

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-17198
Exam Date: 06/13/2024

1. Current Owner:
CEDAR MOUNTAIN FARM 25249 N HATCH RD ATHOL ID 83801 AND/OR
HATCH FAMILY HERITAGE LLC 25249 N HATCH RD ATHOL ID 83801
2. Accompanied by: Al Kyle
Phone No: C: 208-661-9059
Address: Same as above
Relationship to permit Holder: Permit Holder

3. **SOURCE:**
GROUND WATER

Method of Determination: ArcMap and DRG Layer.

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
95-9673	UNNAMED STREAM	IRRIGATION, STOCKWATER	DECREED
95-17200	GROUND WATER	DOMESTIC, STOCKWATER	DECREED

Comments: Decreed WR 95-9673 uses a surface water source for irrigation & stockwater beneficial uses which overlap this Permit's POU. I've added condition X35 which describes 95-9673 and 95-17198 when combined shall not exceed the irrigation of 5.0 acres. I don't recommend a diversion rate or volume combined use as the two systems are separate regarding diversion rate and the surface water right doesn't include diversion volume on the face of the license. Condition R66 is being carried forward to licensing that describes the 0.03 cfs diversion rate and 3.0 afa diversion volume limits in place for 95-17198.

Decreed WR 95- 9673, 95-17200, and this Permit share overlapping stockwater POU(s) and all WRs serve the same collective stock animals; I've added a 2nd X35 condition describing that Rights 95-9673, 95-17198, and 95-17200 stockwater use(s) when combined shall not exceed a total diversion rate of 0.02 cfs. This mitigates stacking WRs related to stockwater use between the three WRs. Neither Decreed WR has diversion volumes applied to the face of the WR, but the current Permit does assign diversion volume, and I wasn't able to add combined use diversion volume to the condition X35.

2. Other water rights with the same point-of-diversion: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
95-17200	GROUND WATER	DOMESTIC, STOCKWATER	DECREED
95-15418	GROUND WATER	DOMESTIC	DECREED

Comments: Decreed WRs 95-17200 & 95-15418 share the same POD ground water well as this Permit; each Decreed Right authorizes a maximum diversion rate of 0.04 cfs respectively. During the field exam for 95-17198 I evaluated the well pump capacity at 0.04 cfs as recommended for licensing the current Permit. As all three WRs use the same diverting pump, I've added condition X35 describing that when 95-15418, 95-17198, and 95-17200 when combined shall not exceed a total diversion rate of 0.04 cfs.

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
GROUND WATER SW¼ NE¼, Sec. 35, Twp 53N, Rge 03W, B.M. KOOTENAI County

Method of Determination: GPS; GW well is located at -116°39.6815, 47°53.9437 well D0010876 / **D0072204** (2 tags on well).

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	
53N	03W	35		2.6	2.4														5.0

Total Acres: 5.0

PLACE OF USE: STOCKWATER

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
53N	03W	35		X	X	X													

PLACE OF USE: COMMERCIAL

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
53N	03W	35		X	X														

Method of Determination: beneficial use field examination and ArcMap aerial imagery.

3.

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

☒ Aerial Photo Attached (required for irrigation of 10+ acres).

☒ 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
D0072204 (modified from original D0010876)	FRANKLIN ELECTRIC	3	2823028310	UNKOWN	UNKOWN

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
NONE						

2. Measurements: I was unable to perform flow measurement due to inadequate pipe requirements. Water is pumped directly to three storage tanks prior to a smaller transfer pump with pressure tanks distributing to frost free hydrants & service connections. During licensing review Theoretic Pump Equations were developed calculating the flow rate of 0.04 cfs considering department rounding standards.

E. FLOW CALCULATIONS

☒ Additional Computation Sheets Attached

Measured Method: Theoretic Pump Equation as follows:

- D0010876 / D0072204 – 3 hp pump installed at depth of 465 ft with operating pressure of 45 PSI = 16.7 gpm or **0.04 cfs**.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 5.0 \text{ ac} \times 3.0 \text{ afa} = 15.0 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.04 \text{ cfs} \times 214\text{-days} \times 1.9835 = 17.0 \text{ af}$$

V = Smaller of V_{IR} and V_{DR} = Neither – a Permit condition of approval restricts the Right Holder to an annual average of 13,000 gallons per day diversion volume. Considering 13,000-gal x 365 days = 4,745,000-gal annually / 325,850 gal per af = 14.6 af, the most the Right Holder is authorized to divert for irrigation purposes is limited to **14.6 af** in an annual season of use.

