

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 97-7975

Exam Date: 06/14/2022

1. Current Owner:
ELKINS REEDER TERRACE UTILITY ASSN 5622 W GRAY HERON LN SPOKANE WA 99208
2. Accompanied by: Phil Konyonenbelt
Phone No: 509-991-7445
Address: Same as above
Relationship to permit Holder: Permit holder's representative.

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
97-7357	License	Domestic, Irrigation	License w/Notice of Claim submitted in CFPRBA – Recommended status.

Comments: Licensed Right 97-7357 uses the same GW source for domestic and irrigation with a POU that overlaps this Permit's POU. The only overlap occurs with Lot 4, Elkins Reeder Terrace Sub., parcel RP05403000040A. The License holder submitted a Notice of Claim based on the license in the Clark Fork Pend Oreille River Basin Adjudication (CFPRBA) process which excludes this parcel. 97-7357 requires a claim and subsequent decree to remain current following CFPRBA basin wide decree, and since the claim removes the overlapping POU between the two rights, overlap concerns have been mitigated. I'm not recommending condition X35 for licensing purposes.

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

Water Right No.	Source	Purpose of Use	Basis
97-7357	License	Domestic, Irrigation	License w/Notice of Claim

Comments: 97-7357 & 97-7975 use the same groundwater well to provide water within the subdivision(s). Condition F06 shall be carried forward from the Permit to licensing.

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

GROUND WATER NE¼ SE¼, Sec. 19, Twp 61N, Rge 04W, B.M. BONNER County

Method of Determination: GPS; POD located at -116°53.9669, 48°37.2834. No D-Tag for well Permit No. 97-95-N-73-000.

PLACE OF USE: 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	
61N	04W	19													X	X	X	X L6	

Method of Determination: Beneficial use field examination & 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 PART No.	Pump Make	Pump PART No. or Discharge Size
97-95-N-73-000	GOULDS	7.5	M75432/750C313	GOULDS	65GS75

D. FLOW MEASUREMENTS

1.

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

2. Measurements: I was unable to perform flow measurements due to inadequate pipe requirements. A theoretical pump equation was used to derive the flow rate of 0.21 cfs.

E. FLOW CALCULATIONS☒ Additional Computation Sheets Attached

Measured Method: Theoretic Pump Equation = 7.5 hp pump installed at depth of 105 with operating pressure of 62 PSI derives a flow rate of 95.6 gpm or 0.21 cfs considering department rounding standards.

The diverting system provides water for two separate rights: 97-7357 with diversion rate of 0.14 cfs and this Permit 97-7975 which is being recommended with a diversion rate of 0.10 cfs for 4 homes domestic use. The sum of both results in the well's theoretical diversion rate not enlarging in total the permit holder's water rights.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

2. Volume Calculations for Other Uses: Domestic annual volume & maximum diversion volume for 4ea homes with ½ acre per home = 4 x 1.2 af = **4.8 af**.

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 6/14/2022 with the applicant's representative, Phil Konyonenbelt – President of Elkins Reeder Terrace Utility Assn., showed a groundwater well providing water for domestic uses. At the POD, the 6-inch cased well permit No. 97-95-N-73-000, has a 7.5 hp Goulds pump with matched CentriPro pump motor installed and buried water main line routing direct to the basement of a small pump house co-located on the well lot. I took photographs within the pump station that has a short series of PVC pipe(s) routing water to large pressure tank(s) prior to distribution to the subdivision's service connections.

I was unable to perform a flow measurement due to inadequate pipe requirements, illustrated by photographs, and a theoretic pump equation was developed during licensing review that derived a flow rate of 0.21 cfs from the 7.5 hp pump/motor at a depth of 105 ft, with the water system operating at 62 PSI. This rate is excessive for the 0.10 cfs authorized for development under this permit, but the well also serves the applicant's prior Right 97-7357 and when combined the two WR's diversion rates mitigate enlargement concerns as shown below:

- 97-7357 – Recommended status in CFPRBA for claim based on license with a diversion rate of 0.14 cfs for 15 homes.
- 97-7975 – Permit being recommended for license with a diversion rate of 0.10 cfs for 4 homes.
- Combined rates are larger than the 0.21 cfs theoretic pump equation value.
- Department standard diversion rates for 15 homes = 0.18 cfs & for 20 homes 0.20 cfs. Considering the well serves a total of 19 homes from the community system, the combined use is relative to the theoretic pump equation value.

