

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-10583
Exam Date: 05/18/2023

1. Current Owner:
TAMARACK WATER ASSN INC C/O WATER SYSTEM MANAGEMENT INC
67 WILD HORSE TRL SANDPOINT ID 83864-8701
2. Accompanied by: Stacey – Water System Management Inc
Phone No: 208-946-9985
Address: 67 Wildhorse Trail, Sandpoint ID 83864 (Robert Hansen – Water System Management Inc)
Relationship to permit Holder: Representative, water system operator.

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
96-4162	SPRING	IRRIGATION, STOCKWATER	LICENSE
96-4163	GROUNDWATER	DOMESTIC	LICENSE

Comments: both licensed Right's 96-4162 & 96-4163 have generic bulk POU shapes which overlap this Permit's domestic POU. Backfile review of each Licensed Right illustrates a parcel located in the NE 10-ac tract of the NE1/4SE1/4, which is not associated with this Permit's subdivision water system. There is no concern for overlap between the two Licenses and this Permit.

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

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

GROUND WATER NE¼ SE¼, Sec. 3, Twp 56N, Rge 02W, B.M. BONNER County

Method of Determination: GPS; POD located at -116°32.9111, 48°13.5931. No D-Tag for well Permit No. 96-85-N-142.

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	
56N	02W	3													X				
56N	02W	2										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 Model No.	Pump Make	Pump Serial No. or Discharge Size
96-85-N-142	Franklin Electric	3	2823028110	UNKOWN	UNKOWN
2 nd pump in same well	Franklin Electric	5	2821139310	UNKONW	UNKOWN

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Description	Calib. Date
FLOWMETER	VELOCITY	McCROMETER	MW503	23-04770	HORIZONTAL FLANGE MOUNTED	NEW WITHIN 1 YEAR

2. Measurements: I used the water system installed flowmeter, newly installed within a year's time, to measure the flow rate. With both pumps switches in the on position and system operating for a few minutes to stabilize, I observed a flow rate of 65 gpm or **0.14 cfs** which I'm recommending for licensing purposes.

E. FLOW CALCULATIONS

Measured Method: water system installed flowmeter = 65 gpm or **0.14 cfs** considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A
2. Volume Calculations for Other Uses:
 - Domestic annual volume = 20 homes x 1.2 af = **24.0 af** = Maximum Diversion Volume.

G. NARRATIVE/REMARKS/COMMENTS

I performed the initial field exam on 5/18/2023 but found the water system's flowmeter was inoperable and I was unable to obtain flow measurements due to inadequate pipe requirements. I requested a follow-up exam once the meter had been replaced and the system was operating under normal conditions. A second field exam was performed on 5/16/2024 with the applicant's representative, Stacey – Water System Management Inc (water operator), which showed a 10-inch cased groundwater well diverting water for domestic use serving Tamarack Estates Subdivision.

At the POD, an older well without data plates was GPS located in a small, grassed portion of the well lot situated near the vaulted pump station. Review of well construction records for this QQ and surrounding QQs identified a 10" well drilled in 1985 with centroid located in the SE1/4SE1/4. I researched the IDEQ PWS records and determined this Permit's water system is regulated by DEQ PWS #ID1090139. DEQ records reflect the applicant's well was constructed in 1985 and is a 10" subdivision well. Further research found that there isn't a subdivision use in the SE1/4SE1/4 that associates with a 10" well. Based on the information above, it's reasonable to link groundwater well 96-85-N-142 to the applicant's water system.

The pump station houses diverting works consisting of direct flow components, with no storage reservoirs constructed for the water system. There are two (2) pumps installed down hole in the well associated with a 3 hp Franklin Electric Motor & a

5 hp Franklin Electric Motor. During the exam, Stacey evacuated the main pipeline for several minutes to provide adequate pipeline volume to activate the well pump(s) toward measuring the pump capacity. With both pumps turned to the 'on' position, I observed a 65-gpm flow rate once the system stabilized before the pipeline recharged and the pump(s) cycled off. I'm recommending 65 gpm or **0.14 cfs** toward licensing this Permits Maximum Diversion Rate.

During phone conversations with Mr. Robert Hanson, Water System Management Inc, held prior to the second field exam, provided some insight into the age of the water system. Mr. Hanson asserts he wasn't certain why the system had two pumps down hole initially, but that the 5 hp pump had recently been replaced with the same make/model, and that the 3 hp pump serves as redundancy or back-up in the event the 5 hp pump fails. This confirms why the flow rate was substantially lower than what a theoretical pump equation derives from both pumps actively pumping. The main pipeline crosses the main roadway to a Tee union where water lines route up-road & down-road along the road easement with service lines located at each of 20 parcels.

During the exam I walked the roadway and captured photographs of domestic use which includes a primary residence and up to ½ acre irrigation per parcel for 20 parcels. I traced out the domestic POU using ArcMap aerial imagery during licensing review and encompasses all lots in the Tamarack Estates Subdivision. I calculated the domestic annual volume using 1.2 af per home with ½ ac irrigation. The annual and maximum diversion volume recommended for licensing equals 1.2 af x 20 homes = **24.0 af**.

