

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 98-8041

Exam Date: 7/12/2017

1. Current Owner:
KOOTENAI TRIBE OF IDAHO PO BOX 1269 BONNERS FERRY ID 83805-1269
2. Accompanied by: Hatchery Staff (name unknown); follow up exam performed with Chris Chaney
Phone No: 208-304-3620
Address: Same as above
Relationship to permit Holder: Kootenai Tribe of Idaho Facility Engineer

3. **SOURCE:**
GROUND WATER

Method of Determination: Arcmap and DRG.

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
98-7670	GROUNDWATER	COMMERCIAL, DOMESTIC	LICENSE
98-7671	MOYIE RIVER	RECREATION STORAGE	LICENSE
98-7804	SKIN CREEK	MUNICIPAL	LICENSE
98-7913	GROUNDWATER, MOYIE RIVER, KOOTENAI RIVER	FISH PROPAGATION	PERMIT – IN PROCESS LICENSING

Comments: licensed Right 98-7670 provides groundwater for the Twin River Campground co-located with the fish hatchery & 2ea homes covered under this permit with a 40-acre tract POU that overlaps this right. 98-7670 is not a concern for POU overlap due to separate water system usage and irrigation acreage between rights 98-7670 & 98-8041, however condition X35 was added to this permit during licensing review to describe combined diversion rate use between the two rights. Right 98-7913 is a permit in process for licensing from which this right has been split from; The two permits have overlapping POUs for the fish hatchery portion, but each permit's water systems are separate and do not co-mingle as part of the fish hatchery operation & is not concern for overlap between 98-7913 & 98-8041. Licensed Rights 98-7671 & 98-7804 both have overlapping POUs with permit 98-8041 but are not associated with this permit's water system and not a concern for overlap.

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

Water Right No.	Source	Purpose of Use	Basis
98-7670	GROUNDWATER	COMMERCIAL, DOMESTIC	LICENSE

Comments: Licensed Right 98-7670 & 98-8041 share the same groundwater POD; condition F06 was added to describe the shared POD between rights, and condition X35 mitigates any concerns of enlargement between the two right's diversion rates.

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER NW¼ SE¼, Sec. 15, Twp 62N, Rge 02E, B.M. BOUNDARY County

Method of Determination: GPS; POD located at -116°11.111, 48°43.304 well 98-90-N-18-000 with A-Tag A0020020.

PLACE OF USE: IRRIGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
62N	02E	15															0.7		0.7

Total Acres: 0.7

PLACE OF USE: DOMESTIC

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
62N	02E	15														X	X		

Method of Determination: Field examination and Arcmap aerial imagery.

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.

☒ X 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.

☒ X☒ X Aerial Photo Attached (required for irrigation of 10+ acres).☒ X 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
98-90-N-18-000		UNKOWN			

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
5 GAL BUCKET MEASUREMENT						

2. Measurements: a 5-GAL bucket test was completed to determine the flow rate equaling 5 gal / 42.0 sec x 60 sec/min = 7.1 gpm or **0.02 cfs** considering department rounding standards.

E. FLOW CALCULATIONS

Measured Method: 5-GAL bucket measurement = 5-gal / 42.0 sec x 60 sec/min = 7.1 gpm or 0.02 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.7 \text{ ac} \times 3.0 \text{ afa} = 2.1 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.02 \text{ cfs} \times 214 \text{ day} \times 1.9835 = 8.5 \text{ af}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = \mathbf{2.1 \text{ af}}$$

2. Volume Calculations for Other Uses:

- Domestic annual volume =
 - 2 homes x 0.6 af per home = 1.2 af
 - Staff restroom use = 290.2-gal x 5 day per week x 52 wk per year = 143,520 gal per year
 - Dishwasher use = 3-gal per cycle = 6-gal per week x 52 weeks per year = 312 gal per year
 - Seasonal tour use = 33.5-gal per day x 2 day per month x 3 months = 333 gal per year
 - 143,520 gal + 312 gal + 333 gal = 144,165 gal / 325,850 gal per af = 0.4 af considering department rounding standards
 - Domestic Total volume = 1.2 af (in-home use) + 0.4 af (hatchery use) = **1.6 af**

G. NARRATIVE/REMARKS/COMMENTS

Right 98-8041 has been split from original permitted Right 98-7913 due to the water system for domestic & irrigation uses being separate from the fish propagation water system associated with 98-7913. This right still provides water for the fish hatchery, but only in the capacity of domestic use for bathrooms, drinking water & kitchen use.

