

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-9137

Exam Date: 7/18/2007

1. Current Owner: CITY OF POST FALLS
408 N SPOKANE ST
POST FALLS ID 83854
(208)777-9857
2. Accompanied by: Matt Isch
Phone No: (208) 777, 9857 / (208) 649.6066
Address: 408 N Spokane ST, Post Falls, ID 83854
Relationship to Permit Holder: City Water Division

3. SOURCETRIBUTARY

GROUND WATER

B. OVERLAP REVIEW95-8768, 95-8048, 95-8862

1. Other water rights with the same place of use: 95-4457, 95-4458, 95-4460, 95-7436,
2. Other water rights with the same point of diversion: 95-8768, 95-9147

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

GROUND WATER	NW1/4SW1/4, Sec. 1, Twp 50N, Rge 05W, B.M., KOOTENAI County
GROUND WATER	L1 NE1/4NE1/4, Sec. 2, Twp 50N, Rge 05W, B.M., KOOTENAI County
GROUND WATER	L1 NW1/4NW1/4, Sec. 8, Twp 50N, Rge 05W, B.M., KOOTENAI County
GROUND WATER	L1 NW1/4NW1/4, Sec. 8, Twp 50N, Rge 05W, B.M., KOOTENAI County
GROUND WATER	L1 NW1/4NW1/4, Sec. 8, Twp 50N, Rge 05W, B.M., KOOTENAI County
GROUND WATER	NE1/4SE1/4, Sec. 1, Twp 50N, Rge 06W, B.M., KOOTENAI County
GROUND WATER	SW1/4SE1/4, Sec. 27, Twp 51N, Rge 05W, B.M., KOOTENAI County
GROUND WATER	SW1/4SE1/4, Sec. 27, Twp 51N, Rge 05W, B.M., KOOTENAI County
GROUND WATER	NE1/4NE1/4, Sec. 34, Twp 51N, Rge 05W, B.M., KOOTENAI County
GROUND WATER	NW1/4NE1/4, Sec. 34, Twp 51N, Rge 05W, B.M., KOOTENAI County
GROUND WATER	NW1/4NE1/4, Sec. 34, Twp 51N, Rge 05W, B.M., KOOTENAI County
GROUND WATER	NW1/4NW1/4, Sec. 34, Twp 51N, Rge 05W, B.M., KOOTENAI County

Method of Determination: Garmin GPS, USGS 7.5' Quadrangles 'Liberty Lake'
Post Falls, 'Coeur d'Alene'

2. PLACE OF USE: MUNICIPAL (Within City of Post Falls Service Area)

Method of Determination:

3. ☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable. (with map)
- ☒ 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

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4.

Well or Diversion

ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Well 1	U.S. Electric Motors	500	Type R45		
Well 2					
Well 3					
Well 4	Vertiline Aurora	200	974-03969	G.E.	JK1904105
Well 5	U.S.E.M.	200	Type RU	Peerless	SN: F2 27 Z6
Well 6	"	500	Type HUE		G92498/Y05M58032BE1 BRR
Well 7	"	500	FR 449TPH	Peerless	Model 14 MD SN: 63632/A
Well 8	"	500	645727	sterling Peerless	Model 14 M.D.
Well 9		125		Peerless	Model 14 MD-S SN: 7414417
+ Majestic 1		25		Gould	Model 200L Submersible
+ Majestic 2		25		Gould	Model 200L Submersible
+ Majestic 3		125			

*Code to correspond with No. on map and aerial photo

+ (See Water Right 95-8678 Field Exam)

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Well Flowmeters	-	Varies	-	-	-	-
Watch	Wrist	Remington	-	-	-	-

2. Measurements: (See below with Flow Calculations)

E. FLOW CALCULATIONS

____ Additional Computation Sheets Attached

Measured Method:

PUMP	EQUATION	W.R.	95-9137	City of Post Falls	Well 1	DEQ Tag EO005211
		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	125	425.0884	0.8	250	75.7
Q =	2.073 cfs		930.6 gpm			

Flowmeter (100 gal) 369145.00

- 369090.00

$$55 \times 100 = 5500 \div 8 \text{ MIN} = 687.5 \text{ GPM} = 1.5306 \text{ CFS}$$