I removed condition 046 from the Permit during licensing review due to well construction requirements being complied with. I removed the DEQ compliance condition from the permit as the water system is actively regulated by DEQ PWS #ID1090139. All other conditions on the Permit are carried forward to the license. Overlapping concerns have been discussed above on PG1 of this report, and there are no additional overlapping water right concerns toward licensing Permit 96-10583.

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	0.14 CFS	24.0 AF
<u>Totals:</u>		0.14 CFS	24.0 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 – Sr Water Resource Agent

Field Examiner's Name

L. Bates

Date

5/21/2024

Reviewer

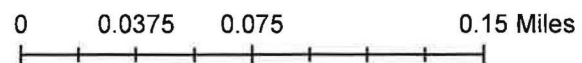
Chase Bell

Date

2/18/2025

This map depicts the DOMESTIC system diagram.

56N



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STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORTUSE TYPEWRITER OR
BALLPOINT PENState law requires that this report be filed with the Director, Department of Water Resources
within 30 days after the completion or abandonment of the well.

1. WELL OWNER Name <u>Pt H. Construction</u> Address <u>P.O. Box 42 Hayden Lake ID 83835</u> Owner's Permit No. <u>96-85-N-142</u>	7. WATER LEVEL Static water level <u>120</u> feet below land surface. Flowing? ☐ Yes ☒ No G.P.M. flow _____ Artesian closed-in pressure _____ p.s.i. Controlled by: ☐ Valve ☐ Cap ☐ Plug Temperature _____ °F. Quality <u>GOOD</u> . <i>Describe artesian or temperature zones below.</i>																																																				
2. NATURE OF WORK ☒ New well ☐ Deepened ☐ Replacement ☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)	8. WELL TEST DATA ☒ Pump ☐ Bailer ☒ Air ☐ Other _____ <table border="1"><thead><tr><th>Discharge G.P.M.</th><th>Pumping Level</th><th>Hours Pumped</th></tr></thead><tbody><tr><td><u>135</u></td><td><u>170</u></td><td><u>4-5 hrs?</u></td></tr></tbody></table>	Discharge G.P.M.	Pumping Level	Hours Pumped	<u>135</u>	<u>170</u>	<u>4-5 hrs?</u>																																														
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3. PROPOSED USE ☐ Domestic ☐ Irrigation ☐ Test ☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection ☒ Other <u>SUBDIVISION</u> (specify type)	9. LITHOLOGIC LOG <table border="1"><thead><tr><th rowspan="2">Bore Diam.</th><th colspan="2">Depth</th><th rowspan="2">Material</th><th colspan="2">Water</th></tr><tr><th>From</th><th>To</th><th>Yes</th><th>No</th></tr></thead><tbody><tr><td>12" 0</td><td>30</td><td></td><td>COURSE SAND-GRAVEL</td><td></td><td>X</td></tr><tr><td>10" 30</td><td>140</td><td></td><td>SAND GRAVEL-CLAY</td><td></td><td>X</td></tr><tr><td>10" 140</td><td>170</td><td></td><td>SAND GRAVEL</td><td></td><td>X</td></tr><tr><td>10" 170</td><td>198</td><td></td><td>FINE SAND-COURSE SAND SAND SILT</td><td></td><td>X</td></tr><tr><td colspan="6">BULK OF WATER AQUICLUD 185-198'</td></tr><tr><td colspan="6">2 Formation Packers Installed Between 8" TAIL & 10" CASING AT 173'</td></tr><tr><td colspan="6">100797</td></tr></tbody></table>	Bore Diam.	Depth		Material	Water		From	To	Yes	No	12" 0	30		COURSE SAND-GRAVEL		X	10" 30	140		SAND GRAVEL-CLAY		X	10" 140	170		SAND GRAVEL		X	10" 170	198		FINE SAND-COURSE SAND SAND SILT		X	BULK OF WATER AQUICLUD 185-198'						2 Formation Packers Installed Between 8" TAIL & 10" CASING AT 173'						100797					
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4. METHOD DRILLED ☒ Rotary ☒ Air ☐ Hydraulic ☐ Reverse rotary ☐ Cable ☐ Dug ☐ Other _____																																																					
5. WELL CONSTRUCTION Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____ <table border="1"><thead><tr><th>Thickness</th><th>Diameter</th><th>From</th><th>To</th></tr></thead><tbody><tr><td><u>.288</u> inches</td><td><u>10</u> inches</td><td><u>1</u> feet</td><td><u>198</u> feet</td></tr><tr><td>_____ inches</td><td>_____ inches</td><td>_____ feet</td><td>_____ feet</td></tr><tr><td>_____ inches</td><td>_____ inches</td><td>_____ feet</td><td>_____ feet</td></tr><tr><td>_____ inches</td><td>_____ inches</td><td>_____ feet</td><td>_____ feet</td></tr></tbody></table> Was casing drive shoe used? ☒ Yes ☐ No Was a packer or seal used? ☒ Yes ☐ No Perforated? ☒ Yes ☐ No How perforated? ☐ Factory ☐ Knife ☒ Torch Size of perforation <u>1/8</u> inches by <u>10</u> inches <table border="1"><thead><tr><th>Number</th><th>From</th><th>To</th></tr></thead><tbody><tr><td><u>20</u> perforations</td><td><u>180</u> feet</td><td><u>195</u> feet</td></tr><tr><td>_____ perforations</td><td>_____ feet</td><td>_____ feet</td></tr><tr><td>_____ perforations</td><td>_____ feet</td><td>_____ feet</td></tr></tbody></table> Well screen installed? ☒ Yes ☐ No Manufacturer's name <u>Johnson</u> Type <u>Stainless Steel</u> Model No. _____ Diameter <u>8"</u> Slot size <u>40</u> Set from <u>178</u> feet to <u>188</u> feet Diameter <u>8"</u> Set from <u>170</u> feet to <u>178</u> feet Gravel packed? ☐ Yes ☐ No ☐ Size of gravel _____ Placed from _____ feet to _____ feet Surface seal depth <u>25</u> Material used in seal: ☐ Cement grout ☒ Bentonite ☐ Pudding clay ☐ _____ Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata Describe access port _____	Thickness	Diameter	From	To	<u>.288</u> inches	<u>10</u> inches	<u>1</u> feet	<u>198</u> feet	_____ inches	_____ inches	_____ feet	_____ feet	_____ inches	_____ inches	_____ feet	_____ feet	_____ inches	_____ inches	_____ feet	_____ feet	Number	From	To	<u>20</u> perforations	<u>180</u> feet	<u>195</u> feet	_____ perforations	_____ feet	_____ feet	_____ perforations	_____ feet	_____ feet																					
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6. LOCATION OF WELL Sketch map location <u>must</u> agree with written location. <table border="1"><tr><td>N</td><td></td><td></td><td></td><td></td></tr><tr><td>W</td><td></td><td></td><td></td><td>E</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table> Subdivision Name _____ Lot No. _____ Block No. _____ County <u>Bonner</u> <u>SE 1/4 SE 1/4 Sec. 3, T. 56 N. R. 2 W.</u>	N					W				E																10. Work started <u>9-17-85</u> finished <u>9-20-85</u>																											
N																																																					
W				E																																																	
	11. DRILLERS CERTIFICATION <u>ee</u> I/We certify that all minimum well construction standards were complied with at the time the rig was removed. Firm Name <u>UNITED DRILLING</u> No. <u>414</u> Address <u>P.O. Box 2499 COA</u> Date <u>10-14-85</u> Signed by (Firm Official) <u>Eldon R. Volking Pres</u> and <u>ELDON R. VOLKING</u> (Operator) <u>TIMOTHY R. VOLKING</u>																																																				