I'm recommending licensing of 97-7975 for a domestic diversion rate of 0.10 cfs and maximum diversion rate equal to **0.10 cfs** based on department standard rates for four (4) homes, which is being carried forward from the permit.

During the exam the domestic POU was walked with Mr. Konynenbelt and I observed 1 stubbed-in lot and 3 lots with residences constructed on them. Field maps were used to sketch the POU and the water system routes along roadways with lateral service lines with dedicated shutoff valves located for each parcel. During licensing review, I used ArcMap aerial imagery to refine the POU shape. The annual diversion rate and maximum diversion rate for license recommendation equals 1 stubbed-in lot + 3 homes = 4 homes x 1.2 afa per home = **4.8 af**. A memorandum to file dated 12/2/2021 in the backfile identifies potential overlap between the POU for Rights 97-7357 & 97-7975 to be determined at time of licensing for this permit. The Claim filed on previous license 97-7357 excluded the single parcel of overlap between the two WRs, negating any concern for overlap between the two Rights.

During licensing review, I replaced condition 070 with a text version of 187 annotating that the irrigation occurring under this domestic use shall not exceed ½ acre per home, which is more appropriate than the condition as permit approved based on the stub-in concept. All other conditions on the permit shall be carried forward to licensing. Overlap concerns: the Notice of Claim filed based on License 97-7357, which has been recommended & removes the single parcel of overlap between WRs negates any overlapping concerns for licensing this right. There are no additional overlap concerns.

Have conditions of permit approval been met? X 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>
DOMESTIC	01/01 to 12/31	0.10 CFS	4.8 AF

Totals: 0.10 CFS 4.8 AF

2. Recommended Amendments

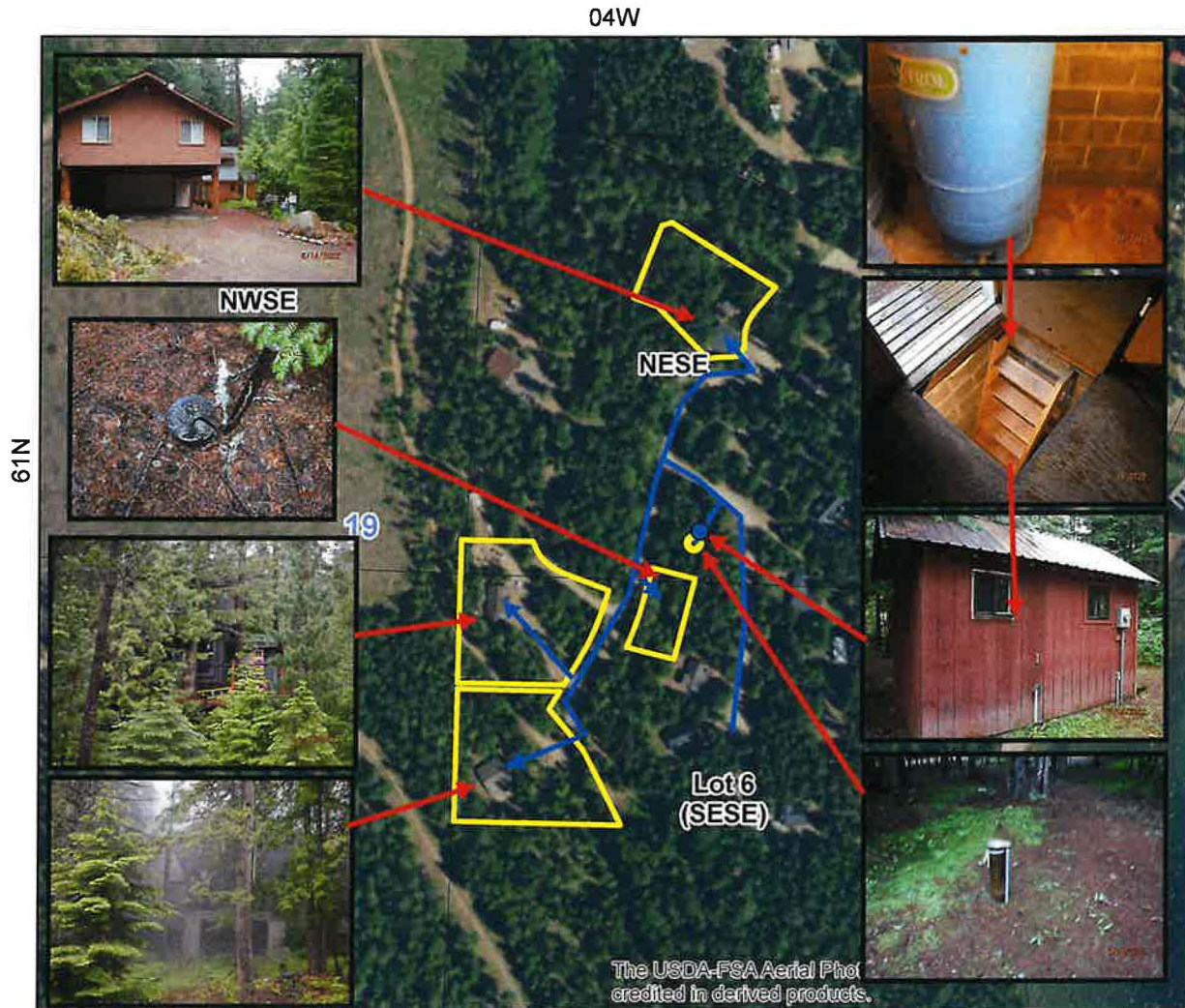
 Change P.D. as reflected above Add P.D. as reflected above X None
 Change P.U. as reflected above Add P.U. as reflected above X None