PUMP	EQUATION	W.R.	95-9137	City of Post Falls	Well 2	DEQ Tag EO005210
		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	75	370.0884354	0.8	195	75.7
Q =	1.429 cfs		641.4 gpm			

Flowmeter (100 gal) 594341

- 594320

$$21 \times 100 = 21,000 \div 5 \text{ MIN} = 420 \text{ GPM} = 0.935 \text{ CFS}$$

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PUMP	EQUATION	W.R.	95-9137	City of Post Falls	Well 3	DEQ Tag EO005213
		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	200	435.0884354	0.8	260	71.3
Q =	3.319 cfs		1489.6 gpm			

Flowmeter (1000 gal) $\begin{array}{r} 435797 \\ - 435790 \\ \hline 7 \end{array}$ * LOG RECORDS say 6PM 1232-1350 GPM CFS
 $7 \times 1000 = 7000 \text{ GAL} \div 5 \text{ MIN} = 1400 \text{ GPM} = 2.835$

PUMP	EQUATION	W.R.	95-9137	City of Post Falls	Well 4	DEQ Tag EO005214
		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	200	395.6938776	0.8	225	73.8
Q =	3.564 cfs		1599.6 gpm			

Flowmeter (1000 gal) $\begin{array}{r} 292790.5 \\ 292783.0 \\ \hline 7.5 \end{array}$
 $7.5 \times 1000 = 7500 \text{ GAL} \div 5 \text{ MIN} = 1500 \text{ GPM} = 3.342 \text{ CFS}$

PUMP	EQUATION	W.R.	95-9137	City of Post Falls	Well 5	DEQ Tag EO005212
		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	200	435.7210884	0.8	287	64.3
Q =	3.237 cfs		1452.7 gpm			

Flowmeter (1000 gal) $\begin{array}{r} 333908 \\ 333900 \\ \hline 8 \end{array}$
 $8 \times 1000 = 8000 \div 5 \text{ MIN} = 1600 \text{ GPM} = 3.564 \text{ CFS}$

PUMP	EQUATION	W.R.	95-9137	City of Post Falls	Well 6	DEQ Tag EO005215
		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	500	423.4693878	0.8	250	75
Q =	8.326 cfs		3736.7 gpm			

Flowmeter (Micrometer Model A630-10) SN 96-00339 Meter #96-2746-12 (Full Scale 1-4000 GPM) Well running at 1950 GPM indicated)
 $\begin{array}{r} 409291 \\ 409281 \\ \hline 10 \end{array}$ Flowmeter 4.456 CFS
 $10 \times 1000 = 10,000 \text{ GAL} \div 5 \text{ MIN} = 2000 \text{ GPM}$

PUMP	EQUATION	W.R.	95-9137	City of Post Falls	Well 7	Tag D0033494
		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	500	473.4693878	0.8	300	75
Q =	7.446 cfs		3342.1 gpm			

Flowmeter (1000 gal) $\begin{array}{r} 794921 \\ 794910 \\ \hline 11 \end{array}$
 $11 \times 1000 = 11,000 \text{ GAL} \div 5 \text{ MIN} = 2200 \text{ GPM} = 4.901 \text{ CFS}$

PUMP	EQUATION	W.R.	95-9137	City of Post Falls	Well 8	
		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	500	440.4693878	0.7	267	75
Q =	7.004 cfs		3143.5 gpm			

Flowmeter (1000 gal) $\begin{array}{r} 406,000 \\ - 395,000 \\ \hline 11,000 \end{array}$ 801,560 801,550
 $11,000 \text{ GAL} \div 5 \text{ MIN} = 2200 \text{ GPM} = 4.901 \text{ CFS}$

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PUMP	EQUATION	W.R.	95-9137	City of Post Falls	Well 9	IDWR D0056901
		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	125	249.0136054	0.95	175	32
Q =	4.203	cfs	1886.5	gpm		

PUMP	EQUATION	W.R.	95-9137	Majestic Well 2	Post Falls 95-8768	
		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	25	276.39	0.6	160	44
Q =	0.505	cfs	226.7	gpm		

PUMP		EQUATION	W.R.	95-9137	Majestic Fire Well	(Well #3)	Post Falls 95-8768
			HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	125	271.39	0.8	165	44	
Q =	3.304	cfs	1482.9	gpm			

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: *Not Applicable W.R. Permit Application is for Municipal*

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

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

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$$

2. Volume Calculations for Other Uses: *Municipal*

*No Permit Condition limiting number of homes
Proof of Beneficial Use states 6,000 households.*

$$(6000) \times (1.2) = 7200 \text{ AFA}$$

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G. NARRATIVE/REMARKS/COMMENTS

The Permit has been amended. All City of Post Falls and Majestic View Estates wells that are connected to the common city water system have been added as Points of Diversion (POD). The service area map has also been updated.