**TAMARACK ESTATES WATER ASSOCIATION (PWS #1090139)
SOURCE WATER ASSESSMENT REPORT**

May 2, 2002



**State of Idaho
Department of Environmental Quality**

Disclaimer: This publication has been developed as part of an informational service for the source water assessments of public water systems in Idaho and is based on the data available at the time and the professional judgement of the staff. Although reasonable efforts have been made to present accurate information, no guarantees, including expressed or implied warranties of any kind, are made with respect to this publication by the state of Idaho or any of its agencies, employees, or agents, who also assume no legal responsibility for the accuracy of presentations, comments, or other information in this publication. The assessment is subject to modification if new data is produced.

Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the act. This assessment is based on a land use inventory of the designated assessment area, sensitivity factors associated with the wells, and aquifer characteristics.

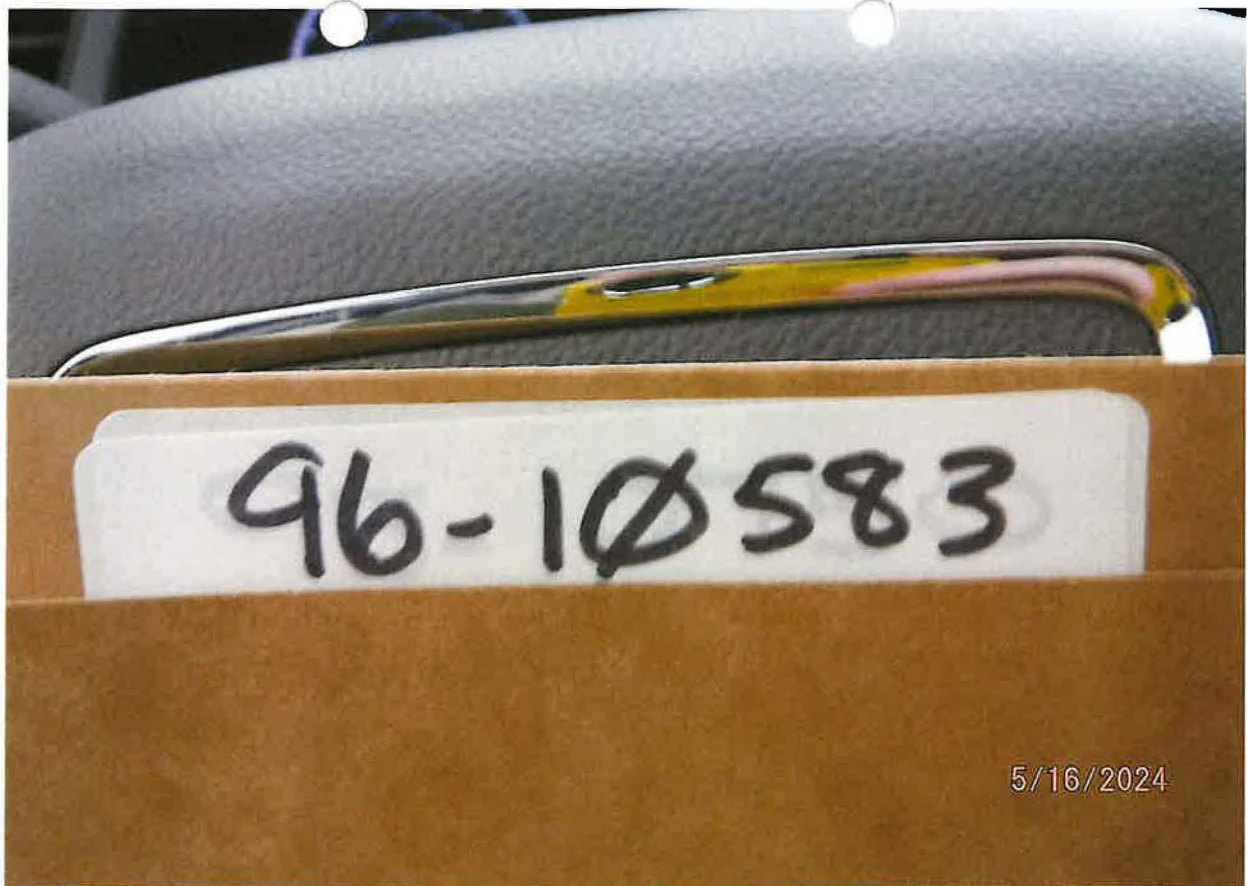
This report, *Source Water Assessment for Tamarack Estates Water Association (PWS #1090139)*, describes the public drinking water system, the boundaries of the zones of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

Final susceptibility scores are derived from equally weighting system construction scores, hydrologic sensitivity scores, and potential contaminant/land use scores. Therefore, a low rating in one or two categories coupled with a higher rating in other categories results in a final rating of low, moderate, or high susceptibility. Potential contaminants are divided into four categories, inorganic contaminants (IOCs, i.e. nitrates, arsenic), volatile organic contaminants (VOCs, i.e. petroleum products), synthetic organic contaminants (SOCs, i.e. pesticides), and microbial contaminants (i.e. bacteria). As different wells can be subject to various contamination settings, separate scores are given for each type of contaminant.