2. Volume Calculations for Other Uses:

- Stockwater annual volume = **0.1 af** considering department rounding standards as illustrated below:

WR 95-17198 STOCKWATER ANNUAL VOLUME CALCULATIONS				
STOCK ANIMALS	# HEAD	GPD	DAYS/YR	GPY
GOATS	10	2	365	7300
HORSES	5	12	365	21900
HOGS	2	4	365	2920
SHEEP	10	2	365	7300
Chicken/Geese/Ducks (20 head per)	60	10	365	3650
GAL PER YEAR				43070
ACRE-FEET PER YEAR				0.132177

- Commercial annual volume = RV site(s) season of use = 3/1 to 11/1 annually.
 - 1 caretaker residence (in-home use only) = 0.6 af
 - 2 ea RV sites (water only no sewer) x 3 people multiplier x 244-days x 25-gal per person = 36,600 gal.
 - 5 ea RV sites (full connections) x 3 people multiplier x 244-days x 50-gal per person = 183,000 gal.
 - RV volume = 36,600-gal + 183,000-gal = 219,600-gal / 325,850 gal per af = 0.7 af considering department rounding standards.
 - Commercial Total annual volume = 0.6 af (caretaker residence) + 0.7 af (RV sites) = **1.3 af**.

Note: part of the total water use observed & calculated following the field exam for 95-17198 is accounted for by prior WR 95-15418 as follows:

- Rental Cabin: 7-person capacity x 100-gal per day per person = 700-gal per day.
- Bed & Breakfast water usage: not evaluated but covered by prior WR for Domestic use 2,500 gal per day authorized. 2,500-gal – 700 gal (rental cabin daily use) = 1,800 gal remaining to cover usage by owners & patrons daily as authorized by 95-15418. Based on these volume calculations I removed the B & B and rental cabin water usage from this Permit's license volume recommendation.
- Water Right(s) volumetric daily allowance compared to pump capacity daily volume:
 - 3 HP pump capacity = 0.04 cfs = 25,853-gal per day
 - 95-15418: limited to 2,500 gal per day.
 - 95-17198: limited to an annual average of 13,000 gallon per day.
 - 95-17200: limited to 13,000 gal per day.
 - 25,853-gal per day pump capacity – 28,500-gal authorization = - 2,647-gallon deficit, which indicates if all three WRs are maximizing their permits there is insufficient water to meet demands. The water system incorporates three storage tanks to provide peak demand requirements mitigating this concern.

G. NARRATIVE/REMARKS/COMMENTS

I performed a beneficial use field examination on 6/13/2024 with the Permit Holder, Allan Kyle (AI), which showed shared groundwater well D0072204 being used for commercial, stockwater, and irrigation purposes. At the POD, a 3 HP well pump is installed and a co-located vaulted pump station houses the 3 HP Franklin Electric pump motor relay control panel and three pressure tanks. There are three vaulted 500-gal storage tanks co-located with the well that incorporate a 2 HP transfer pump to convey water to all the service connections on the water system. I was unable to perform flow measurements as the main service line pumps directly to storage prior to distribution to water uses.

I calculated a theoretical pump equation using the D072204 well driller report as it deepened the original well (D0010876) as part of the modification to qualify as a PWS system. The theoretical equation derived a flow rate of **0.04 cfs** considering department rounding standards, which I'm recommending as the maximum diversion rate for licensing purposes. Based on this rate, the Permit approved diversion rates for commercial and irrigation are being reduced and capped at 0.04 cfs respectively based on pump performance found at time of exam. The stockwater diversion rate shall remain 0.02 cfs toward licensing the permit.

From the storage tanks, water is conveyed via buried pipeline to serve water uses covered by three water rights as briefly described below:

- 95-15418 – water from the GW well serves domestic use to the bed and breakfast facility, which includes a 7-person rental cabin co-located with the B&B. The quantity of water under this right is limited to 2,500 gallons per day.
- 95-17198 – this Permit's water uses shall be described in detail below, but importantly a permitted condition of approval designates "the quantity of water under this right shall not exceed an annual average of 13,000 gallons per day". Based on volumetric calculations (see above), the irrigation beneficial use (BU) is the only use that may net greater than 13,000 gallons in a given day and this BU is the limiting factor toward licensing this Permit.
- 95-17200 – water from the GW well serves domestic use for 1 home to the historic residence located near the POD and includes stockwater use for 20 head mixed stock. The quantity of water under this right is limited to 13,000 gallons per day.

Considering the daily volume limits listed above and detailed in volumetric calculations the Right Holder has fully developed water uses the groundwater source is capable of producing at the rate of 0.04 cfs (18 gpm).

I walked the commercial POU with Mr. Kyle during the exam and field maps were used to sketch the locations of water uses that include a caretaker residence and 7 total recreation vehicle (RV) sites. Two of the RV sites are served power and water from frost-free hydrants located at sites #1 & #2 but don't have sewer connections. The remaining five RV sites have individual frost-free hydrants for water use and include power & sewer connections. I separated the volume requirements for the 7-person rental cabin and B&B from this Permit's licensing recommendation based on their volume being accounted for under prior Decreed Right 95-15418. I used ArcMap aerial imagery during licensing review to assign the commercial POU using 8 polygons for the caretaker home & 7ea RV sites.

Mr. Kyle asserts caretaker home is occupied year-round, but the RV sites season of use run March 1st to November 1st annually, which equals 244 days. Volume calculations above breakdown daily water use authorized for the RVs based on sewer or non-sewer connections. I've used a 3-person average occupancy for RV usage. The total commercial volume recommended for licensing equals **1.3 af**. The Permit was recommended conditioning commercial use for the B&B, 6 cabins, and a caretaker house. Mr. Kyle described his change in plans to develop RV slips vice cabins as the RV sites require less maintenance & development cost to establish.