I. AUTHENTICATION Luke Bates -

Field Examiner's Name *Luke Bates* Date 12/7/2023
 Reviewer *Chris Bell* Date 04/18/2024

State of Idaho
Department of Water Resources
Attachment to Field Exam
97-7975

This map depicts the DOMESTIC system diagram.



0 0.035 0.07 0.14 Miles

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



THEORETICAL PUMPING EQUATION(S) FOR WR# 97-7975

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 380 ft, and running at 45 psi.

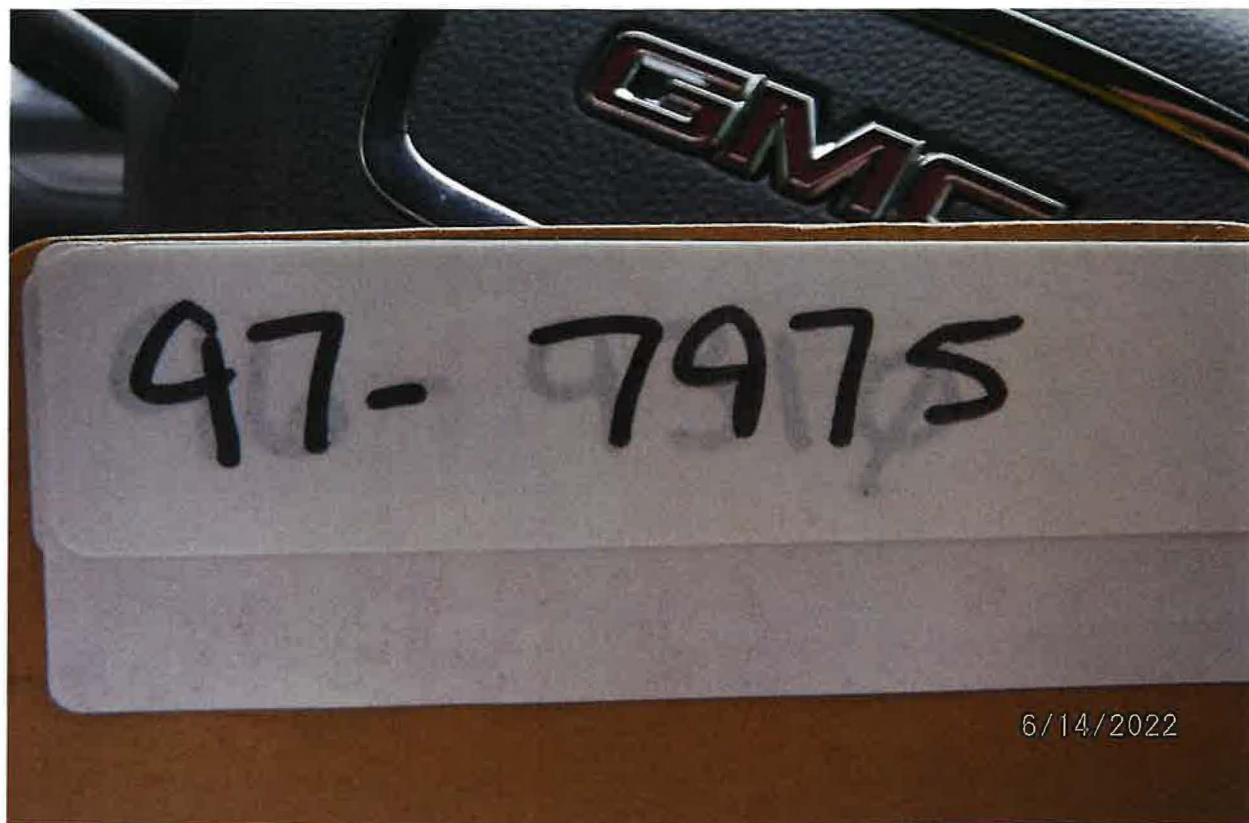