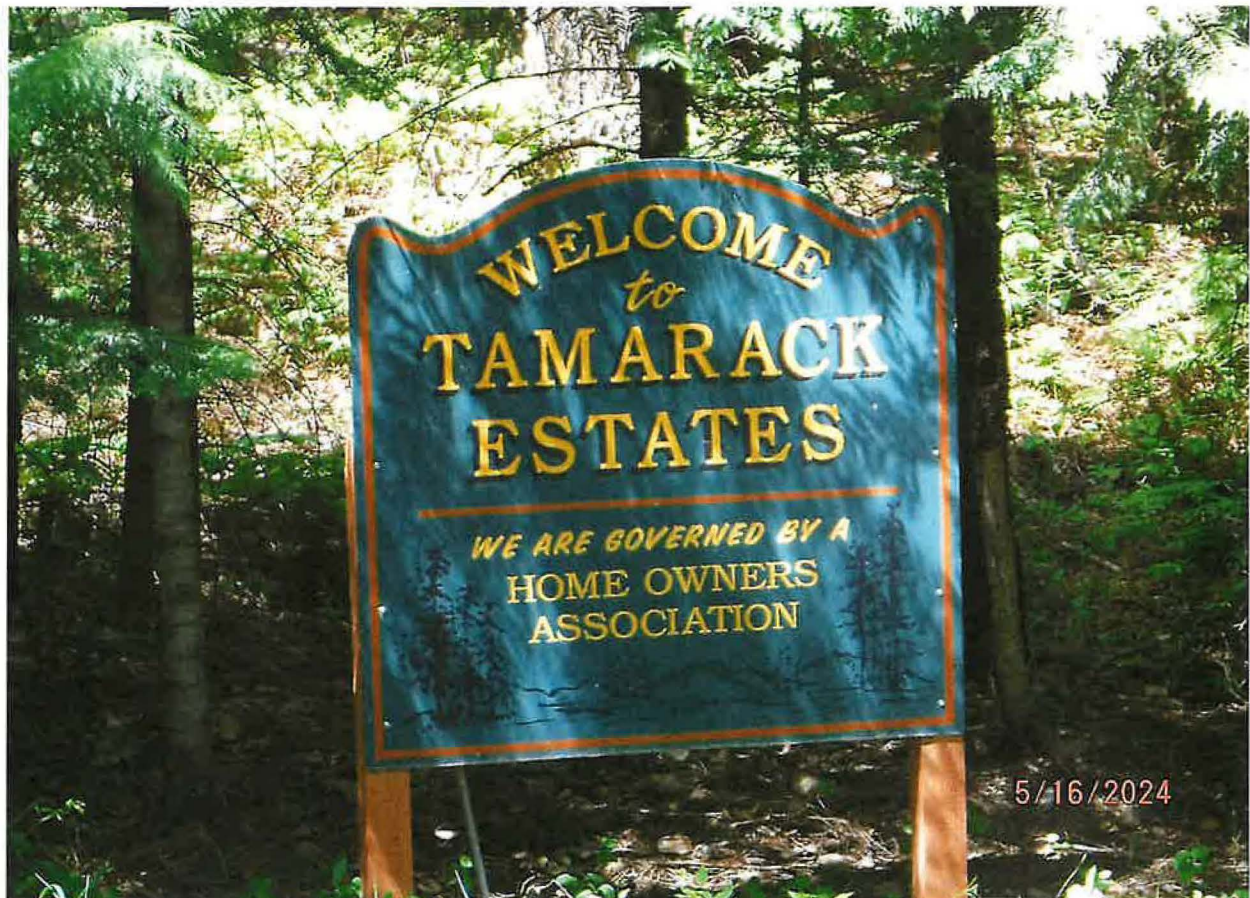
The Tamarack Estates Water Association drinking water system consists of one well. The well was drilled in 1985 and serves a population of approximately 30 people in Sagle, Idaho. The water system does not treat its water, as treatment is neither necessary nor required. Bacteriological monitoring is completed monthly and no water quality problems have been identified.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

Tamarack Estates Water Association should focus drinking water protection activities on implementation of practices aimed at maintaining current water quality. The well appears to draw water from a very small area, so protection measures should be simple to implement. The area surrounding the wellhead should be maintained free from contaminants. This can be accomplished by educating water system representatives and the local public regarding best management practices. Partnerships with state and local agencies and industry groups should be established and are critical to success. Due to the time involved with the movement of groundwater, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. A community with a fully developed drinking water protection program will incorporate many strategies. For assistance in developing protection strategies, please contact your regional Idaho Department of Environmental Quality office or the Idaho Rural Water Association.