I've assigned the stockwater POU as the Permit approved POU for licensing purposes using ArcMap aerial imagery. Review of volume calculations above on PG 3 illustrate the variety of small stock animals observed during the exam along with 5 horses that were pastured further south along the creek at time of exam. I'm required to assign an annual volume for stockwater use from the groundwater well which equals **0.1 af** considering department rounding standards. Notably, the Right Holder is authorized by prior Right 95-17200 by condition for stockwater use of 20 head mixed stock. I considered removing the stockwater BU from this Permit as the same diversion rate of 0.02 cfs is authorized by 95-17200 but this Permit adds additional legally described POU in the NW¼NE¼ which isn't covered by prior Right(s). I've recommended

Licensing with additional condition of approval X35 that describes the combined use limits based on the diversion rate of 0.02 cfs between 95-9673, 95-17198, and 95-17200 to mitigate stacking of water rights based on stockwater BU water use.

During the exam I walked the irrigation POU with Mr. Kyle using field maps to sketch the irrigated areas. During licensing review, I used ArcMap to accurately assign irrigated acreage resulting in 5.0 acres total. I shifted acreage by QQ/Q as validated upon development which is different than the sub acreage as permit approved but collectively doesn't add new QQ/Q nor enlarge the Permit approved 5.0-acre total limits. Irrigation occurs using numerous frost-free hydrants stubbed of the main service pipeline and hose to sprinklers to water stock pens for feed, lawn and landscape areas, garden and grass/tree areas around commercial uses on the two parcels. The department standard diversion volume for 5 acres at 3.0 afa = 15.0 af, but as described above on PG 3 the Permit is limited by the "annual average of 13,000 gallons per day" toward evaluation for licensing recommendations.

The irrigation season of use is 214-days, and the system isn't limited by a daily volume, but by a stipulated agreement between protestant and applicant to an annual average volume prior to the Permit approval. Considering an annual average of 13,000 gpd = 14.6 af, the most I can recommend for the irrigation BU = **14.6 af**. This volume directly limits how the Right Holder may use water under this Right. If the Right Holder elects to irrigate heavily the full 5 years on an annual basis, then there will be no water remaining as authorized for commercial or stockwater use. Prior Right 95-9673 authorizes surface water source irrigation for 2.0 acres and I've added condition X35 describing the combine use for irrigation of 5.0 acres between the two Rights. This system may enable the Right Holder to satisfy fully irrigating while still maintain a part of the total volume usage for commercial and stockwater under 95-17198 annually.

Due to the annual average of 13,000 gallons per day limitation, although each BU component is recommended its individual annual volume which if evaluated as "additive" equals 1.3 af (commercial) + 0.1 af (stockwater) + 14.6 af (irrigation) = 16 af, the Right Holder can't maximize all uses on an annual basis and is limited to a **maximum diversion volume of 14.6 af**.

During licensing review, I made the following changes to conditions of approval:

- Removed 26A and 046 based on compliance by the Permit Holder.
- I altered a text condition describing the commercial use which excludes the B&B and changes cabins to RV sites.
- Removed X02 as the description of stockwater by # and type is not required for licensing purposes now that the annual volume authorized has been validated.
- I added F06 describing the shared well between Rights 95-15418, 95-17198, and 95-17200.
- I added X35 based on diversion rate stating: Rights 95-15418, 95-17198, and 95-17200 when combined shall not exceed a total diversion rate of 0.04 cfs.
- I added a second X35 based on irrigation overlap stating: Rights 95-9673 and 95-17198 when combined shall not exceed the irrigation of 5.0 acres.
- I added a third X35 based on stockwater overlap stating: Rights 95-9673, 95-17198, and 95-17200 stockwater use(s) when combined shall not exceed a total diversion rate of 0.02 cfs.
- All other conditions on the Permit are being carried forward to licensing for 95-17198.

The two parcels associated with this water system have several prior Rights that have been Decreed in the Coeur D'Alene Spokane River Basin Adjudication (CSRBA) and overlapping water right concerns have been described in detail on PG 1 of this report. There are no additional overlapping water right concerns toward licensing 95-17198.

