

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

A. GENERAL INFORMATION

Permit No: 95-10719

Exam Date: 11/4/2014

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: Michael Gurian
- 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: CO99548

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

Spirit Lake

Spirit 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

Comments: No POU overlap.

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

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
SPIRIT LAKE	4		SE	SW	18	53N	04W		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

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	4W	18												D					
													L4						

Method of Determination: Map of property submitted by land owner identifies POU clearly. Aerial photography confirms domestic structure exists.

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

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
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. Theoretical flow included in report.**E. FLOW CALCULATIONS**☒ Additional Computation Sheets Attached

Measured Method:

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

Efficiency = 0.70

Depth to water = 25 ft.

psi = 40-60

hp = 0.5-2

See attached theoretical sheet.

Average flow rate is 0.05 cfs

Measurement = 0.55 cfs**Permit allowed = 0.04 cfs****License recommend for 0.04 cfs.****F. VOLUME CALCULATIONS**

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{\hspace{2cm}}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \underline{\hspace{2cm}}$$

V = Smaller of $V_{I.R.}$ and $V_{D.R.}$ = _____

2. Volume Calculations for Other Uses: Administrator memo #22 recommends a volume of 1.2 af for domestic use per home.

G. PURPOSE OF USE

Irrigation ☐ Yes ☒ No # Stock 0 Domestic # of Homes 1

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 95-10719 authorized the diversion of 0.04 cfs from Spirit Lake for domestic purposes. Based on the small permitted diversion rate and POU, this qualifies for an in-office field exam. The exam was completed on November 5, 2014 by WRA Patrick Kelly.

Legal description of POU & POD on the permit was used to locate the property in the name of Michael Gurian. The property is located on the shore of Spirit Lake Aerial photography of the land confirmed that there is a domestic structure built. Overlap review did not find any other water rights within the related QQ.

A range of small hp pumps were assumed given this is for domestic use and the requested diversion rate is relatively small. Lift was measured using the DRG map. Topography from the home to shore waters measure close to 25 feet. A range of discharge pressures were used under what we would expect to see from in home domestic tanks (40-60 psi). Theoretical average flow rate is 0.05 cfs.

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	0.04 cfs	1.2 af
	<u>Totals</u>	0.04 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 11/5/2014

Reviewer Camela Shaggs Date 11/12/2014

State of Idaho
Department of Water Resources
Field Exam Map
95-10719

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.

04W



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

0 0.05 0.1 0.2 Miles



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 95-10719
 Reviewer: Patrick Kelly
 Date of Review: 11/5/2014

P/D No.:	Senerio 1	Senerio 2	Senerio 3
PUMP HORSEPOWER	0.5	1	2
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	25	25	25
DISCHARGE PRESSURE	40	50	60
RATE OF FLOW (cfs)	0.03	0.04	0.08 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 hp pumps were assumed given this is for domestic use and the requested diversion rate is relatively small. Lift was measured using the DRG map. Topography from the home to shore waters measure close to 25 feet. A range of discharge pressures were used under what we would expect to see from in home domestic tanks (40-60 psi). Theoretical average flow rate is 0.05 cfs.