BENEFICIAL USE FIELD EXAM DATE(S) 5/18/2023 & 5/16/2024



WATER SYSTEM SERVES TAMARACK ESTATES SUBDIVISION – PUBLIC WATER SYSTEM NO. ID1090139



POD – 10" Cased Well 96-85-N-142



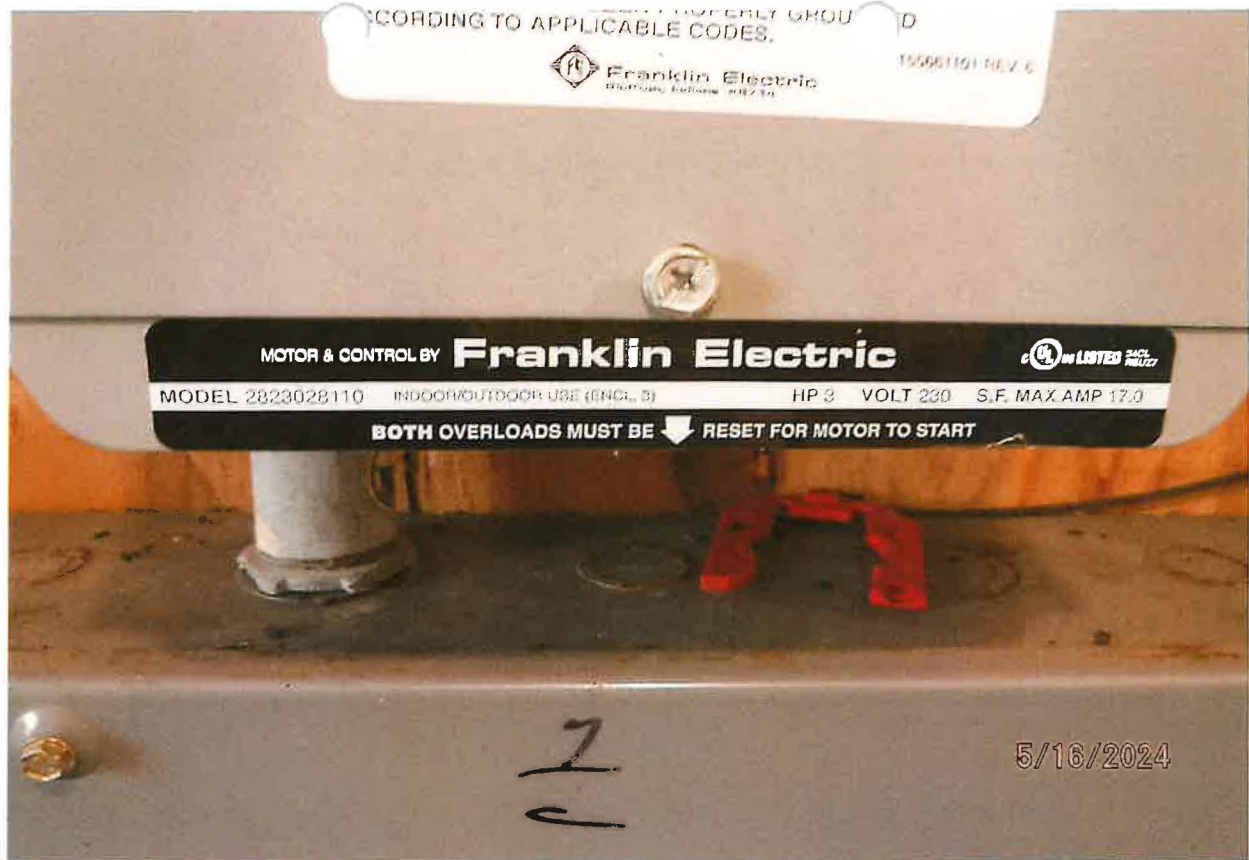
PUMP STATION – LOCATED IN FRONT OF WELL (WELL IN GRASS AREA BEYOND VAULTED PUMP STATION)