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	0.04 CFS	14.6 AF
STOCKWATER	01/01 to 12/31	0.02 CFS	0.1 AF
COMMERCIAL	01/01 to 12/31	0.04 CFS	1.3 AF

Totals: 0.04 CFS 14.6 AF

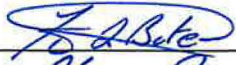
2. Recommended Amendments

☐ 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

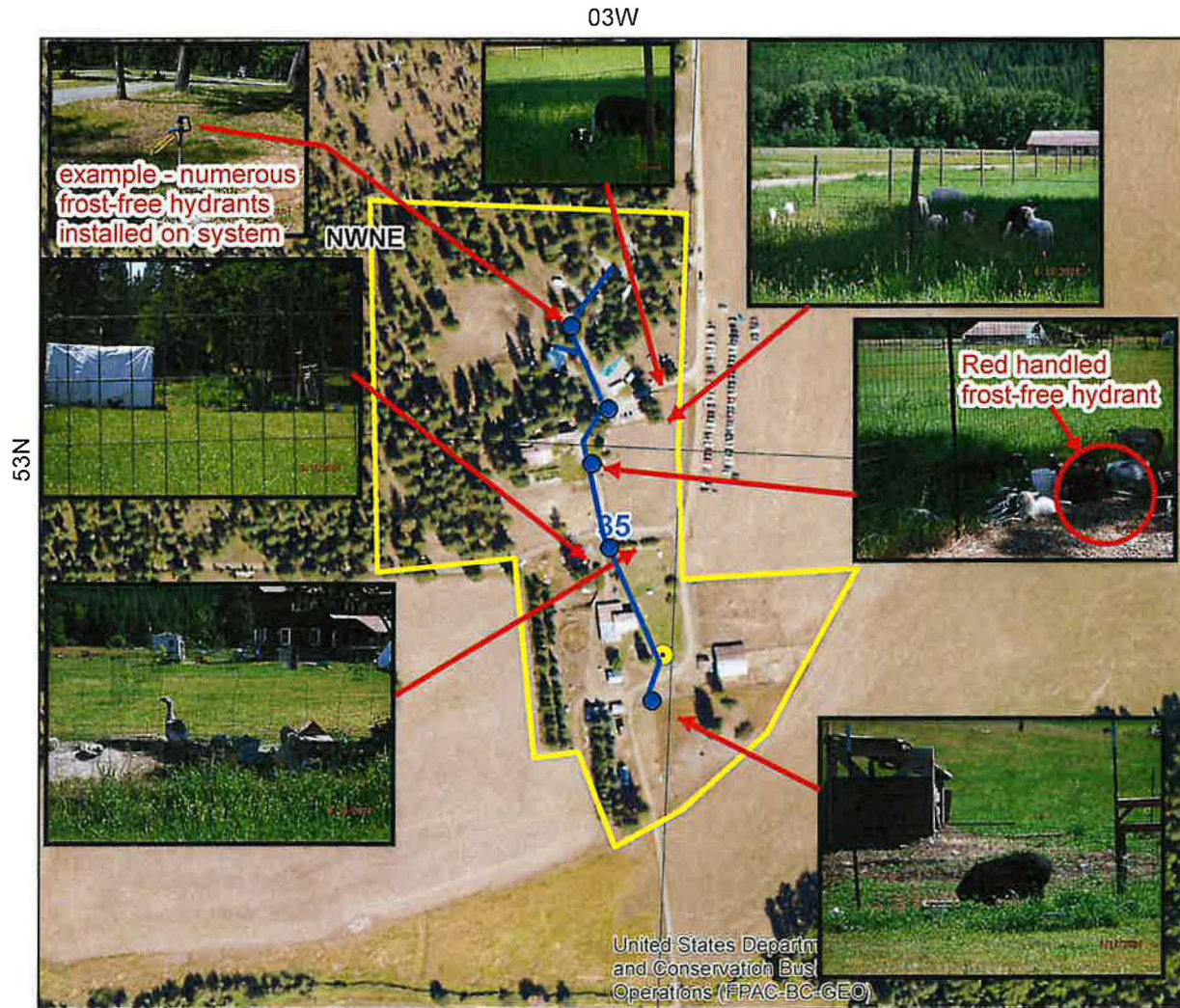
Luke Bates – Sr Water Resource Agent

Field Examiner's Name  Date 11/19/2024

Reviewer  Date 4/9/2025

State of Idaho
Department of Water Resources
Attachment to Field Exam
95-17198

This map depicts the STOCKWATER system diagram.