Initial field exam was performed by Department staff on 7/12/2017 with the Twin River Fish Hatchery manager (at that time). It was determined that there was insufficient data from the exam to license the water right following that exam. To compensate, Department staff collected additional hatchery operational data via email correspondence in March & April 2021 coupled by a follow up site visit with the Kootenai Tribe of Idaho's fish hatchery Facility Engineer, Chris Chaney, on 7/29/2021.

During the initial exam, groundwater well 98-90-N-18-000 was identified as the sole source being used for domestic and irrigation purposes by the applicant. A 5-GAL bucket test was completed from a frost-free hydrant located at the well to determine the flow rate, which equals 5 gal / 42.0 sec x 60 sec/min = 7.1 gpm or **0.02 cfs** considering department rounding standards that is recommended to license this water right. Well 98-N-18-000 also provides water for a campground covered under right 98-7670 that was licensed with a diversion rate of 0.13 cfs. While this right's beneficial use(s) were permit approved for higher diversion rates, they are limited by pump performance found during the field exam, and 0.02 cfs is recommended for each beneficial use's diversion rate and the maximum diversion rate.

Following the examination, the well was found to be in a different legally described quarter-quarter than permit approved for development. Permit approved a POD location in the SW¼SE¼ of Section 15, but was GPS located in the NW¼SE¼ of Section 15. An Application for Amendment (for licensing purposes) was mailed to the applicant on 4/7/2021, and received Back from the applicant on 5/11/2021. Although the well providing water for domestic and irrigation uses is not one of the original 3ea groundwater wells identified during the application process, following development there are still a total of 3ea groundwater source PODs uses collectively between 98-7913 and 98-8041.

During the original field exam, the domestic POU was observed, sketched out on field maps, and photographs taken of the two homes and fish hatchery. During licensing review Arcmap aerial imagery was used to trace out the domestic POU. Domestic use water is used for in-home use of 2ea employee living quarters, as well as fish hatchery restrooms, kitchen, and laboratory. The annual volume associated with domestic beneficial use was calculated using information provided by Mr. Chaney related to the two homes & hatchery operations as listed below:

- 2 homes x 0.6 af per home = 1.2 af
- Hatchery staff restroom use = 290.2 gal x 5 day per week x 52 wk per year = 143,520 gal per year
- Hatchery dishwasher use = 3 gal per cycle = 6-gal per week x 52 weeks per year = 312 gal per year
- Hatchery seasonal tour use = 33.5 gal per day x 2 day per month x 3 months = 333 gal per year
 - 143,520 gal + 312 gal + 333 gal = 144,165 gal / 325,850 gal per af = 0.4 af considering department rounding standards
- Domestic Total volume = 1.2 af (in-home use) + 0.4 af (hatchery use) = **1.6 af**

The irrigation POU was sketched on field maps during the field exam and consists of lawn space around the two staff houses. During licensing review Arcmap aerial imagery was used to trace out the irrigation POU which equals 0.7 acres. The annual volume associated with the irrigation beneficial use equals $0.7 \text{ ac} \times 3.0 \text{ afa} = 2.1 \text{ af}$. Irrigation is completed using hose and sprinklers from frost-free hydrants and hose bibs & pressurized sprinklers. When added with domestic use volume, the maximum diversion volume for licensing purposes equals **3.7 af**.

During licensing review several conditions were stripped off this water right but may be applicable to right 98-7913 (01M, X15,26A,046, WB9). Condition F06 was added to describe the shared well use between rights 98-7670 & 98-8041. Condition R66 was replaced with condition X31 describing irrigation of less than 1 acre. A text condition describing the fish hatchery domestic use was added. Condition X35 was added to describe the combined diversion rate limitations between rights 98-7670 and 98-8041. Condition 004 was carried forward to the license.

Overlap concerns: licensed Right 98-7670 provides groundwater for the Twin River Campground co-located with the fish hatchery & 2ea homes covered under this permit with a 40-acre tract POU that overlaps this right. 98-7670 is not a concern for POU overlap due to separate water system usage and irrigation acreage between rights 98-7670 & 98-8041, however condition X35 was added to this permit during licensing review to describe combined diversion rate use between the two rights. Right 98-7913 is a permit in process for licensing from which this right has been split from; The two permits have overlapping POUs for the fish hatchery portion, but each permit's water systems are separate and do not co-mingle as part of the fish hatchery operation & is not concern for overlap between 98-7913 & 98-8041. Licensed Rights 98-7671 & 98-7804 both have overlapping POUs with permit 98-8041 but are not associated with this permit's water system and not a concern for overlap. There are no further overlap concerns for this water right.