PUMP EQUATION

WATER RIGHT No. 97-7975

97-95-N-73-000	HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q = HP*8.8*Eff/H	7.5	248.4014	0.8	105	62

Q = **0.213 cfs** **95.6 gpm**

1. SHARED WELL SERVES WATER RIGHT(S) 97-9357 & 97-7975.
 - A. 97-7357 AUTHORIZES A DIVERSION RATE OF 0.14 CFS.
 - B. LICENSE RECOMMENDATION FOR 97-7975 AUTHORIZES A DIVERSION RATE OF 0.10 CFS.



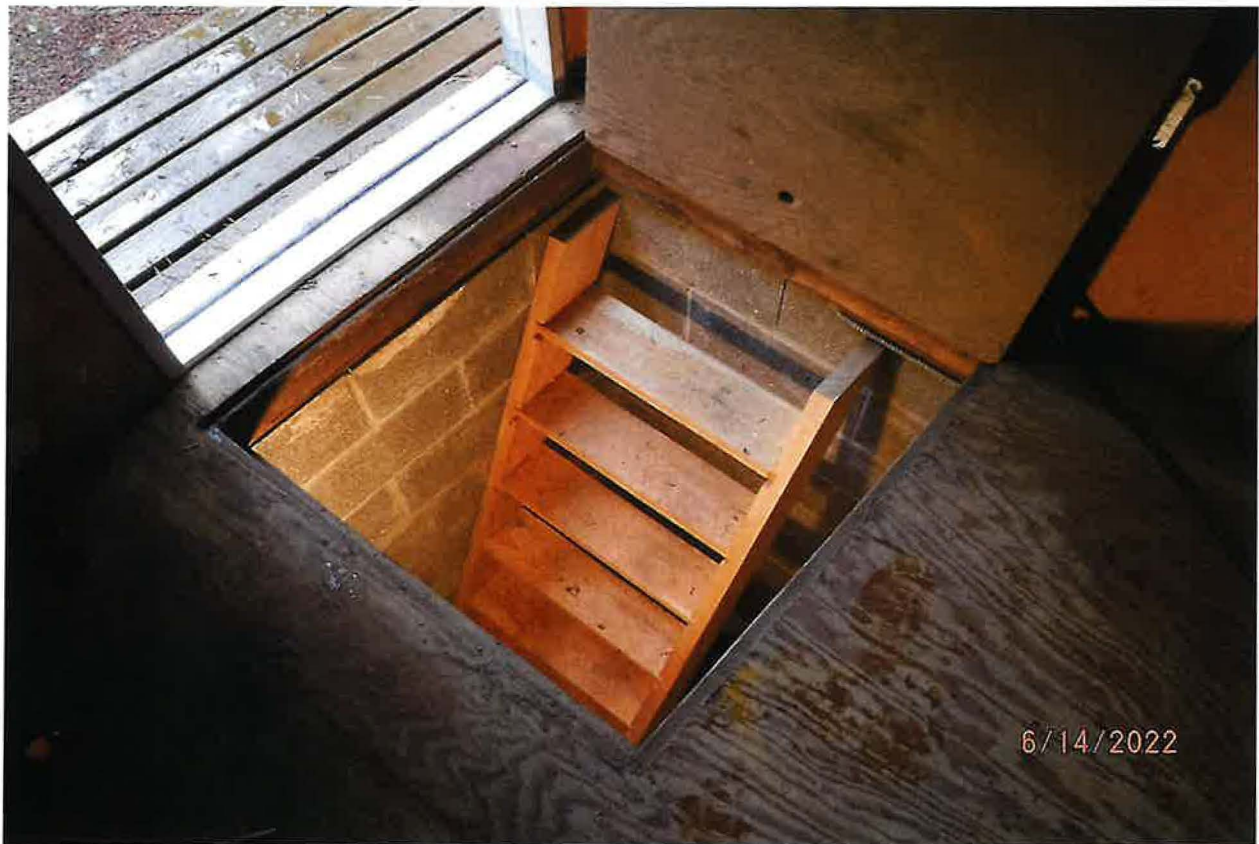
BENEFICIAL USE FIELD EXAMINATION DATE 6/14/2022