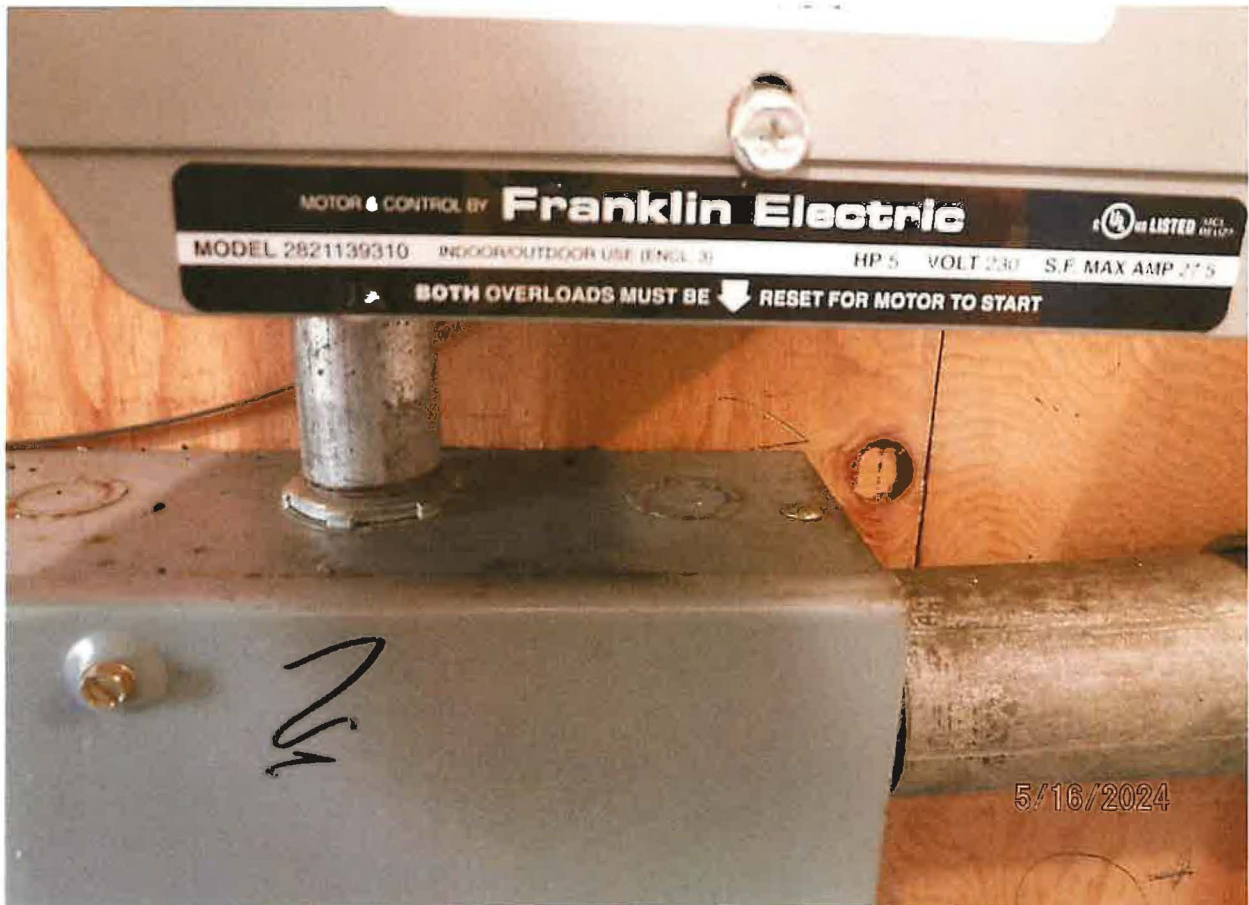
DIVERTING WORKS – PUMP CONTROL PANEL



TWO PUMPS INSTALLED DOWN HOLE IN 10" CASED WELL (No.1 & No.2)



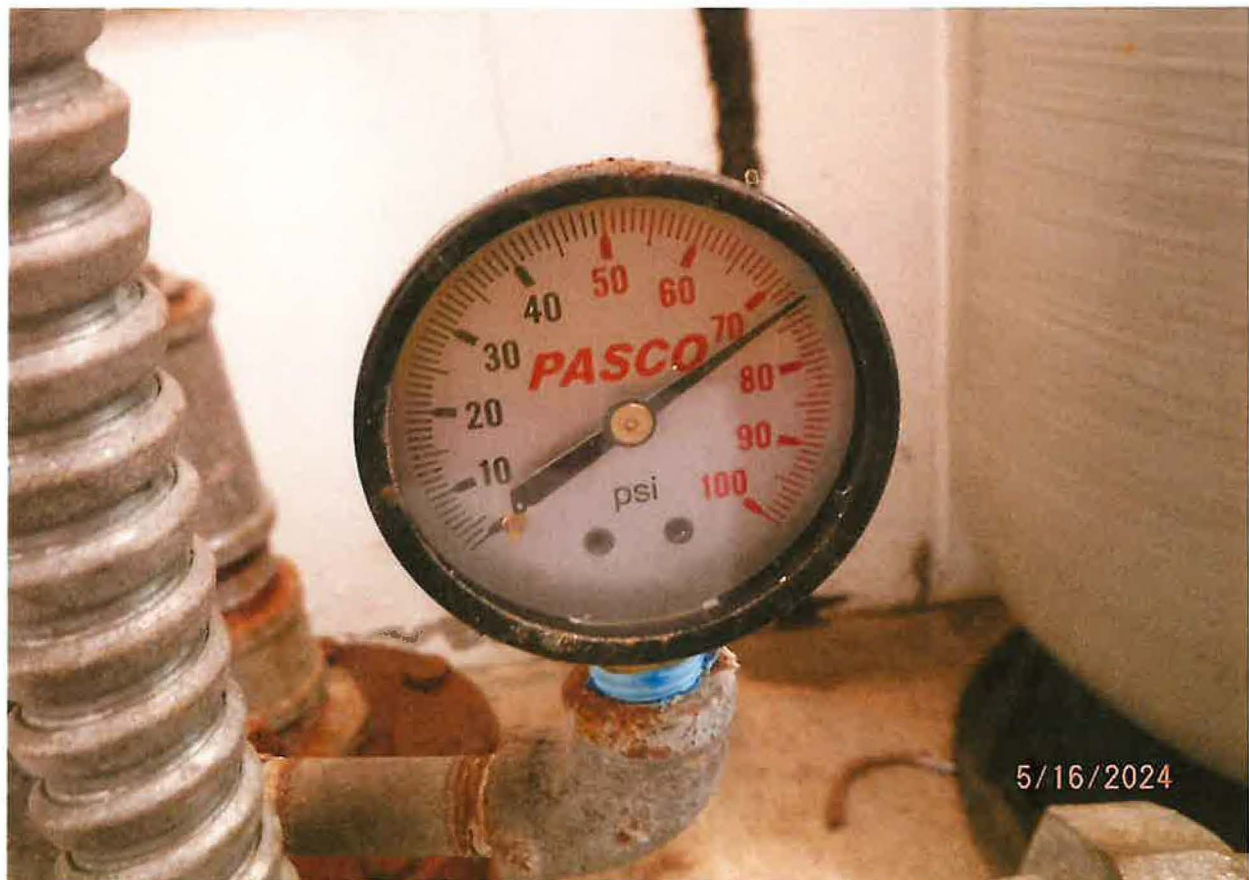
PUMP No.1 – 3 HP FRANKLIN ELECTRIC PUMP MOTOR – MODEL 2823028110



PUMP No. 2 – 5 HP FRANKLIN ELECTRIC PUMP MOTOR – MODEL 2821139310



DIVERTING WORKS – DIRECT FLOW WITH 3EA PRESSURE TANKS (NO STORAGE RESEVIOR ON SYSTEM)



