
 128.32

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:

The application shows that this system involves a 5 Hp creek pump. I am not sure if this is an electrical pump or a gas powered pump. My experience has found that a gas powered pump is actually around 35% to 40% efficient compared to the 70% efficiency of an electrical pump. Using either efficiency, a 5 Hp pump should be able to pump the 0.14 cfs needed to irrigate the 4.8 acres. This pump could also supply the 0.02 cfs for stockwater and the irrigation at the same time for a total of 0.16 cfs. The fire protection was limited to 0.15 cfs, so feel this pump can handle the diversion rates allowed by the permit.

I used an average sprinkler pressure of 40 psi and an estimated lift out of the creek of 5 feet.

## Nelson, Dan

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**From:** Kelsey Racicot [k.racicot10@gmail.com]  
**Sent:** Tuesday, May 24, 2016 9:42 AM  
**To:** Nelson, Dan  
**Subject:** Re: Permit 95-16566

Hello Daniel,

Thanks for processing our water right. We do not take water from the same point for both licenses. For license number 95-9878 (the right that came with the property), we do also irrigate 1/2 acre. It comes from a screened intake about 400 ft. upstream from the point where we take out water from the new right. For the permit number 995-16566 we use the described sprinkler system to water the remaining acreage.

Thanks!

On Fri, May 20, 2016 at 10:57 AM, Nelson, Dan <[Dan.Nelson@idwr.idaho.gov](mailto:Dan.Nelson@idwr.idaho.gov)> wrote:

Dear Mr. and Ms. Racicot:

Our office received your proof of beneficial use statement on May 2, 2016 for permit 995-16566. This permit allowed you to develop up to 5 acres of irrigation to be diverted from a single location on Old Maid Creek. The permit is small enough, that with a little assistance from you, we can verify the water use without actually visiting the site, unless you wish to have someone meet with you on sight to verify the water use.

I have been asked to review this permit to verify the water use so it can be licensed. In my review of the permit, I found an existing domestic water right license 95-9878 that allows you to use water for Old Maid Creek for in-house use and up to 1/2 acre of yard irrigation. The licensing work done on the existing license doesn't really give me much information, so I am hoping that I could ask you a couple of questions.

- 1.) Is the point take water out of Old Maid Creek for the home the same point you take water out of the creek for all of your irrigation?
- 2.) If there are two separate systems, do irrigate with the house system or is it just for the home?

I will hold off licensing this permit for a couple of weeks to wait to hear back from you. If I don't hear back from you by June 3, 2016, I will move forward with licensing the permit with what information that I currently have available.

If you have any questions, please don't hesitate to contact me.

Respectfully,

Daniel Nelson

Staff Hydrologist

Idaho Department of Water Resources

Telephone [\(208\) 287-4856](tel:(208)287-4856)

Fax [\(208\) 287-6700](tel:(208)287-6700) (attn: Dan Nelson)