The original application for Water Right 95-9137 (City of Post Falls) was filed to add diversion capacity; located at Well 3; to the municipal water system. Well 3 originally had a 60 HP pump (W.R. 95-4457) that was upgraded to 200 HP for 95-9137. 95-9137 has been amended to add all three Majestic Estates Points Of Diversion (POD) and eight PODs located at other City of Post Falls well sites. All wells are located within the City of Post Falls service area.

City of Post Falls Water Right 95-8572 includes a well located in the River Bend Commerce Park that has not been added to the points of diversion for 95-9137. This well is within the 95-9137 POU.

Licensing 95-9137 adds 3.00 CFS, as stated on the Proof of Beneficial Use, to the City of Post Falls diversion capacity to reflect the upgrade of the pump on Well 3 from 60 to 200 horsepower. Well 3 has a measured 2008 flowmeter capacity of 2.835 CFS (1272.72 GPM) and a theoretical capacity of 3.319 CFS (1489.6 GPM). Log records indicate 1232-1350 GPM.

Review of flowmeter readings and theoretical calculations for the 95-9137 Field Exam and City of Post Falls water rights 95-4457, 95-4458, 95-4460, 95-7436, 95-8048, 95-8768, 95-8862, and 95-9147 indicate that the total theoretical capacity of City wells 1-9 and the three Majestic wells on the common City water system is 44.915 CFS. 2008 Flowmeter readings indicate these wells produce 35.35 CFS. Licensed capacity from these wells is 17.86 CFS (prior to licensing 95-8768, 95-9137, and 95-9147). Water rights 95-8768, 95-9137, and 95-9147, when licensed, will add another 12.54 CFS diversion capacity. The total diversion capacity, after 95-8768, 95-9137, and 95-9147 are licensed, will total 30.40 CFS. 30.40 CFS is well below the flowmeter and theoretical capacity of Wells 1-9 and the three Majestic wells. The additional diversion capacity sought for 95-9137 can be easily supplied by a combination of wells.

Have conditions of permit approval been met? ☒ Yes ☐ No

(See Attached Calculation Sheet)

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
MUNICIPAL	01/01 to 12/31	3.000 CFS	
<u>Totals:</u>		3.000 CFS	

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 ☐ Other

I. AUTHENTICATION

Field Examiner's Name

William M. Mayes

Date *1/16/09*

Reviewer

Bob Mayes

Date *1/26/09*

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PF Well 1 & Irrigation Pump.JPG