WATER SYSTEM PRESSURE TANKS HOLD STATIC PRESSURE AT 75 PSI



DIVERTING WORKS – McCROMETER FLANGED VELOCITY STYLE FLOWMETER INSTALLED ON SYSTEM



McCROMETER FLOWMETER MODEL – MW503, S/N 23-04770



WATER MAIN ROUTES ACROSS ROAD FROM PUMP STATION TO A TEE IN THE SYSTEM. MANUAL SHUTOFF VALVES INSTALLED IN SYSTEM FOR EACH FORK IN THE MAIN LINE

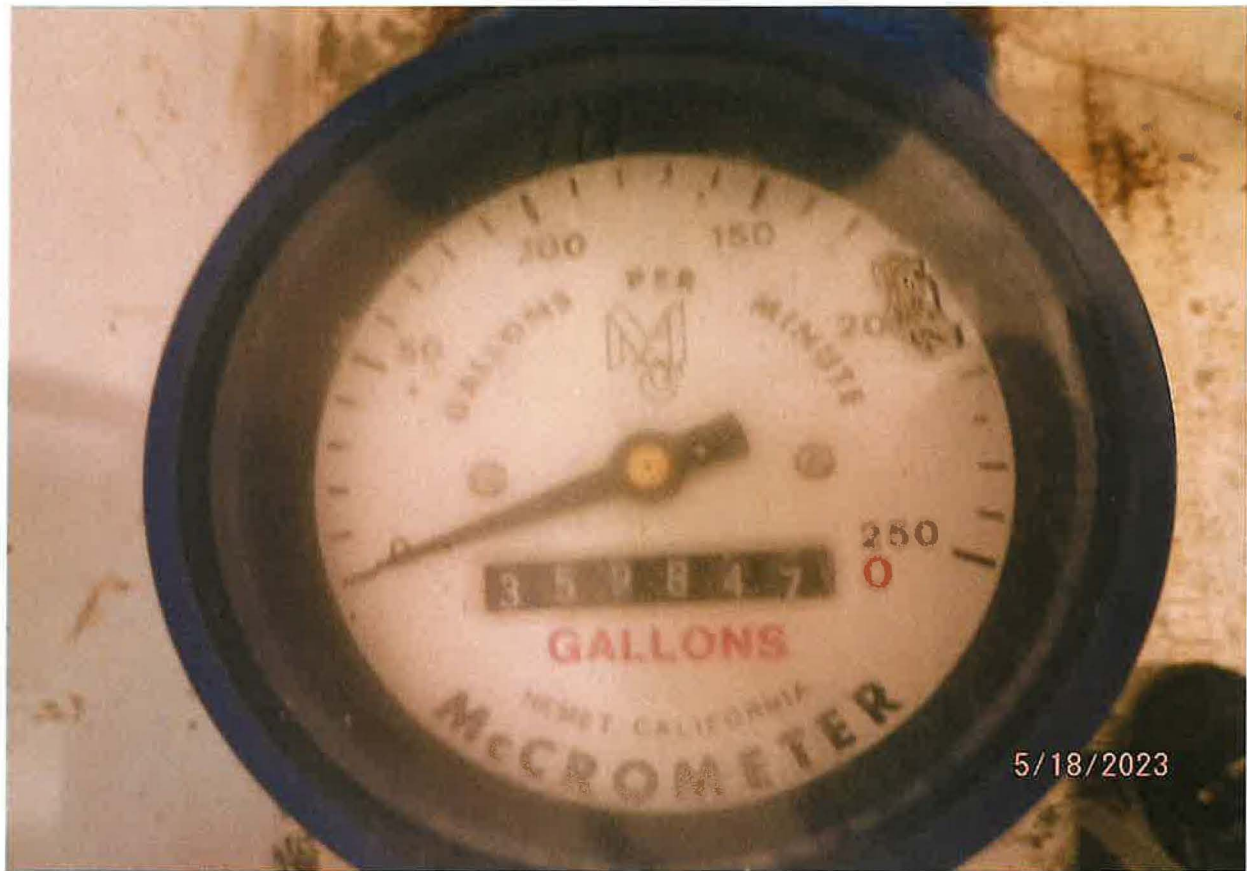


DOMESTIC POU – EXAMPLE 1 OF 20 HOMES SERVED BY SYSTEM; INCLUDES ½ AC LAWN IRRIGATION



DOMESTIC POU – EXAMPLE OF HOMES SERVED BY SYSTEM; INCLUDES ½ AC LAWN IRRIGATION





FIELD EXAM PERFORMED ON 5/18/2023 FOUND FLOWMETER TO BE INOPERABLE. THIS METER HAS BEEN REPLACED AS OBSERVED DURING FOLLOW UP SITE VISIT ON 5/16/2024.

