

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-9509
Exam Date: 06/22/2023

1. Current Owner:
TONY L LIVINGSTON PO BOX 1291 ATHOL ID 83801-1291 AND
RACHEL D LIVINGSTON PO BOX 1291 ATHOL ID 83801-1291
2. Accompanied by: Tony Livingston
Phone No: 208-659-2891
Address: Same as above
Relationship to permit Holder: Permit Holder.

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
96-16888	Unnamed Stream	Stockwater, Irrigation	Permit in process licensing review

Comments: Permit 96-16888 is a Child right resulting from Parent WR 96-9509 being split into 96-16888 and 96-16889. The split was initiated during licensing review based on separate water sources & water systems that don't co-mingle in a common water system as developed by the permit holder. As recommended for licensing, 96-16888 has the same Stockwater POU as 96-9509 for use with the same stock animals on the property. I've added condition X35 to both WRs in recommendation for licensing that describe that when combined 969509 & 96-16888 shall not exceed a total diversion rate of 0.02 cfs and total annual maximum diversion volume of 0.1 af for stockwater use.

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

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

GROUND WATER SE¼ NE¼, Sec. 35, Twp 55N, Rge 03W, B.M. BONNER County
GROUND WATER SE¼ NE¼, Sec. 35, Twp 55N, Rge 03W, B.M. BONNER County

Method of Determination: GPS. PODs are two (2) hand dug wells encased in concrete rings located at:

- -116°39.5117, 48°4.4519 (14ft deep) and -116°39.5058, 48°4.4578 (12ft deep).

PLACE OF USE: STOCKWATER & 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	
55N	03W	35				X													

Method of Determination: Beneficial use field examination, Bonner County tax parcel map GIS software, & ArcMap.

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
14 ft Deep Hand Dug Well	N/A	N/A	Gravity flow system		1 ½ inch buried PVC pipeline
12 ft Deep Hand Dug Well	N/A	N/A	Gravity flow system		1 ½ inch buried PVC pipeline

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
5-Gal bucket measurement						

2. Measurements: One 5-gallon bucket test was completed from the first frost free hydrant in line from the two hand dug wells, which are influenced by head pressure from gravity flow in the main pipeline, resulting in diversion flow rate of 5 gal / 12.35 sec x 60 sec/min = 24.29 gpm = **0.05 cfs** considering department rounding standards.

E. FLOW CALCULATIONS

Measured Method: 5-gal bucket measurements.

- 1 ea 5-gal bucket measurement from frost free hydrant up hill from residence = 5 gal / 12.35 sec x 60 sec/min = 24.29 gpm or 0.05 cfs considering department rounding standards.
- 1 ea 5-gal bucket measurement from a hose bib located at the residence = 5 gal / 54.19 sec x 60 sec/min = 5.53 gpm or 0.01 cfs considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A – irrigation recommended occurring under definition of domestic following split of WR(s).

2. Volume Calculations for Other Uses:

- Domestic use 1 home with ½ acre irrigation = **1.2 af**
- Stockwater annual volume = 8 head mixed stock x 12 gpd x 365 days = 35,040 gal annually / 325,850 gal per af = **0.1 af**.
- Maximum diversion volume = sum of two beneficial uses = **1.3 af**.

PARENT RIGHT 96-9509 & SPLIT RIGHT(s) RECOMMENDED DIVERSION RATE/VOLUME DATA					
Permit 96-9509 approved value(s)		WR 96-9509 License Recommended Value	WR 96-16888 License Recommended Value	WR 96-16889 License Recommended Value	Enlarged (Y/N)
Domestic	0.04 CFS	0.04 CFS	N/A	N/A	N
Stockwater	0.02 CFS	0.01 CFS	0.01 CFS	N/A	N
Irrigation	0.03 CFS	N/A	0.02 CFS	0.01 CFS	N
Maximum Diversion Rate (CFS)	0.09 CFS	0.05 CFS	0.03 CFS	0.01 CFS	N
Total Diversion Rates for 3ea split WRs =				0.09 CFS	N
Annual Diversion Volume (AF)	N/A	1.3 AF	0.1 AF (stockwater)	N/A (surface source)	N/A
Maximum Diversion Volume (AF)	N/A	1.3 AF	N/A (surface source)	N/A (surface source)	N/A

Water Right Recommendation Table – evaluating post-SPLIT parent & children diversion rate(s) & diversion volume(s)

G. NARRATIVE/REMARKS/COMMENTS

I split Permit 96-9509 (parent right) into three (3) water rights including 96-16888 and 96-16889 due to water source(s) being independent with water system development from each not co-mingling in common system infrastructure. This right accounts for two (2) hand dug groundwater well(s) and domestic & stockwater uses. An Amendment to Permit was accomplished for Permit 96-9509 prior to initiating split(s) to change one of the two Unnamed Stream source POD locations associated with Child WR 96-16889.

