

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-09510

Exam Date: 8/11/2016

1. Current Owner:
AVISTA CORP PO BOX 3727 SPOKANE WA 99220-3727 (509) 495-2571

2. Accompanied by: Nate Hall (Avista) Chief Bob Wathen (Sam Owen Fire District)
Phone No: Mr. Hall 1-406-847-1281
Address: 94 Avista Power Rd PO Box 1469 Noxon MT 59853
Relationship to Permit Holder: Representative

3. **SOURCE:**
GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: None
2. Other water rights with the same point-of-diversion: None

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

GROUND WATER NW¼SE¼ Sec. 16, Twp 57N, Rge 01E, B.M. BONNER County

Method of Determination: Maps and GPS. POD location at 48° 17.231, 116° 20.490 D0003247 (A0020096)

2.

PLACE OF USE: FIRE PROTECTION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
57N	01E	16														X			

PLACE OF USE: 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	
57N	01E	16														X			

PLACE OF USE: INDUSTRIAL

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
57N	01E	16														X			

Method of Determination: Google Earth and Arc map.

3.

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

X Indicate weir size/pipe as applicable.X Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.X Aerial Photo Attached (required for irrigation of 10+ acres).X 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
D0003247	FRANKLIN	3	2823028310		

*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
FILL RITE	SERIES 900					

2. Measurements: 57 GALLONS MEASURED IN 1 MINUTE ON FLOW METER.

E. FLOW CALCULATIONSMeasured Method: THEORETICAL PUMPING EQUATION
ATTACHED TO SHOW ALMOST EXACT RATE AS WHAT WAS MEASURED.X Additional Computation Sheets Attached

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

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

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 =$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} =$$

2. Volume Calculations for Other Uses: DOMESTIC USE FOR FIRE STATION WITH UP TO ½ ACRE = 1.2 AF

INDUSTRIAL USE: TANKER TRUCK 1,850 GALLONS AND FIRE TRUCK 1,000 GALLONS FILLED TWICE PER WEEK FOR 30 WEEKS

$$1,850 \times 2 = 3,700 \text{ GPW}$$

$$1,000 \times 2 = 2,000 \text{ GPW}$$

$$5,700 \text{ GAL} \times 30 \text{ WEEKS} = 171,000 \text{ GPY} / 325,850 \text{ GAL/AF} = 0.5 \text{ AF}$$
G. NARRATIVE/REMARKS/COMMENTS

Field exam with Nate Hall from Avista and Fire Chief Bob Wathen showed a well serving a fire station. Permit included numerous other uses of water which were not developed. Exam showed well D0003247 with 3hp pump running at 50 psi. System had meter and had diversion rate of 57 gpm. Theoretical pumping equation shows estimated 59 gpm which lines up with flow meter reading and what driller reported when well was drilled. Adjacent to well was underground vault that housed the meter, pump box, and pressure tanks. The fire station did have a fire fighter living there during the 2015 year and will be given domestic use for the fire station along with up to ½ acre of irrigation. They put the sprinkler on around the fire station to keep it green in case of fire. Irrigation and commercial will be removed from the license because the campground was never developed. Industrial use was applied because the fire station has a tanker truck and fire engine that are used for training. The tanker truck holds 1,850 gallons and the fire truck holds 1,000 gallons. Chief Wathen said they fill them up twice per week for training between the end of March and end of October. That is equal to 5,700 gallons per week times 30 weeks is 171,000 gpy or 0.5 acre feet for industrial use. Anytime they fill them to fight fires is exempt and would be covered under the fire protection diversion rate. Domestic use will be given a diversion rate of 0.04 cfs with 1.2 acre feet for operation of fire station and up to ½ acre of irrigation. Industrial use will be given the maximum diversion rate of 0.13 cfs or 57 gpm with an annual volume of 0.5 acre feet. Fire protection will be given maximum diversion rate of 0.13 cfs with no annual volume. Irrigation and commercial will be removed at licensing.

