

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 13-7528

Exam Date: 9/28/2012

1. Current Owner: WHITNEY NASHVILLE WATER WORKS CO INC
1553 S 2400 E
PRESTON ID 83263
(208)852-2853
2. Accompanied by: Lyle Winward (President of WNWW Co.) and Gerald Green (Board Member)
Phone No: 852-0289 (Mike Stenberg)
Address: same as above (Mike Stenberg)

3. SOURCE TRIBUTARY
GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 13-2250 (ground water)
13-232 (spring)
2. Other water rights with the same point of diversion: 13-2250 diverted from Well #1 and Well #2

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

GROUND WATER	NE1/4SW1/4	Sec. 32, Twp 15S, Rge 40E, B.M.	FRANKLIN County (Well #3)
GROUND WATER	NW1/4NW1/4	Sec. 32, Twp 15S, Rge 40E, B.M.	FRANKLIN County (Well #2)
GROUND WATER	SW1/4SW1/4	Sec. 29, Twp 15S, Rge 40E, B.M.	FRANKLIN County (Well #1)
GROUND WATER	SE1/4SE1/4	Sec. 31, Twp 15S, Rge 40E, B.M.	FRANKLIN County (Well #4)

Method of Determination: GPS and aerial photography

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	
15S 39E 25															X	X	
15S 39E 35				X									X			X	
15S 39E 36	X	X		X					X	X			X	X	X	X	
15S 40E 29						X	X			X	X						
15S 40E 30	X			X							X	X	X		X	X	
15S 40E 31	X	X	X	X	X	X		X		X	X		X			X	
15S 40E 32						X	X			X	X						
16S 39E 1				X									X			X	
16S 39E 12	X	X			X												
16S 40E 5							X			X	X						
16S 40E 6				X			X			X	X		X			X	
16S 40E 7						X											
16S 40E 8					X	X	X		X	X			X				
16S 40E 17		X			X	X											
16S 40E 18	X																

Method of Determination: System map filed with permit application. License adds government lot designations, where applicable. Removed four QQs listed on the permit. Because of smaller (shortened) Sections, the four QQ's removed do not exist. Sections 1-6 of T16S R39E and T16S R40E only contain three rows of QQs. Removed the following QQs: NENE, Sec 1, T16S R39E; NWNW, Sec 5, T16S R40E; NENE, Sec 6, T16S R40E; and NWNW, Sec 6, T16S R40E.

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. Pump Information

- #1 ED007226 (DEQ Tag) Pomona Turbine Pump 5 hp, 6" mainline
- #2 E0007227 (DEQ Tag) Fairbanks Morse Turbine Pump 5 hp, 440V, 2360 rpm, 6" mainline
- #3 No Tag 10" casing in well; depth of well = 472 feet; static water level in 1995 = 164 feet
- #4 E0007220 (DEQ Tag)

D. FLOW MEASUREMENTS

1. Measurement Equipment:

Fuji Portaflow	Serial No. A0L5537T	Calibrated March 2012
AA Meter	IDWR Meter #833	

2. Measurements:

Well #3: Fuji Portaflow = 130 gpm
 In line flow meter reading (Master Meter 74) = 130 gpm
 Digital storage tank reading = 69 gpm (**does not account for water leaving storage tank)

Well #4: AA Meter = 0.25 cfs = 112 gpm

Total flow of Well #3 + Well #4 = 242 gpm (0.54 cfs)

E. FLOW CALCULATIONS

Well #3: Pipe wall thickness = 0.36 in; pipe diameter = 4.8 inches
 500 gallons / 3 min, 56.34 sec = 126.9 gpm
 Highest instantaneous reading on Fuji Meter = 130 gpm

Digital gage in storage reservoir: Gained 901.6 gallons in 13 min, 5 sec (equates to 69 gpm)
 But, water was being diverted from reservoir during the measurement period.