I completed the beneficial use field exam on 6/22/2023 with the applicant, Tony Livingston, which showed 2 hand dug wells constructed with concrete rings and cap diverting groundwater down hill to the applicant's residence. I GPS located each shallow well, one that is 14-ft deep and one that is 12-ft deep with PVC pipe from each with manual shutoff valves inline joining to a common buried pipeline running down slope. A 5-gal bucket measurement was taken from the first frost free hydrant inline from the well(s) resulting in a flow rate of 0.05 cfs. The system was developed to use gravity flow entirely and there aren't any pressure tanks installed on the system.

Mr. Livingston asserts the system is regulated and filtered for in-home use to maintain a 45 PSI operating pressure. I took a 5-gal bucket measurement off a hose bib connected down-stream from the filtration system and observed a 0.01 cfs flow rate that supports the reduction in flow from the higher head pressure influenced flow rate observed at the external frost-free hydrant. Neither measurement explicitly demonstrates the rate at which groundwater fills the two shallow wells, but I'm recommending the flow rate of **0.05 cfs** from the frost-free hydrant for licensing this permit. The domestic beneficial use retains **0.04 cfs** and I've reduced the stockwater diversion rate from 0.02 cfs to reflect **0.01 cfs** based on the split process for my licensing recommendation (reference table above).

The domestic POU was sketched out on field maps and includes the primary residence, a small shop with water connections, and a couple frost-free hydrants. I have recommended inclusion of the ½ acre irrigation associated with domestic use for the parent right due to minor plant watering occurring from the groundwater system. The bulk of the irrigation occurring takes place from the two unnamed stream sources related to the 2 children WRs. Mr. Livingston asserts that the two shallow wells deplete in approximately 6 hours if allowed to free flow non-stop: the wells recharge within 24 hrs., normally by the next morning after heavy use the night before. If the wells are fully depleted daily there is still sufficient water from the groundwater source(s) to achieve the recommended diversion volume of **1.2 af** for domestic use & minor stockwater use.

The stockwater POU consists of three central locations where water is used to fill portable stock tanks for 8 horses & cows + a couple chickens. Due to the small number of chickens and low water requirements, their volume usage is reflected in the Department significant figure rounding conventions for the horses & cattle. I used ArcMap aerial imagery to assign both the domestic and stockwater POUs during licensing review. Mr. Livingston uses hoses from frost-free hydrant(s) and hose bib(s) to fill the stock tanks as stock rotates around the property. The annual volume for stockwater equals **0.1 af** and the maximum diversion volume recommended for licensing equals **1.3 af**.

Based on the three-way splitting of Permit 96-9509, several conditions from the permit are not applicable toward my licensing recommendations for the parent Right 96-9509; condition recommendations are detailed below:

- I replaced condition 132 with conditions X01 & 187 describing domestic use for 1 home with up to ½ acre irrigation included.
- Condition 046 was removed as the two-hand dug shallow wells aren't regulated by IDWR well construction rules.
- Condition 26A was removed as the applicant complied with the condition requirements.
- Condition R66 was removed; the irrigation beneficial use was split and is accounted for under the 2 children Rights 96-16888 & 96-16889.
- Condition X02 was removed; the annual volume has been determined and the stock animal descriptions are not carried forward to licensing.
- I've added condition X35 to this permit that describes the combined use limitations between 96-9509 & 96-16888 for stockwater diversion rate and diversion volume.
- All other conditions on the permit shall be carried forward to licensing.