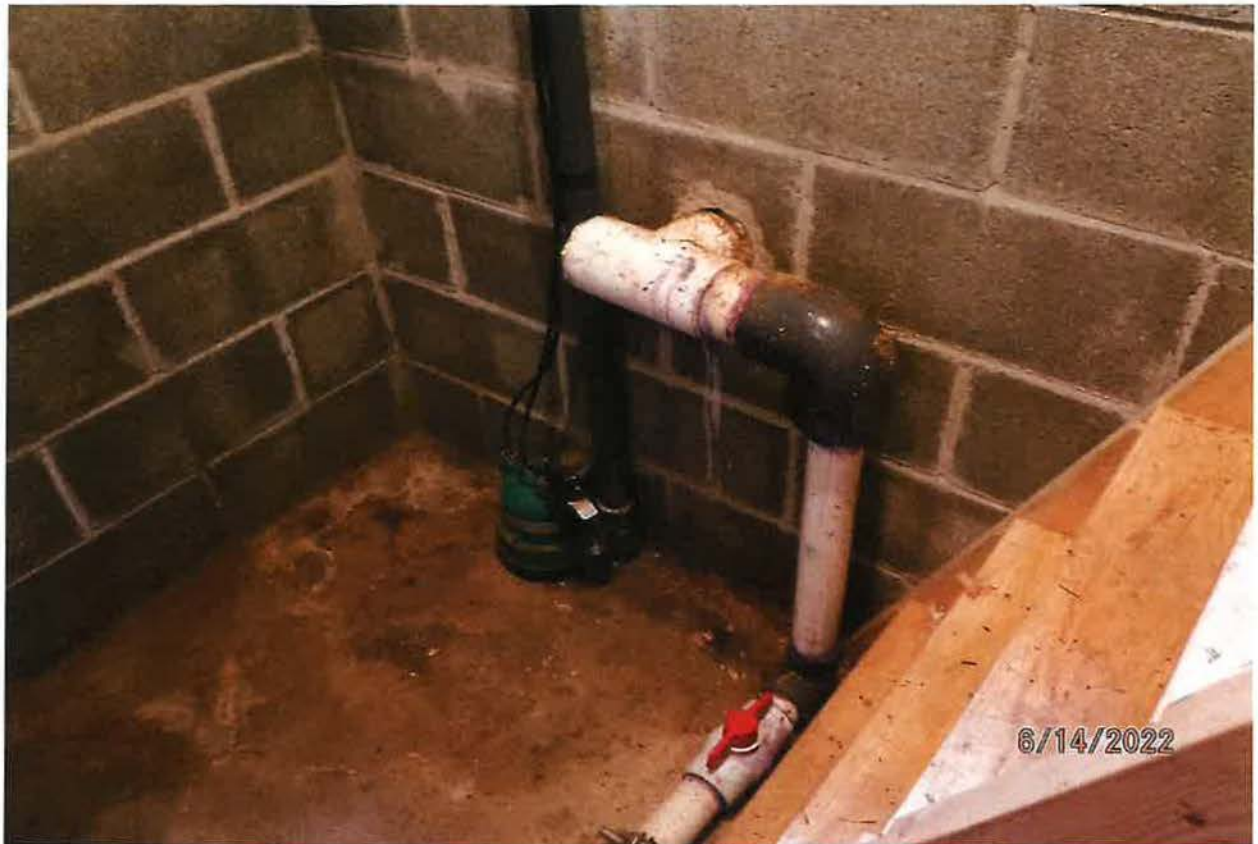
POD – GW WELL 97-95-N-73-000 (SAME POD AS WR 97-7357)