Well #4: Measured at the outflow end of the overflow pipe
 Pipe diameter = 1.25 feet; Depth of water = 0.49 feet
 10 revolutions in 40 seconds = 0.565 ft/sec
 Flow = 0.25 cfs = 112 gpm

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: N/A

2. Volume Calculations for Other Uses:

$$0.54 \text{ cfs} \times 365 \text{ days} \times 1.9835 = 390.9 \text{ acre-feet}$$

OR

$$135 \text{ homes} \times 0.6 \text{ afa/home (culinary in-house use)} = 81 \text{ acre-feet}$$

$$135 \text{ homes} \times 0.5 \text{ acre/home} \times 2.5 \text{ acre-feet/acre} = 169 \text{ acre-feet}$$

$$\text{Total annual volume} = 250 \text{ acre-feet (1.85 acre-feet / home)}$$

G. NARRATIVE/REMARKS/COMMENTS

Permit 13-7528 describes four ground water wells. Well #1, in Sec. 29, and Well #2, in the NWNW of Sec. 32, are listed on licensed right 13-2250. In 1970, when the licensing exam was completed for those two wells, the examiner determined that Well #1 and Well #2, in combination, had a diversion capacity of 1.00 cfs. For purposes of this license, I have assumed that those wells can still produce 1.00 cfs.

Well #3 is located in the NESW of Sec. 32, is the primary ground water well for the Nashville Whitney system. It is located on the hillside above the service area. Water is pumped to a 250,000 gallon storage tank sitting right next to the pump house. Flow meter installed on the main line shows the cumulative diversion of the system. Flow meter indicated a diversion rate of 130 gallons per minute.

Pump house also included a digital readout of the volume stored in the 250,000 tank. Tank volume increased by 902 gallons in 13 min, 5 sec. This equates to about 69 gpm. However, this measurement does not account for any water flowing out of the tank during that time period.

Finally, a direct measurement of the diversion rate was taken using an acoustic meter (Fuji Portaflow, Ser. No. AOL5537T, calibrated 5/2012). The average diversion rate was 126.9 gpm. However, the highest instantaneous diversion rate observed was 130 gpm. Diversion rate of Well #3 is 130 gpm (0.29 cfs).

Well #4 is located in the SESE of Sec. 31. The well is an older well, but no well drillers report is available in the department records. Water is injected directly into the mainline coming down from the storage tank on the hill. Water is pumped into a pressurized line. A measurement of the well was obtained by sending the full amount diverted through the overflow pipe into a nearby ditch. Measurement performed using a AA meter. Flow was measured at 0.25 cfs (112 gpm).

The total flow from Wells #3 and #4 is 242 gpm (0.54 cfs). License will be issued for 0.54 cfs. Representatives from Whitney Nashville Water Co. confirmed that at least 135 homes are supplied water through the system.

Wells #1, #2 and #4 are primarily used in the summer when demand is high. These three wells do not pump into storage tanks, but supply water directly into the distribution lines. Wells #1 and #4 have timers installed that allow them to be turned on for set periods of time. Well #2 is manually adjusted according to demand.

Wells #1 and #2 are tied to the mainline coming from the spring. These two wells and the spring are generally operated as a separate system. Wells #3 and #4 are tied together and are generally operated as a separate system. However, the systems are tied together and, if needed, water from any point of diversion can be supplied throughout the entire service area.

Have conditions of permit approval been met? ☒ 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	0.54 CFS	250.00 AF
	<u>Totals:</u>	0.54 CFS	250.00 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 ☐ Other

I. AUTHENTICATION

Field Examiner's Name James Cefalo Date Nov 6, 2012

Reviewer _____ Date _____

13-7528 (Whitney Nashville Water Works Co.)