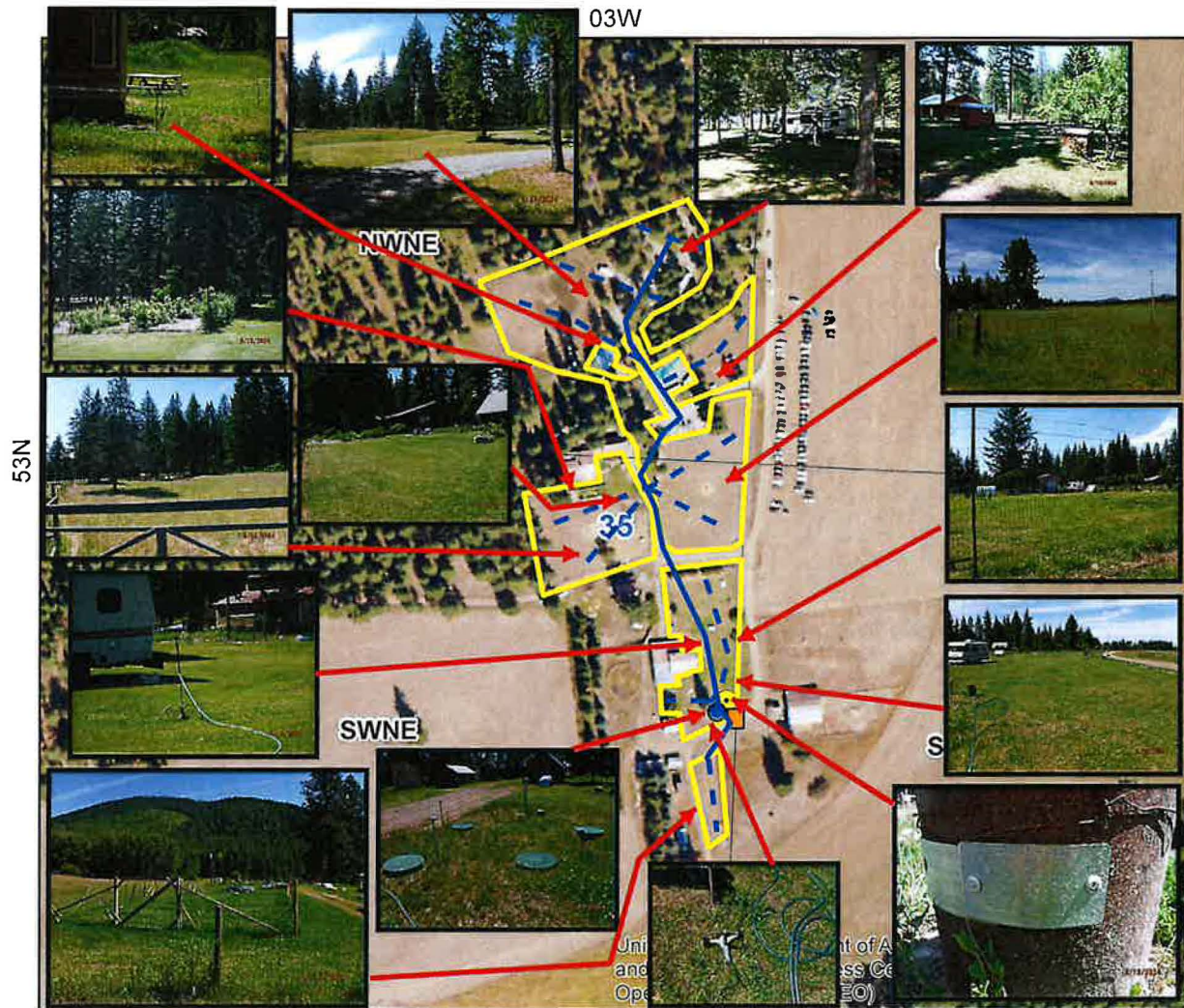
0 0.045 0.09 0.18 Miles

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



State of Idaho
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95-17198

This map depicts the IRRIGATION system diagram.



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



State of Idaho
Department of Water Resources
Attachment to Field Exam
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This map depicts the COMMERCIAL system diagram.