Overlapping water right concerns between 96-9509 & 96-16888 have been described on PG1 of this report and condition X35 mitigates the overlap concerns. There are no additional overlapping water right concerns toward licensing 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>
STOCKWATER	01/01 to 12/31	0.01 CFS	0.1 AF
DOMESTIC	01/01 to 12/31	0.04 CFS	1.2 AF
<u>Totals:</u>		0.05 CFS	1.3 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

- From the original Permit approval an Amendment to Permit is required due to the Permit Holder developing one of two Unnamed Stream source PODs in a different legal description than authorized by 96-9509. I prepared the Amendment to Permit and mailed it to Mr. Livingston on 7/13/2023; IDWR received the amendment documents with fees on 7/24/2023.
- Following the amendment, I pursued SPLITTING of Permit 96-9509 into three separate WRs based on each of three separate water sources developed as separate water systems. The pedigree follows: WRs 96-9509 (Parent), 96-16888 (Child WR), & 96-16889 (Child WR).

I. **AUTHENTICATION** Luke Bates – Sr. Water Resource Agent

Field Examiner's Name L. Bates Date 4/18/2024
Reviewer Chase Beal Date 2/5/2025

State of Idaho
Department of Water Resources
Attachment to Field Exam
96-9509

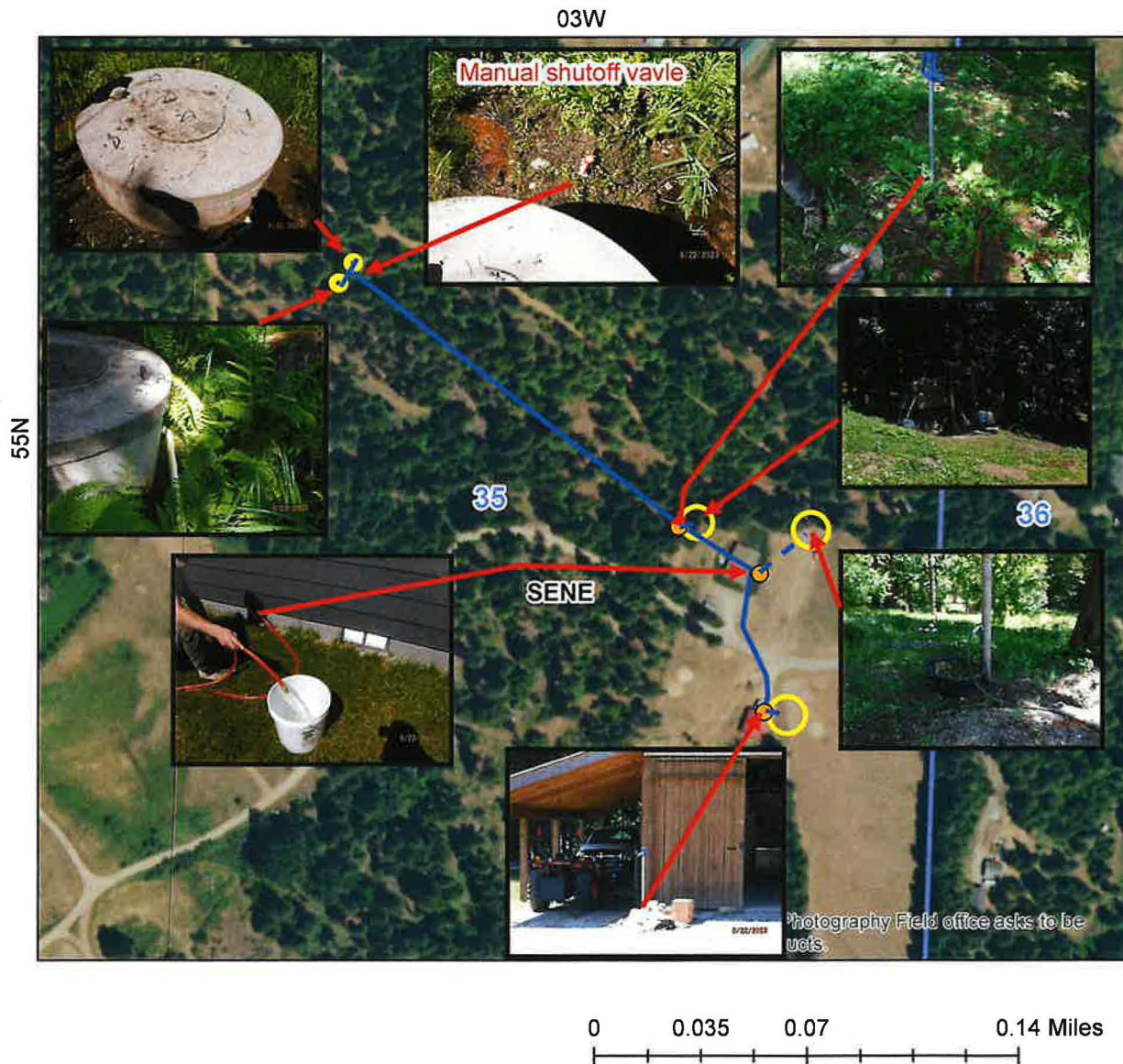
This map depicts the DOMESTIC system diagram.