0 1,250 2,500
Feet

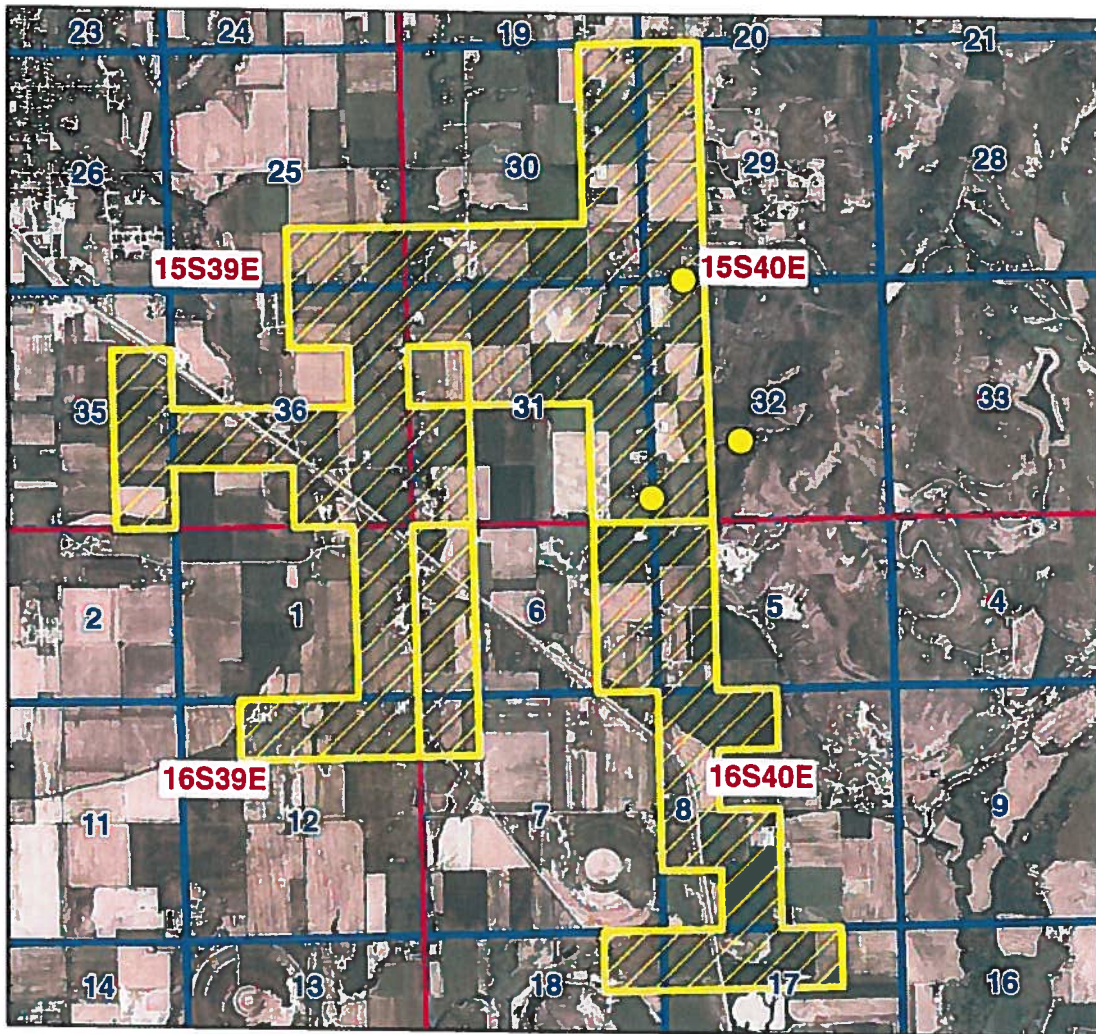
Legend

-  Water Right POD
-  Township/Range
-  Sections
-  QQ



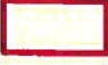
2009 Aerial Photography

13-7528 (Whitney Nashville Water Works Co.)