0 0.035 0.07 0.14 Miles

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



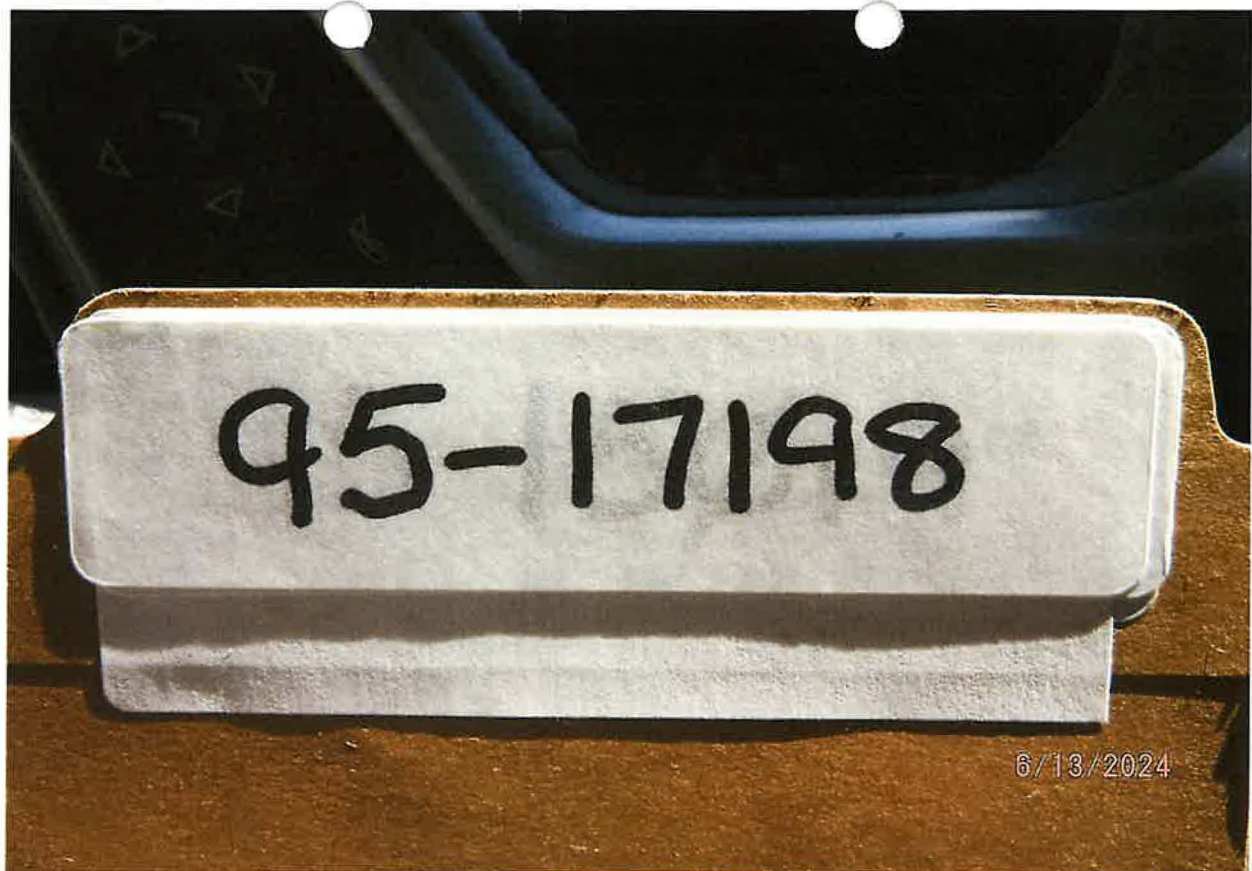
THEORETICAL PUMPING EQUATION(S) FOR WR# 95-17198

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 465 ft, and running at 45 psi.

PUMP EQUATION

WATER RIGHT No. 95-17198

D0072204		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	3	569.0816	0.8	465	45
Q = 0.037 cfs 16.7 gpm						