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

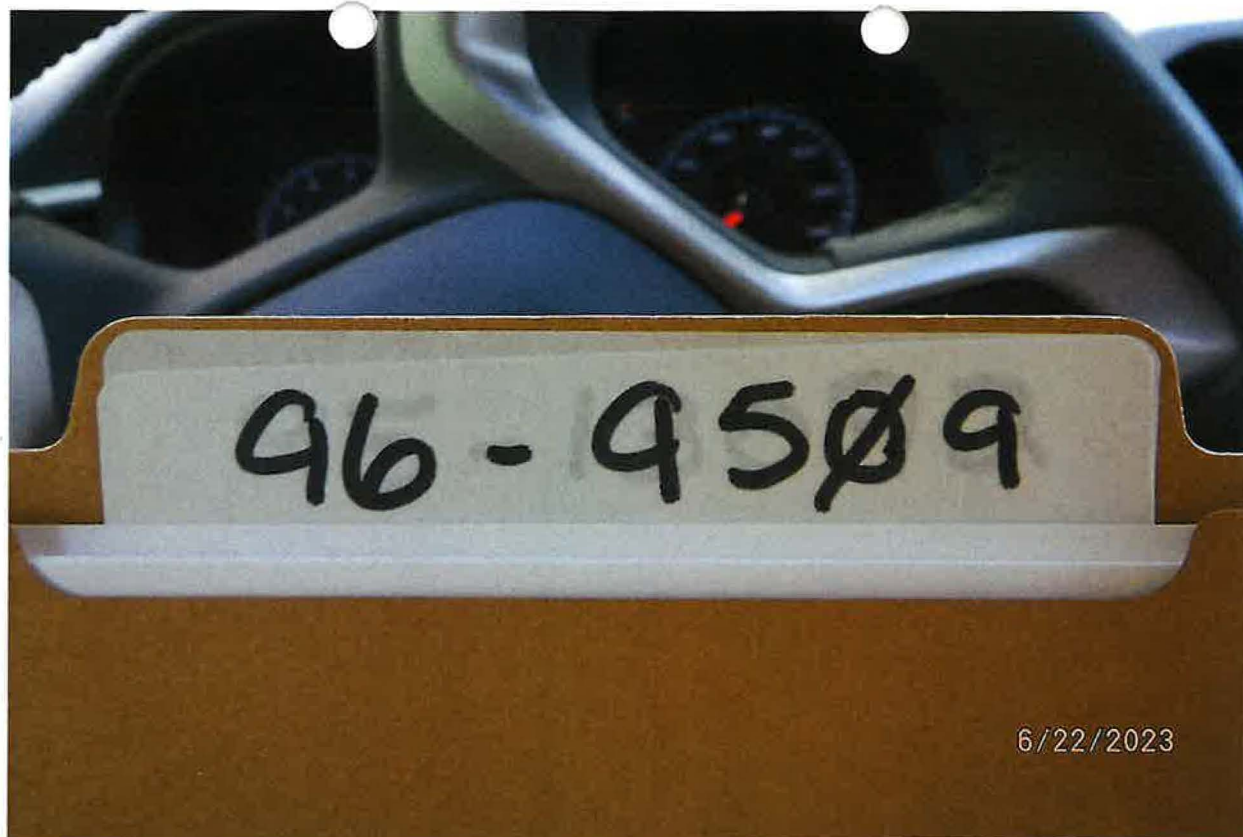
State of Idaho
Department of Water Resources
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96-9509

This map depicts the STOCKWATER system diagram.