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>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
DOMESTIC	01/01 to 12/31	0.04 CFS	1.2 AF
INDUSTRIAL	01/01 to 12/31	0.13 CFS	0.5 AF
FIRE PROTECTION	01/01 to 12/31	0.13 CFS	
<u>Totals:</u>		0.130 CFS	1.70 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

Field Examiner's Name Adam Furdick Date 3-1-2017

Reviewer Morgan Case Date 3/9/2017

State of Idaho
Department of Water Resources
Attachment to Field Exam
96-9510

DOMESTIC, INDUSTRIAL, and FIRE PROTECTION

01E

57N



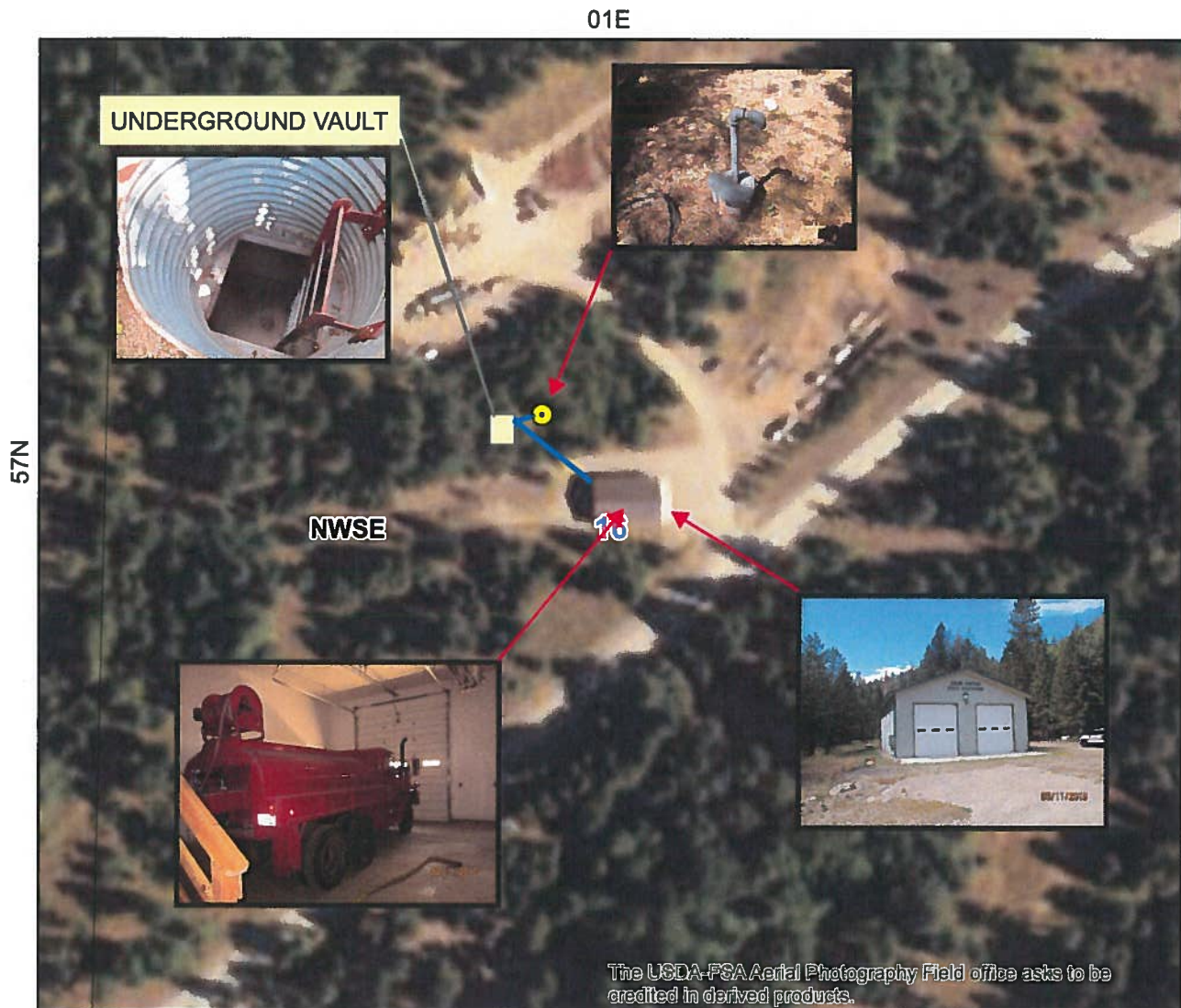
0 0.035 0.07 0.14 Miles

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



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SYSTEM DIAGRAM



0 0.02 0.04 0.08 Miles

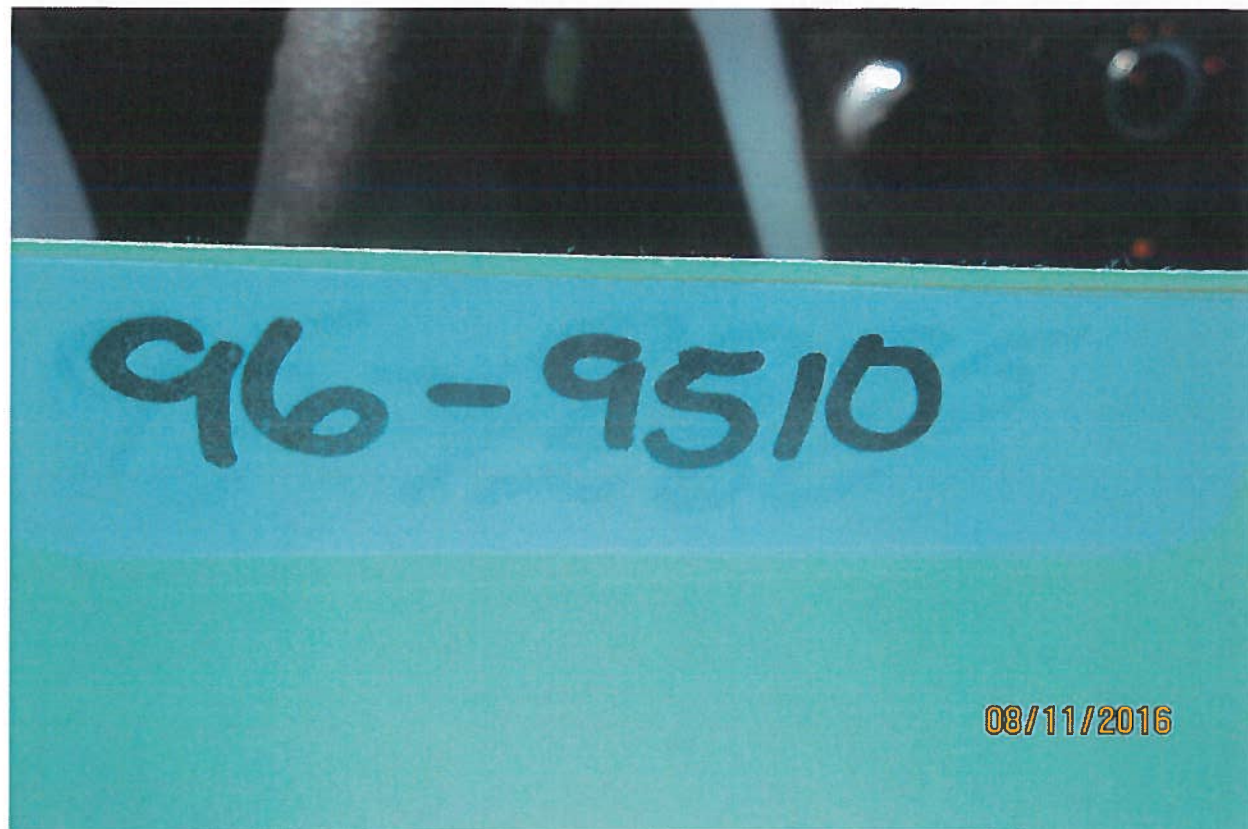
- Point of Diversion
- Townships
- PLS Sections