BENEFICIAL USE FIELD EXAMINATION DATE 6/13/2024

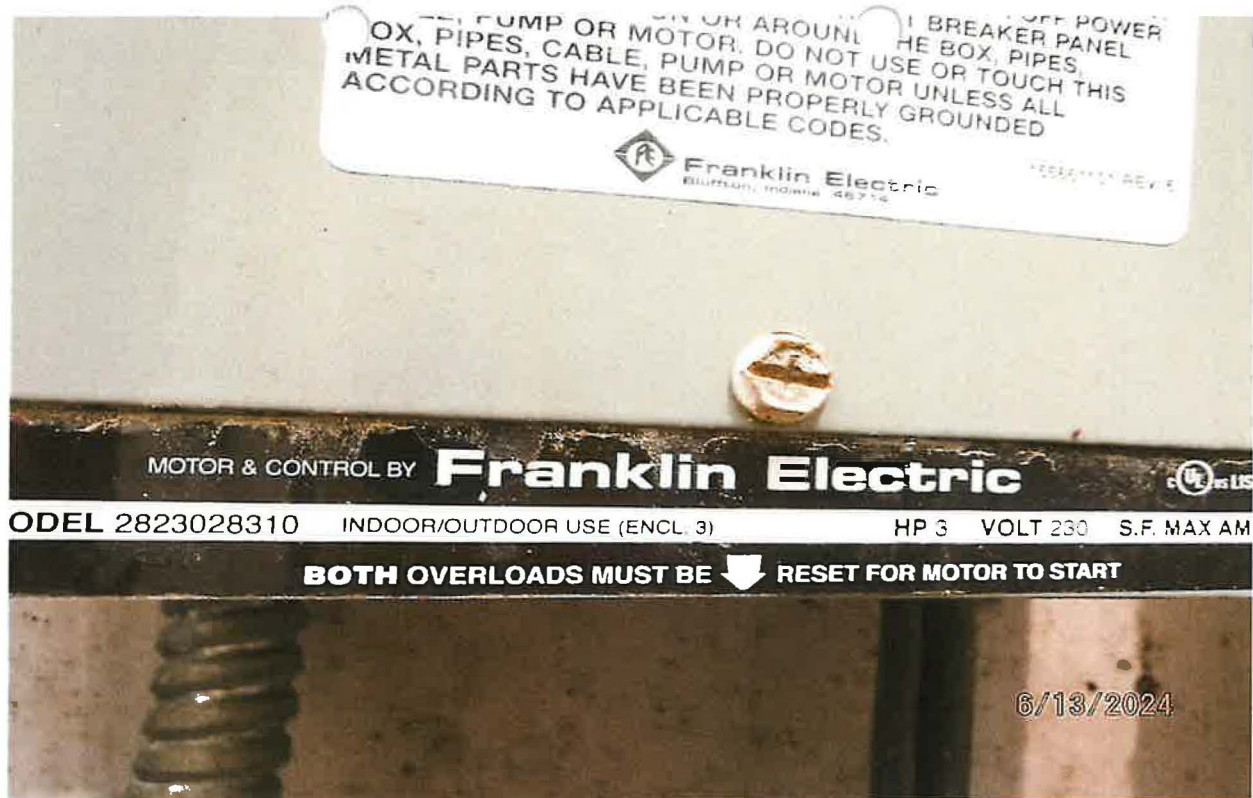


POD – GROUNDWATER WELL D0010876/D0072204

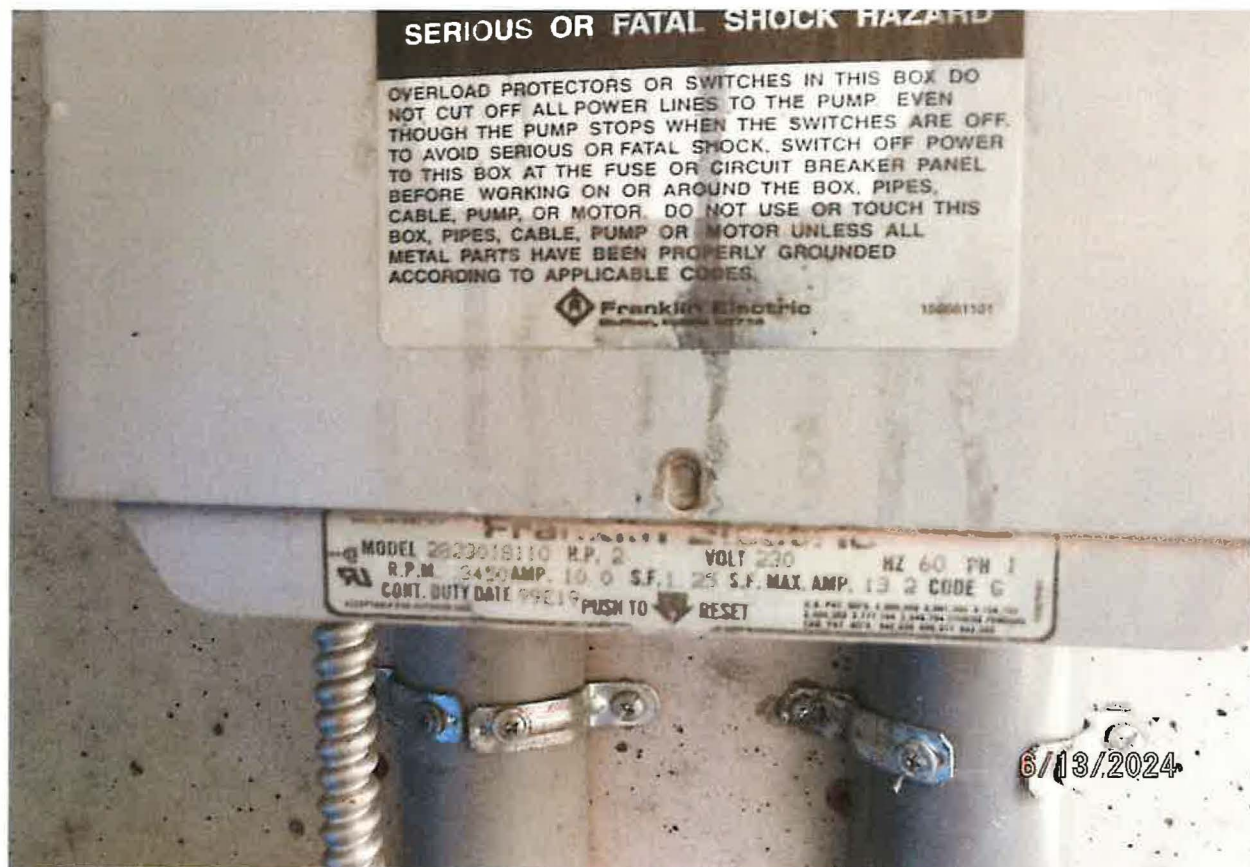


TWO WELL TAGS WELDED TO CASING OF GROUNDWATER WELL





FRANKLIN ELECTRIC 3 HP WELL PUMP INSTALLED; DIVERTING WORKS IN A VAULTED PUMP STATION



FRANKLIN ELECTRIC 2 HP TRANSFER PUMP; CONVEYANCE SYSTEM PUMPS FROM STORAGE CISTERNS TO WATER USES.



CONVEYANCE SYSTEM INCLUDES 3EA PRESSURE TANKS ASSOCIATED WITH 3EA 500-GAL STORAGE CISTERNS AND 2 HP WATER TRANSFER PUMP FROM CISTERNS



