

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

A. GENERAL INFORMATIONPermit No: 83-11982

Exam Date: 11/21/2014

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: Douglas Frank or Stephanie Frank or Jerrold Finke or Francine Finke

Owner of Record Correct? x Y NAddress of Record Correct? x Y N

If No: Address

POU is owned by the Franks. POD is owned by the Finkes

3. Beneficial Use Fees have been paid: X Y N Receipt No: C0995114. SOURCE TRIBUTARY

GROUND WATER

N/A

Method of Determination: Description of works provided with the application.

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
N/A			
N/A			

Comments:

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

Water Right No.	Source	Purpose of Use	Basis
N/A			
N/A			

Comments: 84-4108 is in the same 1/4 1/4. However, it's diversion is from a spring.

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

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
GROUND WATER		NW	SW	SE	23	37N	02E	B.M.	Clearwater

Method of Determination: Map was provided with permit application showing location of diversion. I utilized Workflow Place of

Use and Point of Diversion Comparison, I used Arc Map to verify and clarify my results.

Change in POD? No Amendment Required? No

2. **PLACE OF USE:** Use: Irrigation and 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	
37N	02E	23		1															1
				X															
Total Acres =																		1	

Method of Determination: Map of property submitted by the land owner identifies the POU. POU identified was approximately 2.3 acres I removed area of house, paved area, trails and walls to reduce this area down to 1 acre irrigation to make PLSS data through ArcMap match.

Change in POU? ___N Amendment Required? ___N

___ 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

*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 theoretical not applicable

E. FLOW CALCULATIONS

___ Additional Computation Sheets Attached

Measured Method:

According to administrator memo #22, domestic use for 1 home is authorized a flow rate up to 0.04 cfs

Administrator memo #17 authorizes an irrigation flow rate of 0.03cfs per acre.

@ 1 acres*0.03 cfs/acre = 0.03

See Theoretical Horsepower Equation attached

Theoretical Measurements = 0.07 cfs

Permit allowed = 0.07 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1 \times 0.3 = 0.3 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.3 \times 246 \times 1.9835 = 146.4$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{D.R.} = 0.3 \text{ af}$$

2. Volume Calculations for Other Uses:

According to administrator memo #22, domestic use for irrigation of up to one half acre of land is authorized 0.6 afa

License recommend for Domestic 0.04 cfs
Irrigation 0.03 cfs.

G. PURPOSE OF USE

Irrigation ☒ Y ☐ N # Stock _____ Domestic # of Homes 1

Other:

Change in Purpose of Use? ☐ Y ☒ N

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

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

H. NARRATIVE/REMARKS/COMMENTS

Permit 83-11982 authorized the use of 0.03 cfs from a well for irrigation of 1 acre and 0.04 cfs for domestic for 1 home. This is based on the information provided in the water right file, this qualifies for an in office field exam.

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	03/15 to 11/15	0.03 CFS	3.0 AF
Domestic	01/01 to 12/31	0.04 CFS	0.6 AF
<u>Totals:</u>		0.07 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

Field Examiner's Name Chay West Date 11/21/2014

Reviewer _____ Date _____

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 83-11982
 Reviewer: Clay Webster
 Date of Review: 11/21/2014

P/D No.:	Senerio 1	Senerio 2	Senerio 3	
PUMP HORSEPOWER	1	1.5	2	
BOOSTER HORSEPOWER	0	0	0	
PUMPING LEVEL	5	5	5	
DISCHARGE PRESSURE	50	50	50	
RATE OF FLOW (cfs)	0.05	0.08	0.10	AVE
(gpm)	22.9	34.4	45.9	0.08
				34.42

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 permit stated that the well, cistern was 5 feet deep, so I used a 5 foot lift. I used the standard of 40 to 60 psi turn on shut off for a standard home pressure tank for an average of 50 psi. I didn't know the size of the pump, so I ran a couple of random sized standard horsepower pumps to determine if the diversion rate seems reasonable. The 1.5 Hp pump does seem like a reasonable sized pump for this permit. Therefore, I feel comfortable recommending the full 0.7 cfs recommended by the permit.