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





BENEFICIAL USE FIELD EXAM DATE 6/22/2023



POD – 1 OF 2 SHALLOW HAND DUG GROUNDWATER WELLS (14 FT DEEP) WITH CONCRETE RINGS



OVERFLOW PIPE FROM 14 FT HAND DUG WELL – MAIN LINE IS A BURIED GRAVITY FLOW PIPELINE



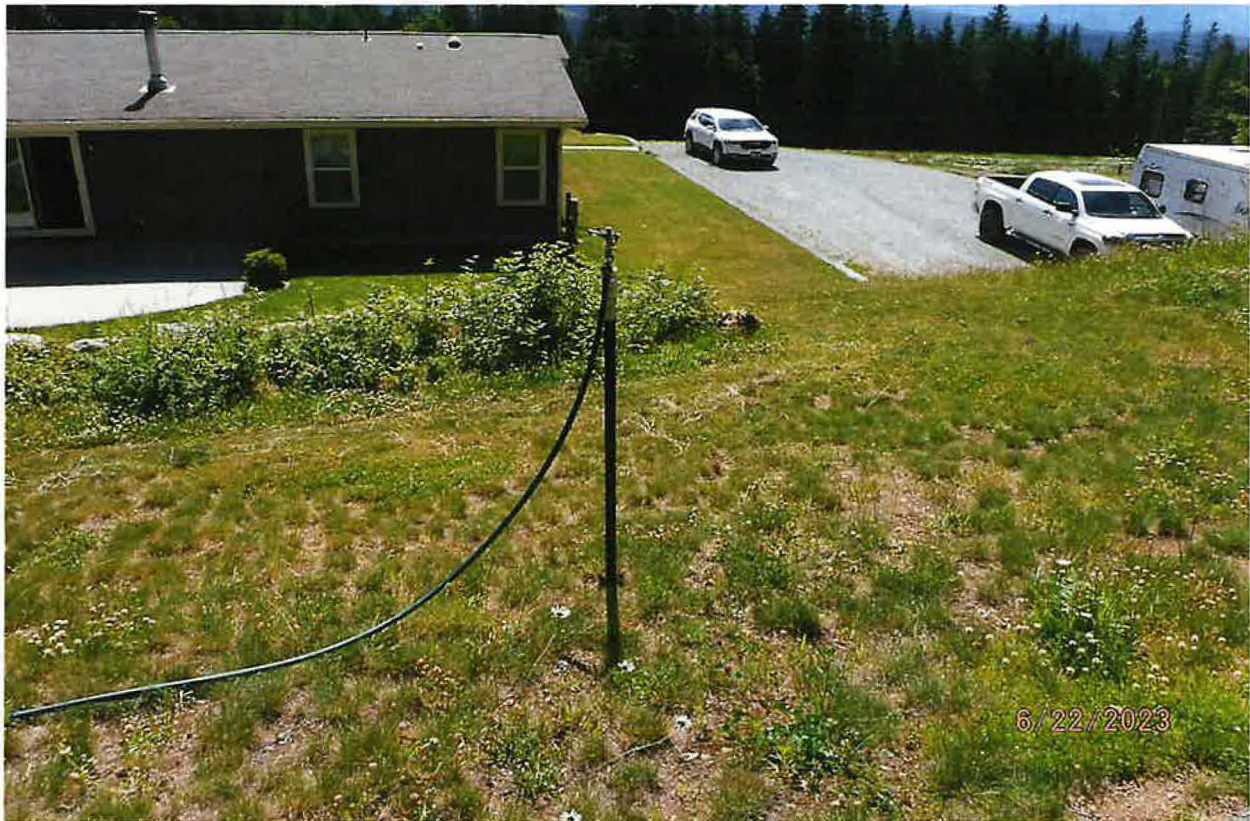
POD – 2 OF 2 SHALLOW HAND DUG GROUNDWATER WELLS (12 FT DEEP) WITH CONCRETE RINGS
OVERFLOW PIPE FROM 14 FT HAND DUG WELL – MAIN LINE IS A BURIED GRAVITY FLOW PIPELINE