0 1 2
Miles

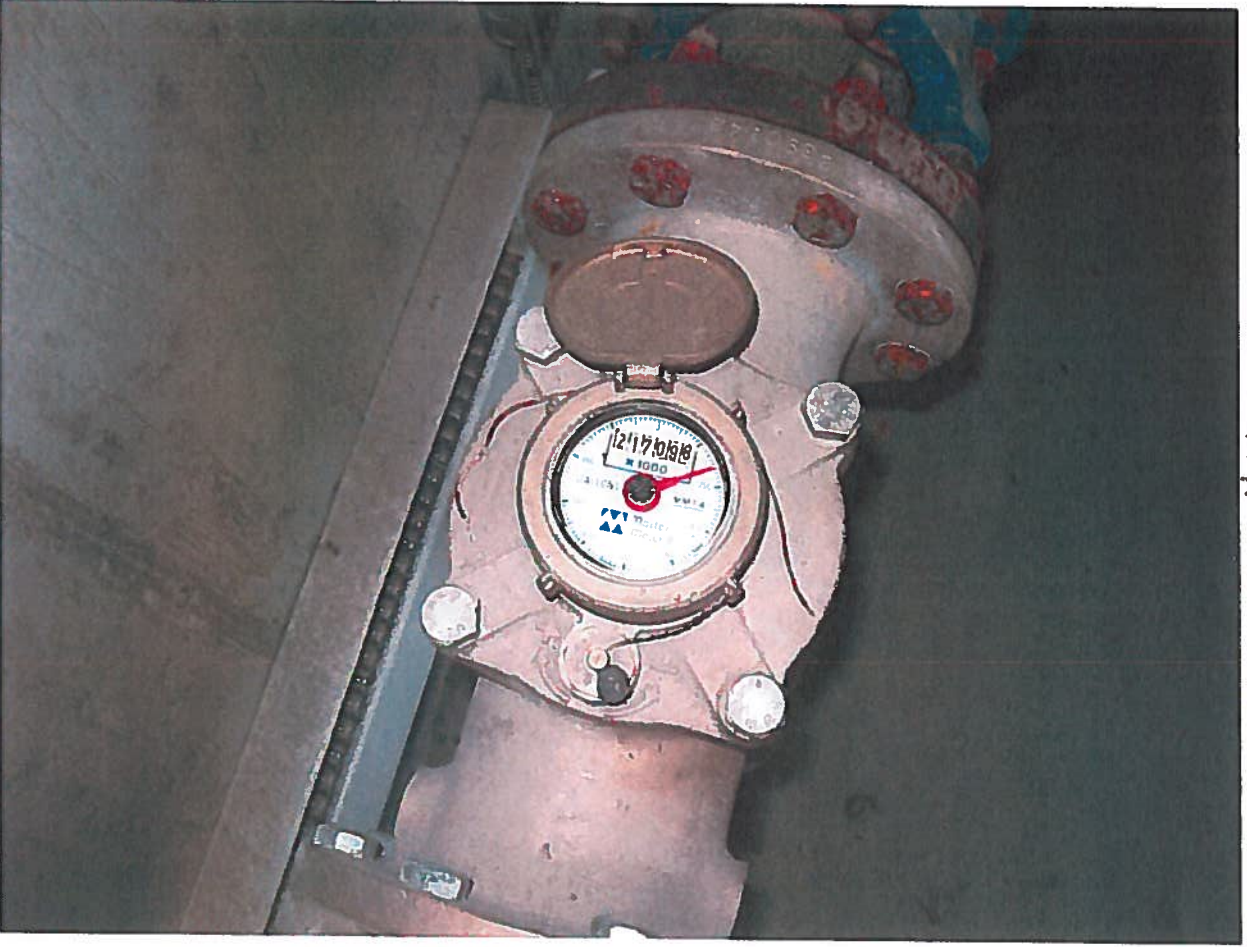
Legend

-  Water Right POD
-  Water Right POU
