

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

A. GENERAL INFORMATION

Permit No: 95-10704

Exam Date: 9/11/2014

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: Mary F Anderson
 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: C099364

4. **SOURCE****TRIBUTARY**

Twin Lakes

Rathdrum Creek

Method of Determination: Applicant submitted an aerial photo map that outlined POD & POU.

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
North Kootenai Water District	Groundwater	Municipal	License

Comments: North Kootenai Water District provides municipal water to the area.

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

Water Right No.	Source	Purpose of Use	Basis

Comments: No POD overlap.

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Twin Lakes	1		SE	SE	36	53N	05W		Kootenai

Method of Determination: Legal Description in permit validated by PLS data and mapping.

Change in POD? ☐ Yes ☒ NoAmendment Required? ☐ Yes ☒ No

2. **PLACE OF USE:** Use: Domestic & 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	
53N	05W	36																0.4	0.4

Method of Determination: Map of property submitted by land owner identifies POU clearly. PLSS data matches legal descriptions of permit.

Change in POU? ☐ Yes ☒ No Amendment 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
Unk.	Unk	Unk	Unk	Unk	Unk

*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 so flow measurements not taken.

E. FLOW CALCULATIONS

☒ Additional Computation Sheets Attached

Measured Method:

$$Q = \frac{8.8 * (\text{Efficiency}) * hp}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Efficiency = 0.70

Depth to water = 20 ft.

psi = 40

hp = 0.5-1.5

See attached theoretical sheet.

Average flow rate is 0.05 cfs

Measurement = 0.05 cfs

Permit allowed = 0.02 cfs

License recommend for 0.02cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.4 * 3.0 = 1.2 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.02 * 246 * 1.9835 = 9.8 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 1.2 \text{ af}$$

2. Volume Calculations for Other Uses:

G. PURPOSE OF USE

Irrigation ☒ Yes ☐ No # Stock 0 Domestic # of Homes 0

Other: < >

Change in Purpose of Use? ☐ Yes ☒ No

Method of Determination: Information in the water right file is consistent with aerial photography of the property.

If Yes: From Use _____ To Use _____ Amount _____ CFS _____ AFA _____

H. NARRATIVE/REMARKS/COMMENTS

Permit 95-10704 authorized the diversion of 0.02 cfs from Twin Lakes for irrigation purposes. Based on the permitted diversion rate and small POU, this qualifies for an in-office field exam. The exam was completed on Sep 11, 2014 by WRA Patrick Kelly.

Legal description of POU & POD were used to locate the property in the name of Mary F Anderson. 0.04 acres of land was measured within the taxlot boundary. A map outlining the POU and POD was submitted and I found no errors in the information that was presented.

The application for permit showed a water right 95-9244 as overlap to the POU. This is a Kootenai Water District municipal groundwater right that is used for in home domestic use. Overlap review showed 10 rights and 3 permits for North Kootenai Water District that exist on the property. Because the property is less than half of an acre, Ms Anderson has the ability to water her property with city water.

A range of small horsepower was used for what I would expect to find for a small parcel of land. Lift of 20 ft was assumed given information provided on a topographic map. Discharge pressure of 40 psi represents a common sprinkler system pressure. Theoretical average flow rate is 0.05 cfs.

I found no evidence to suggest a lesser diversion rate be placed on the license.

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>
Irrigation	04/01-10/31	0.02 cfs	1.2 af
	<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 ☐ Other

Other: < >

J. AUTHENTICATION

Field Examiner's Name Patrick Kelly Date 9/11/2014

Reviewer Camille Skaggs Date 9/19/2014

State of Idaho
Department of Water Resources
Field Exam Map
95-10704

This map depicts the IRRIGATION 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 0.0425 0.085 0.17 Miles



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 95-10704
 Reviewer: Patrick Kelly
 Date of Review: 9/11/2014

P/D No.:	Senerio 1	Senerio 2	Senerio 3
PUMP HORSEPOWER	0.75	1	1.5
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	20	20	20
DISCHARGE PRESSURE	50	50	50
RATE OF FLOW (cfs)	0.03	0.05	0.07 0.05

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:

A range of small horsepower was used for what we would expect to find for a small parcel of land. Lift of 20 ft was assumed given information provided on a topographic map. Discharge pressure of 40 psi represents a common sprinkler system pressure. Theoretical average flow rate is 0.05 cfs.

Process	Basin Sequence	Draft	Owner	Source	POD/ POU	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	Total Acres
Water Permit	95-10019	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU													X			X	0
Water Right	95-10019	Y	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU													X			X	0
Water Permit	95-10704	N	ANDERSON, MARY F	TWIN LAKES	POD																X	0
Water Permit	95-10704	N	ANDERSON, MARY F	TWIN LAKES	POU																0.5	0.5
Water Right	95-12599	Y	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU													X			X	0
Water Right	95-7138	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU													X			X	0
Water Right	95-7713	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU													X			X	0
Water Right	95-7827	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU													X			X	0
Water Right	95-8522	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU													X			X	0
Water Right	95-8639	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU													X			X	0
Water Permit	95-9129	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU													X			X	0
Water Right	95-9199	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU													X			X	0
Water Right	95-9217	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU													X			X	0
Water Permit	95-9244	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU													X			X	0
Water Right	95-9244	Y	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU													X			X	0