PUMP HOUSE CO-LOCATED WITH WELL



CONVEYANCE SYSTEM VAULTED BENEATH PUMP HOUSE



WATER CONVEYANCE SYSTEM





7.5 HP CENTRIPRO PUMP MOTOR INSTALLED ON GOULDS 65GS75 PUMP



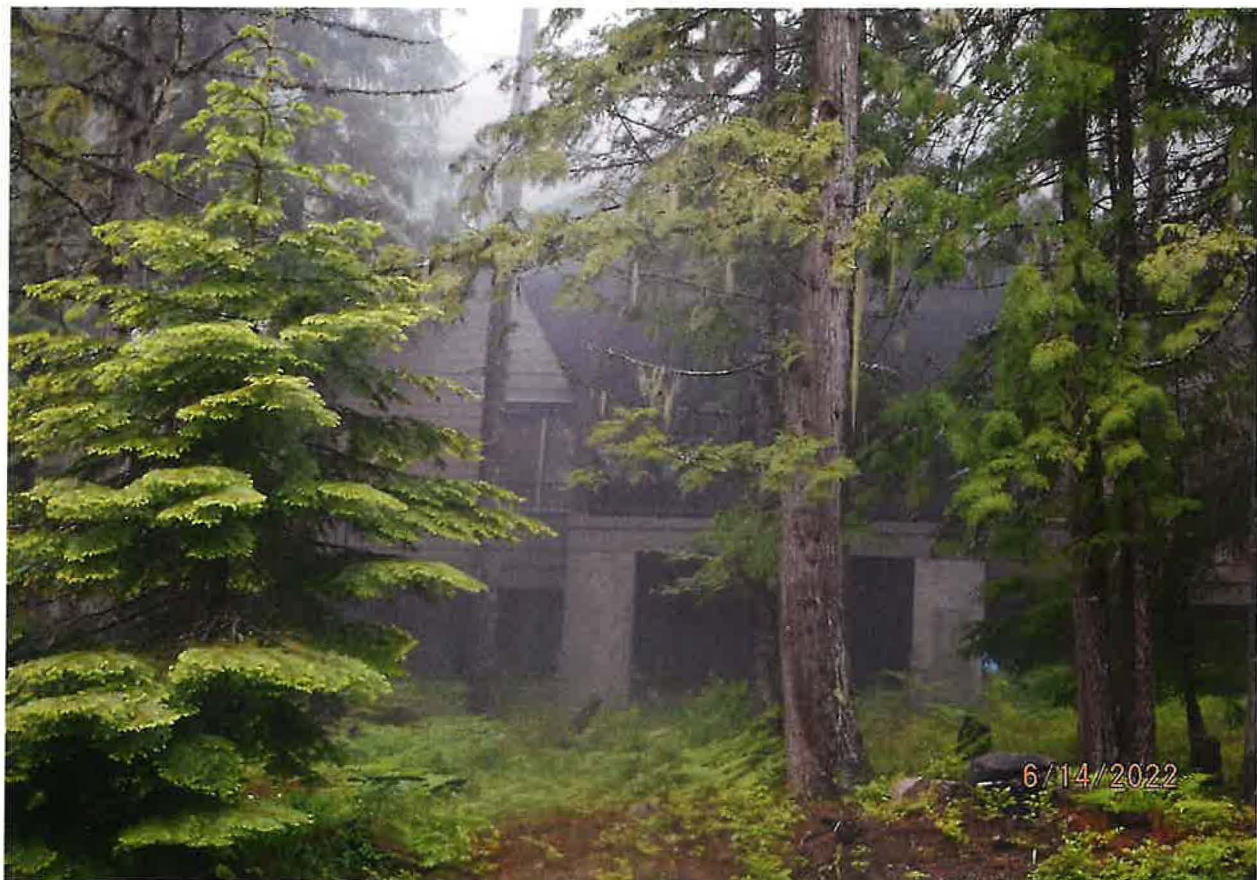


60-65 PSI OPERATING PRESSURE OBSERVED AT TIME OF EXAM

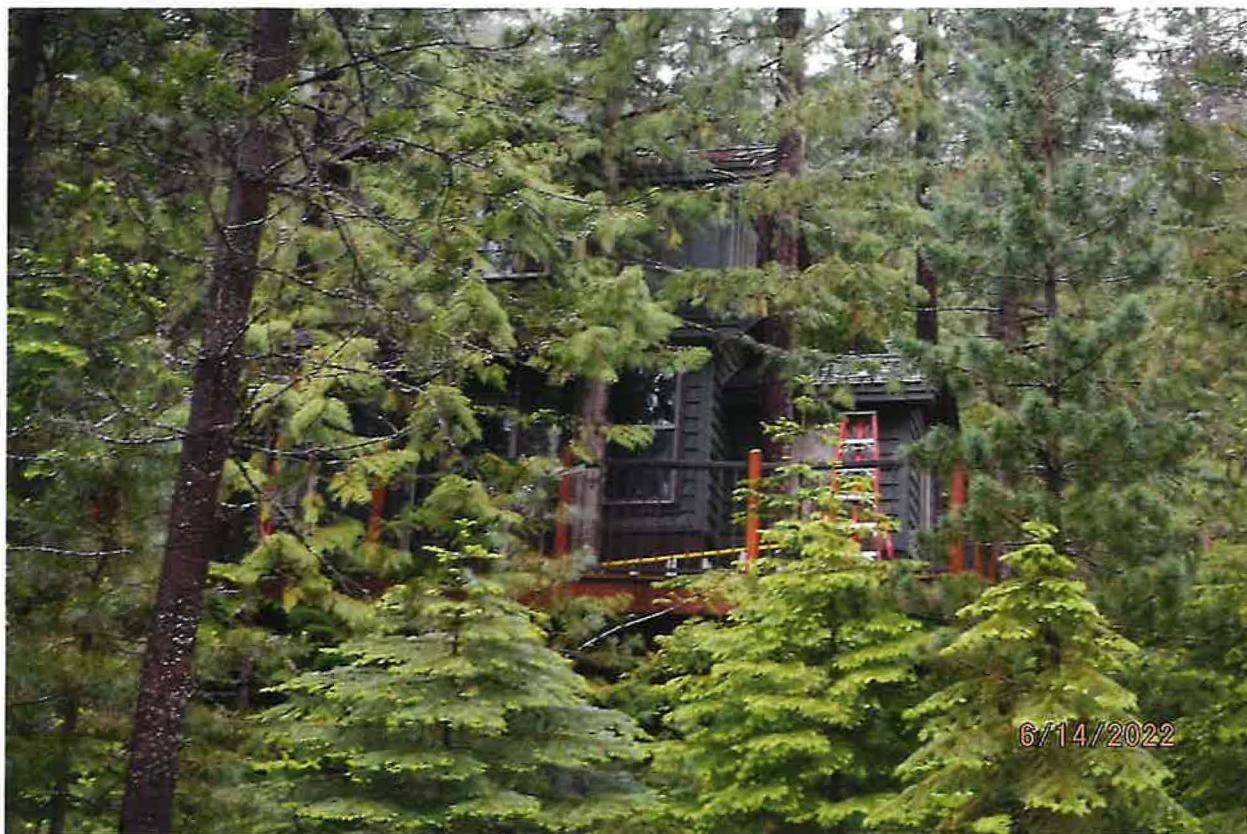




DOMESTIC POU – LOT 4 ELKINS REEDER TERRACE SUB. – RP054030000040A



DOMESTIC POU – LOT 1 PHASE 1 ELKINS REEDER ACRES PHASE 2 SUB. – RP054070010010A



DOMESTIC POU – LOT 2 PHASE 1 ELKINS REEDER ACRES PHASE 2 SUB. – RP054070010020A



DOMESTIC POU – 119 SHADOW BROOK DR. – RP61N04W197541A