FROST FREE HYDRANT OFF MAIN GROUNDWATER SOURCE PIPELINE – GRAVITY FLOW OPERATIONS



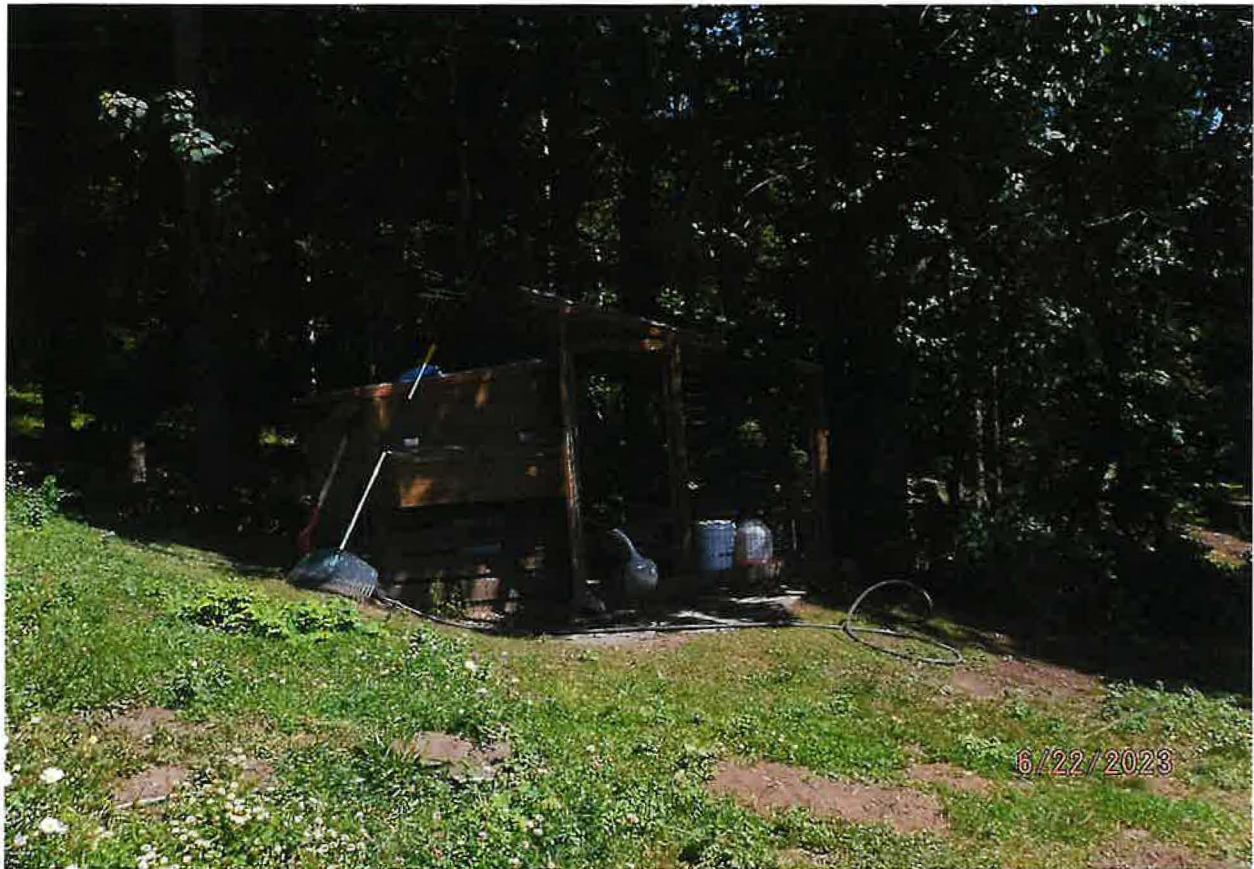
DOMESTIC POU



IRRIGATION OCCURRING UNDER DOMESTIC USE – LOCATED UPSLOPE TO WEST OF RESIDENCE FROM
FORST FREE HYDRANT



GROUNDWATER FLOW REGULATED TO REDUCE PRESSURE OUTPUT – REDUCES PRESSURE RESULTING IN
6 GPM FLOW RATE FROM HOSE BIB ON SIDE OF RESIDENCE



STOCKWATER POU – CHICKEN COOP SERVED WATER FROM GROUNDWATER SOURCE(s)



FROST FREE HYDRANT AT SHOP USED TO FILL PORTABLE STOCK TANKS FOR COWS & HORSES IN PASTURE