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

H. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual Volume</u>
IRRIGATION	04/01 to 10/31	0.02 CFS	2.1 AF
DOMESTIC	01/01 to 12/31	0.02 CFS	1.6 AF

Totals: 0.02 CFS 3.7 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

I. AUTHENTICATION

Luke Bates -

Field Examiner's Name

Date

Reviewer

Date

11/24/2021

2/11/2022

State of Idaho
Department of Water Resources
Attachment to Field Exam
98-8041

DOMESTIC system diagram.



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

0 0.035 0.07 0.14 Miles



State of Idaho
Department of Water Resources
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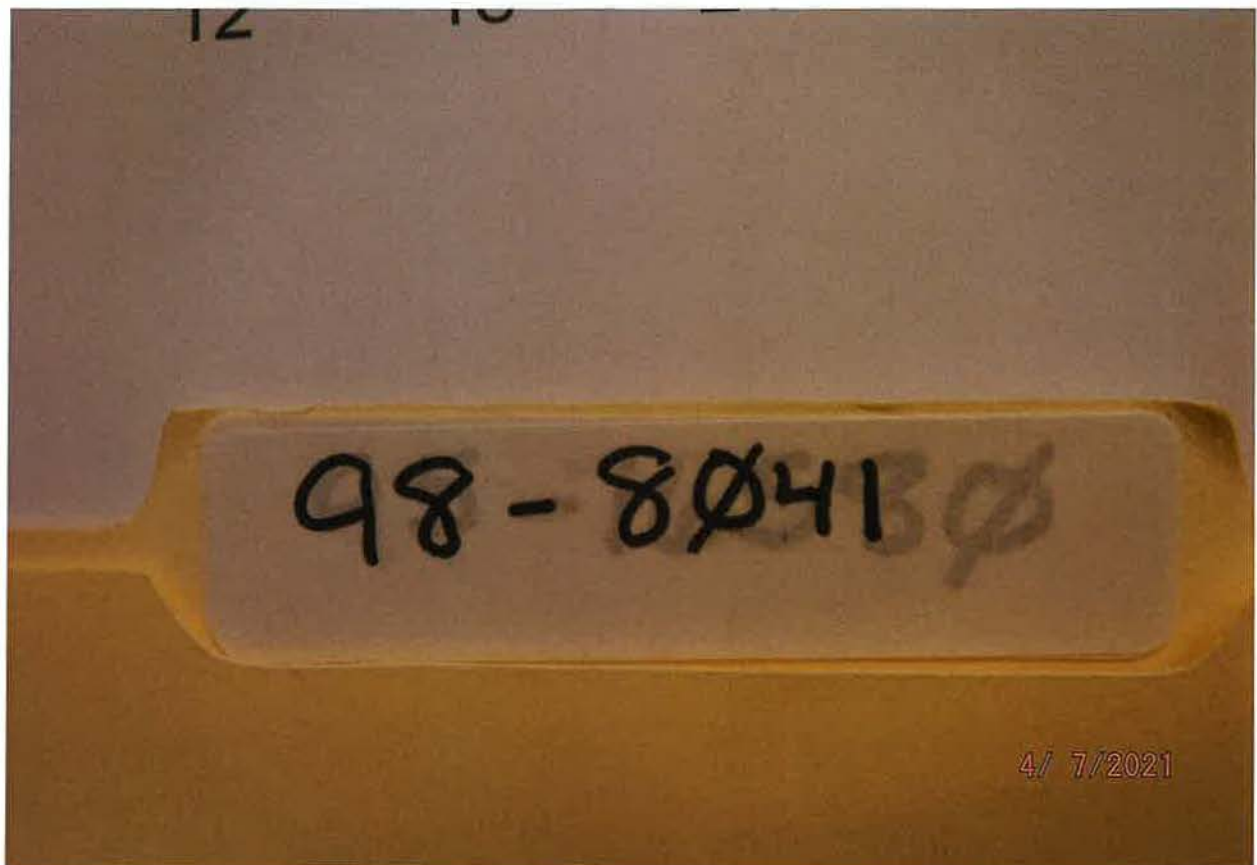
IRRIGATION system diagram.



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

0 0.035 0.07 0.14 Miles





POD - WELL (98-90-N-18-000)



DOMESTIC & IRRIGATION POU – 2 CREWMEMBER HOMES AND YARDS