WATER SYSTEM HOLDS STATICALLY AT 40 PSI



3EA 500-GAL STORAGE CISTERNS & 1EA VAULTED TRANSFER PUMP STATION



STOCKWATER POU – NUMEROUS FENCED AREAS FOR GOATS, SHEEP HORSES, PIGS, CHICKENS, DUCKS, GEESE



STOCKWATER POU





STOCKWATER POU





IRRIGATION POU – WATERING BY HOSES & MULTIPLE PORTABLE SPRINKLERS





IRRIGATION POU





IRRIGATION POU & STOCKWATER POU





IRRIGATION POU & STOCKWATER POU – MULTIPLE FENCED PASTURES ROTATED WITH STOCK ANIMALS & IRRIGATED FOR STOCK FEED





IRRIGATION POU





IRRIGATION POU





IRRIGATION POU – AREA AROUND CARETAKE RESIDENCE



IRRIGATION POU – MINOR LAWN WATERING LOCATED AT 7EA RV SITES ON PROPERTY



HISTORIC RESIDENCE COVERED BY PRIOR WR 95-17200



DOMESTIC USE BED & BREAKFAST COVERED BY PRIOR WR 95-15418



COMERCIAL POU – CARETAKER RESIDENCE



RENTAL CABIN – WATER USAGE FOR 7 PERSON CABIN COVERED BY PRIOR WR 95-15418



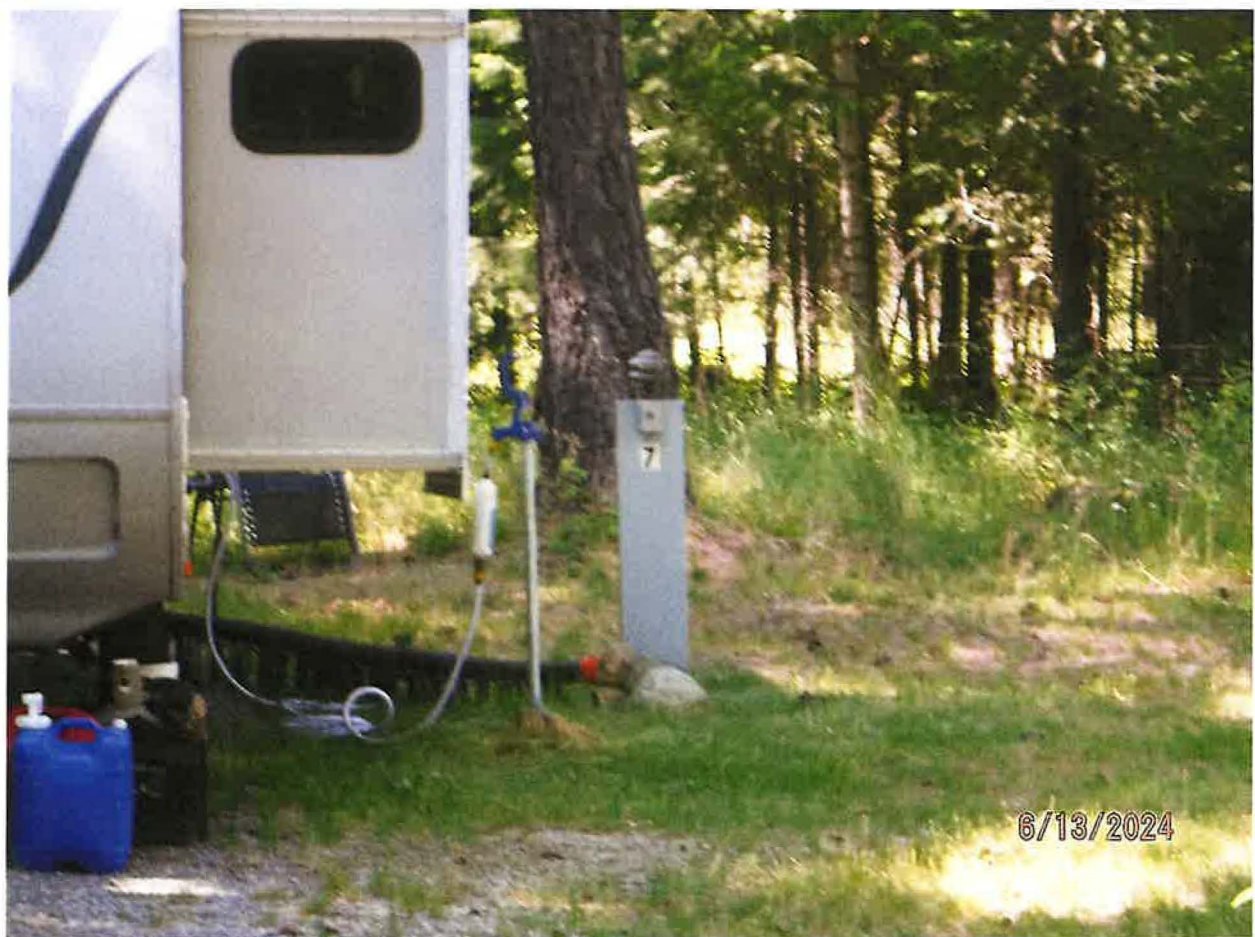
COMMERCIAL POU – 2EA RV SITES (NO.1 & NO.2) – SERVED WATER & POWER BUT NO SEWER CONNECTION



COMMERCIAL POU – 5EA RV SITES (No.3 – No.7) – FULL WATER & SEWER CONNECTIONS



COMMERCIAL AND IRRIGATION POU – RV SLIPS WITH IRRIGATION BETWEEN SITES



COMMERCIAL POU – RV SITE No.7