-  Township/Range
-  Sections

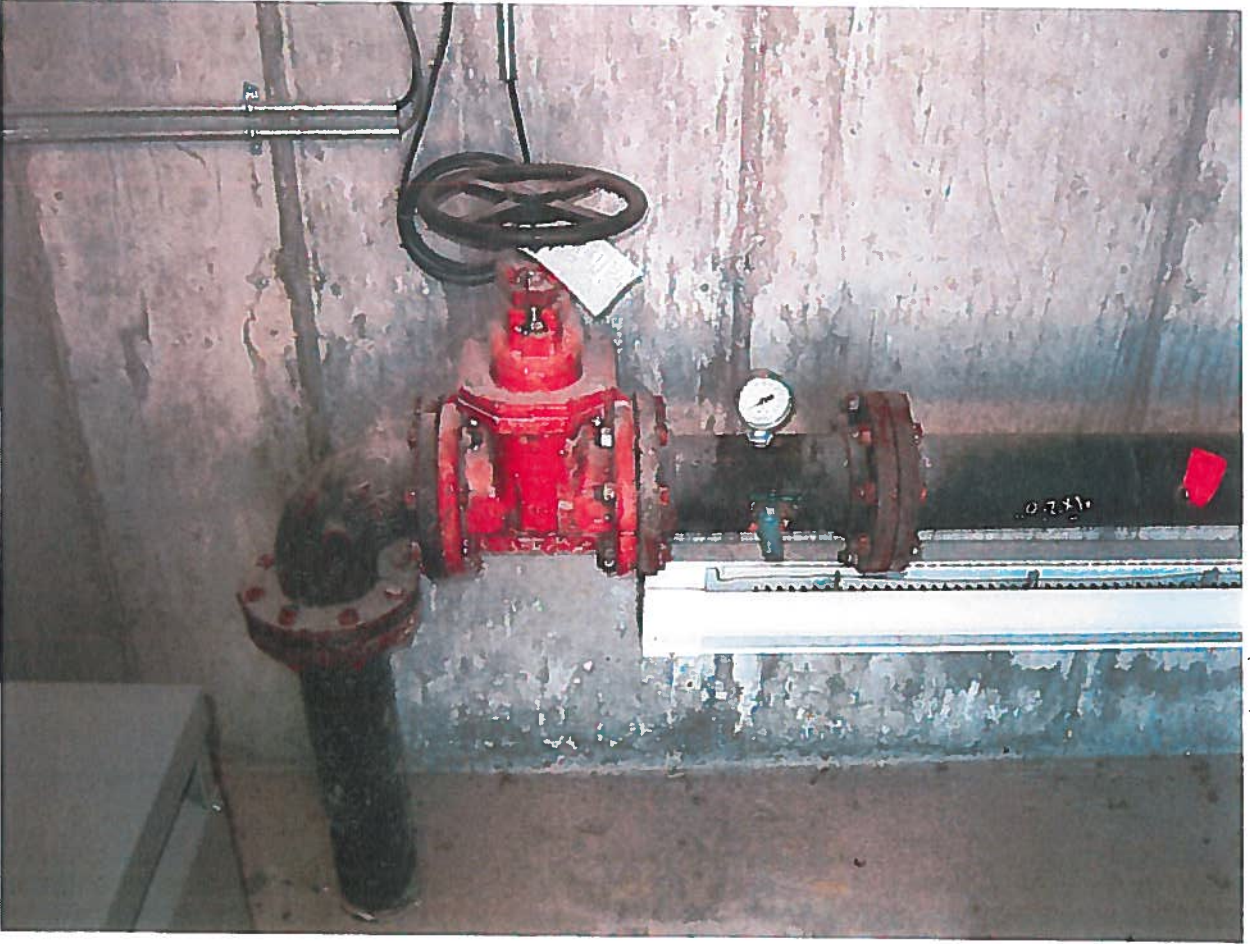


2009 Aerial Photography