THEORETICAL PUMPING EQUATION FOR WATER RIGHT 96-9510

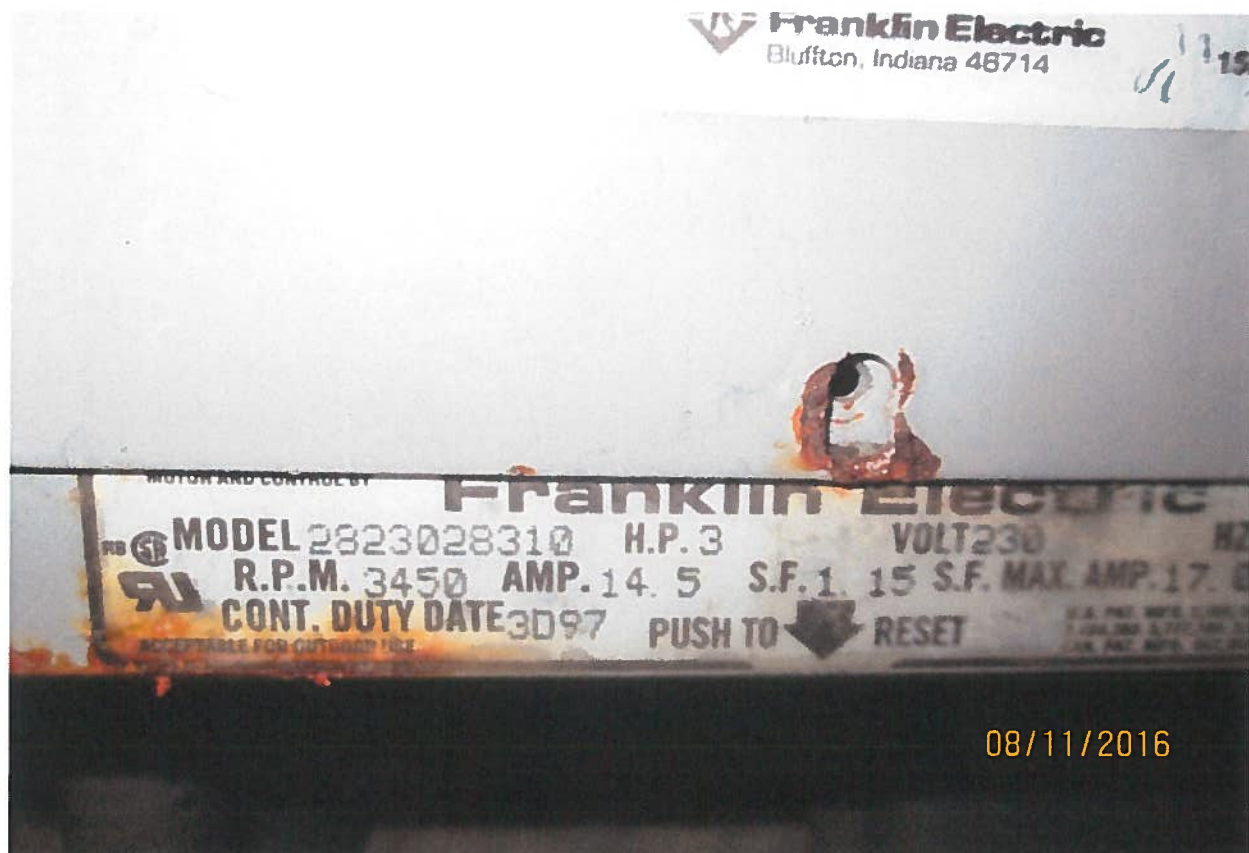
3HP PUMP IN WELL D0003247 RUNNING AT 50 PSI. IDWR WILL ASSUME PUMP IS SET AT 45 FEET. FLOW METER TEST SHOWED 57 GPM AND THEORETICAL PUMPING EQUATION SHOWS SIMILAR FLOW RATE AT 59.1 GPM. LICENSE WILL BE ISSUED AT 57 GPM OR 0.13 CFS.