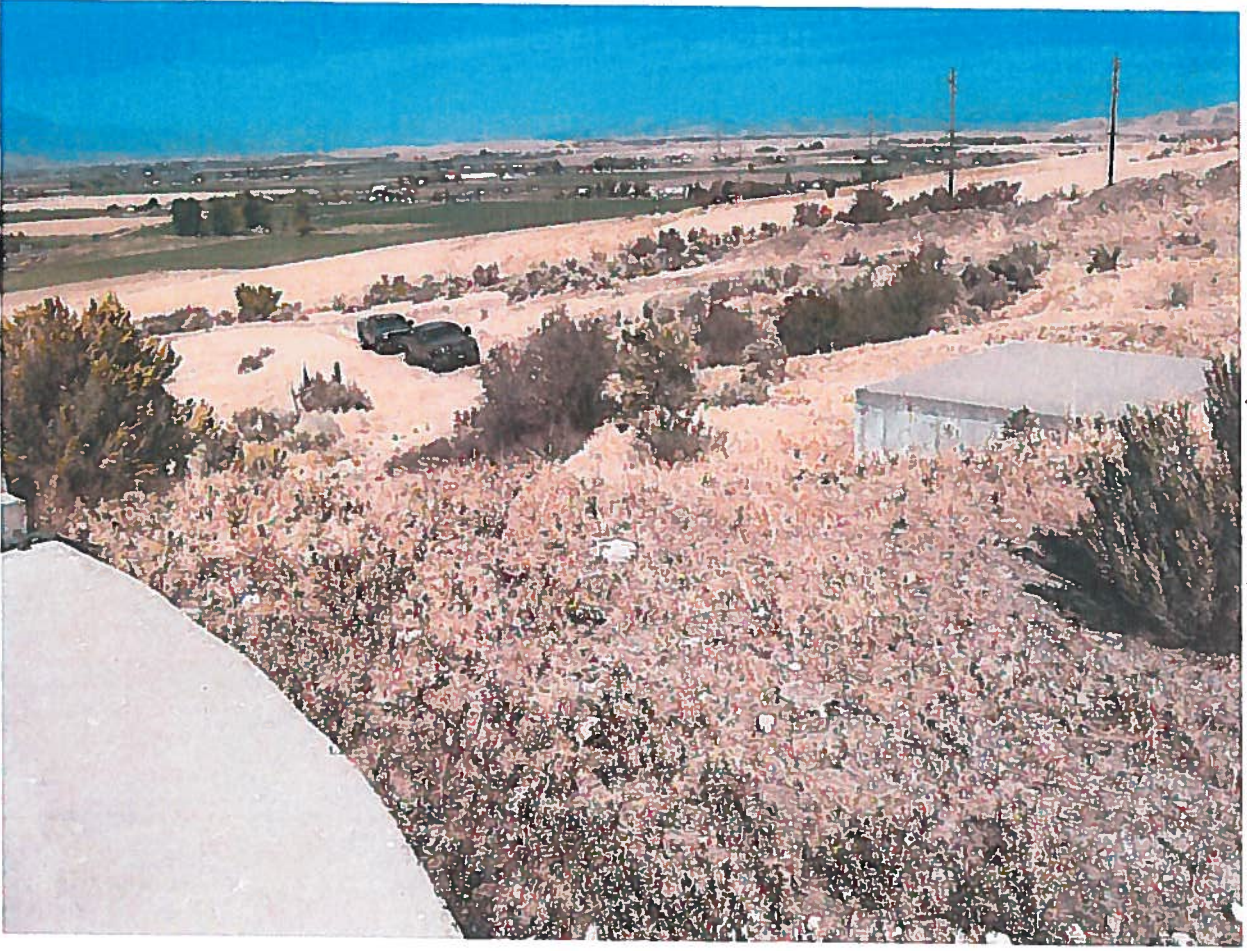




Flowmeter on Well #3



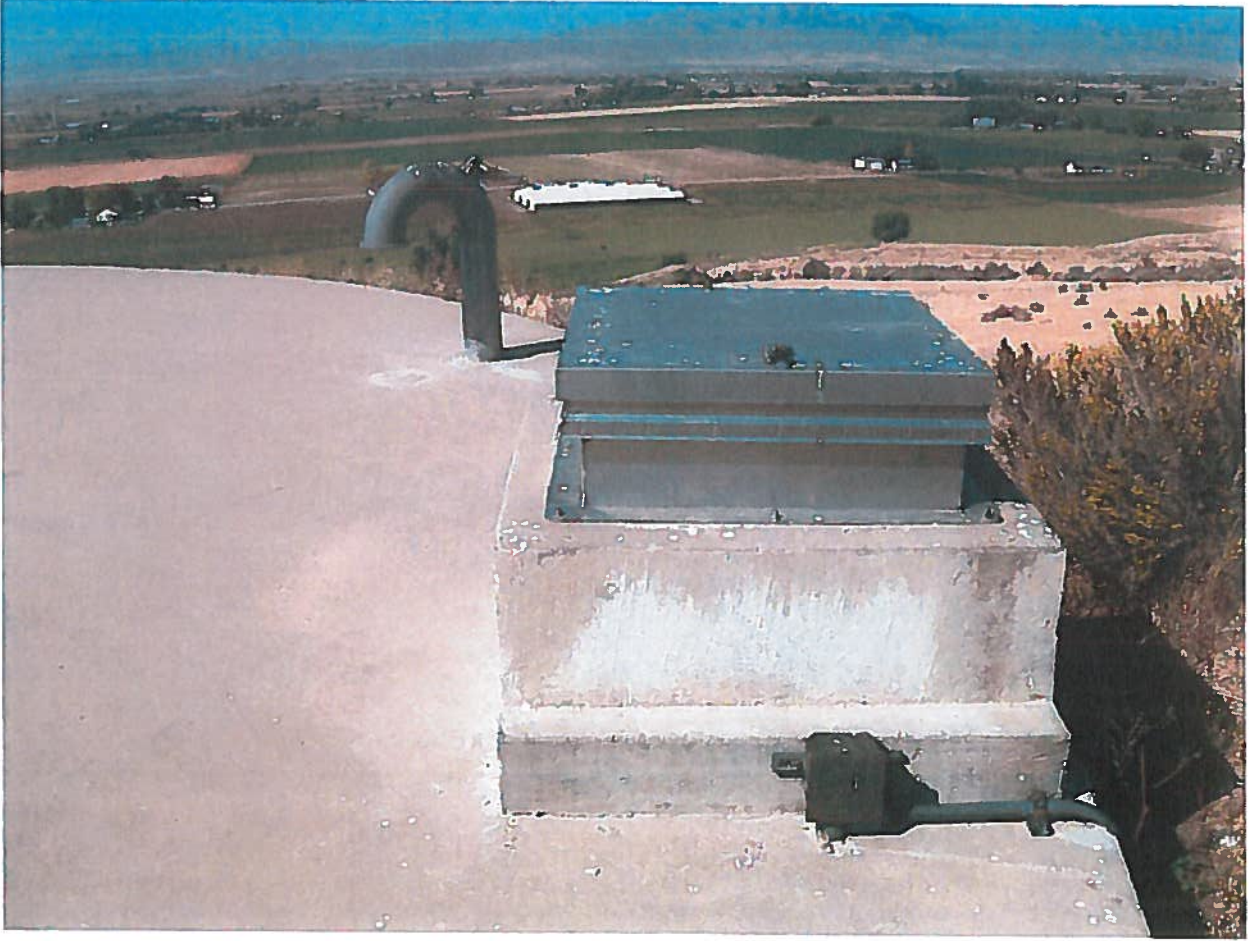
Well #3



Storage tank above well #3



Storage tank above well #3



Storage tank above Well #3