PUMP EQUATIONS						
				No.	96-9510	
		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/ H	3	160.646 3	0.8	45	50
Q = 0.132 cfs 59.1 gpm						

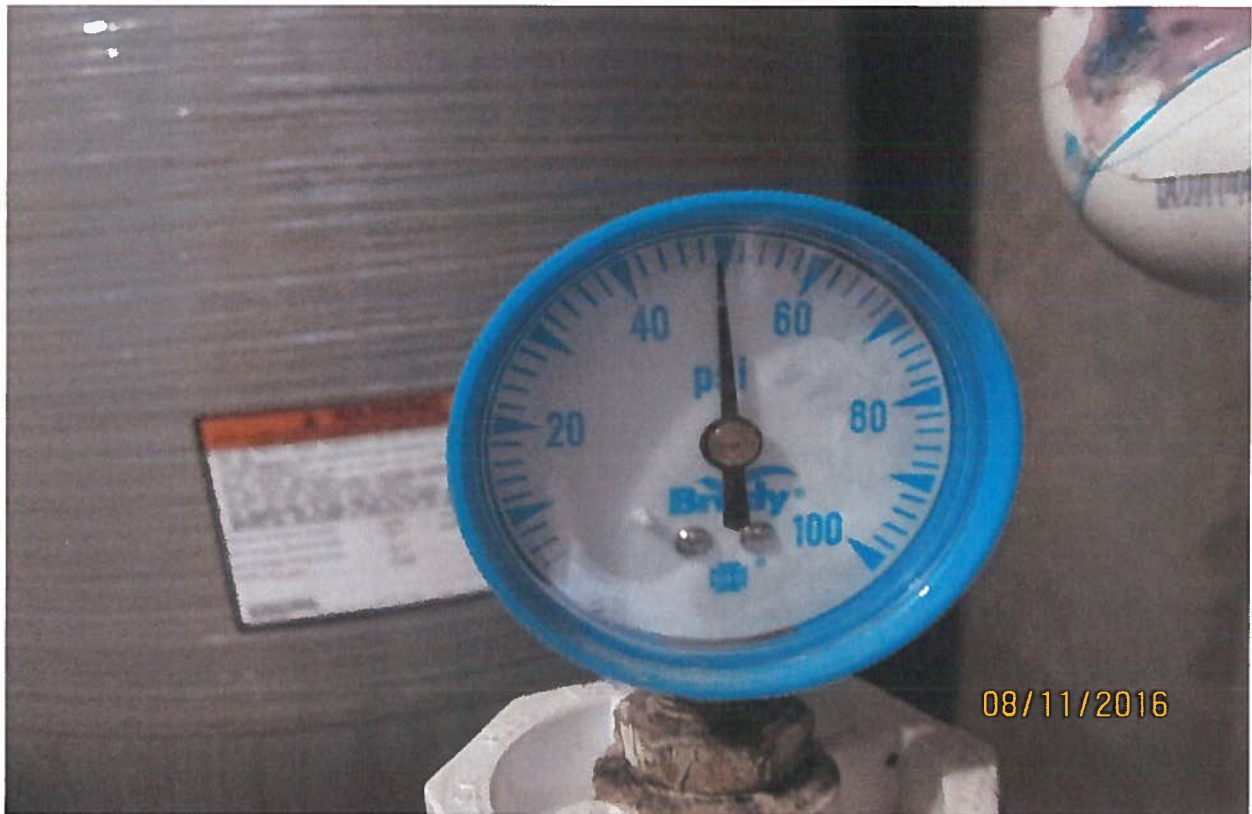




Well D0003247 given IDWR tag A0020096. 3hp pump running at 50 psi.



3hp Franklin pump in well.



System psi of 50.



Flow meter on system.



Pressure tanks.



Fire station and some light irrigation around to keep fire danger lower.



1,850 gallon tender, filled 2 times a week for 30 weeks for training purposes.



1,000 gallon fire truck, filled 2 times a week for 30 weeks for training purposes.



Bathroom in fire station.



Sink and hot water heater for fire station.