PF Well 1 Telemetry.JPG



PF Well 3 Exterior.JPG



PF Well 4 Exterior.JPG



PF Well 5 & 7 Gate.JPG



PF Well 5 Data Plate .JPG



PF Well 5 Interior.JPG



PF Well 6 74 PSI.JPG



PF Well 7 Inside.JPG



PF Well 7 Telemetry.JPG



PF Well 8 Inside.JPG



PF Well 8 Pump and Motor.JPG



PF Well 8 Telemetry 1956 GPM.JPG



PF Well 9 Pump Data.JPG



PF Wells 5 & 7 Reservoir.JPG

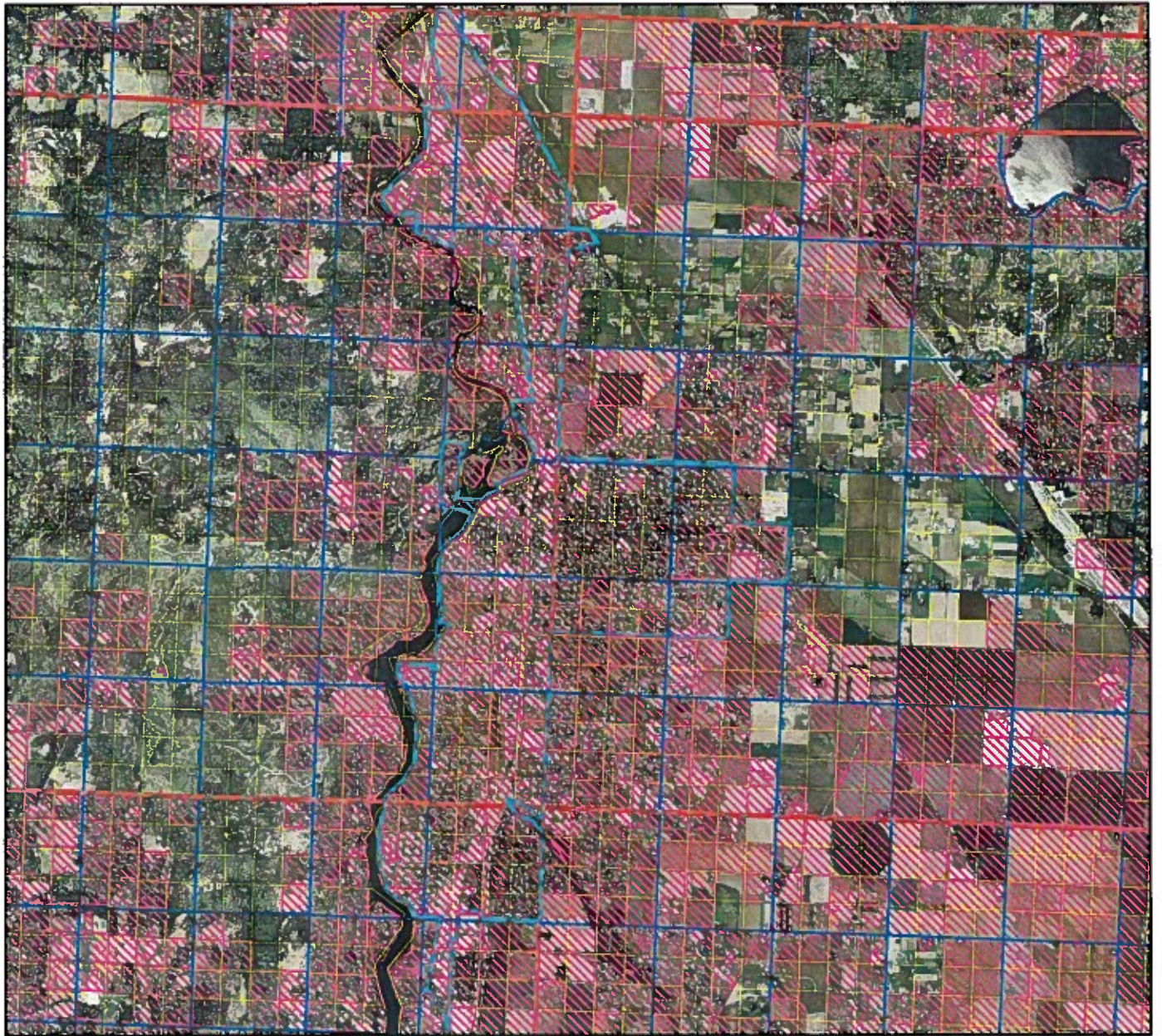


Well 9 & Reservoir.JPG

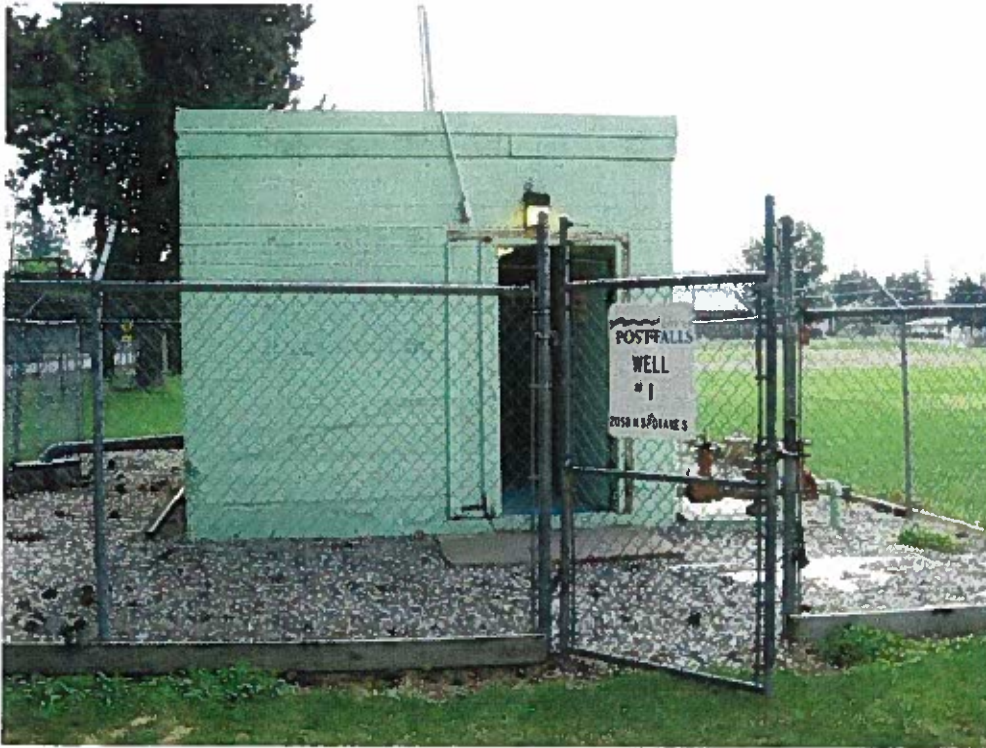


3rd AVE Lift Station and Reservoir.JPG

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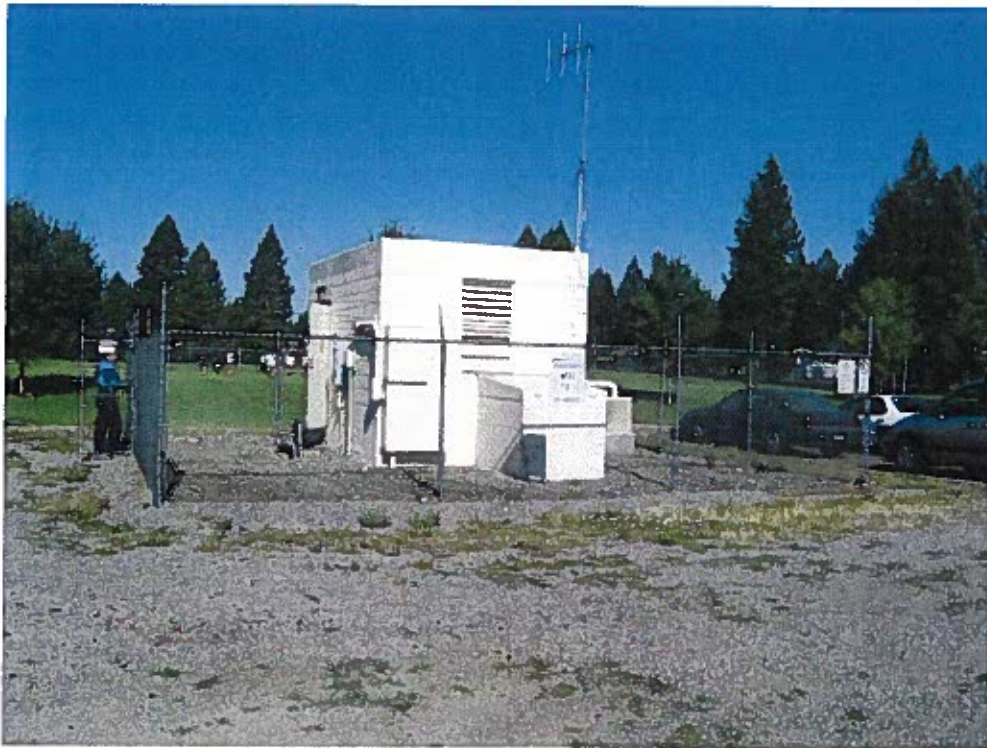


Well 1 and Irrigation Pump

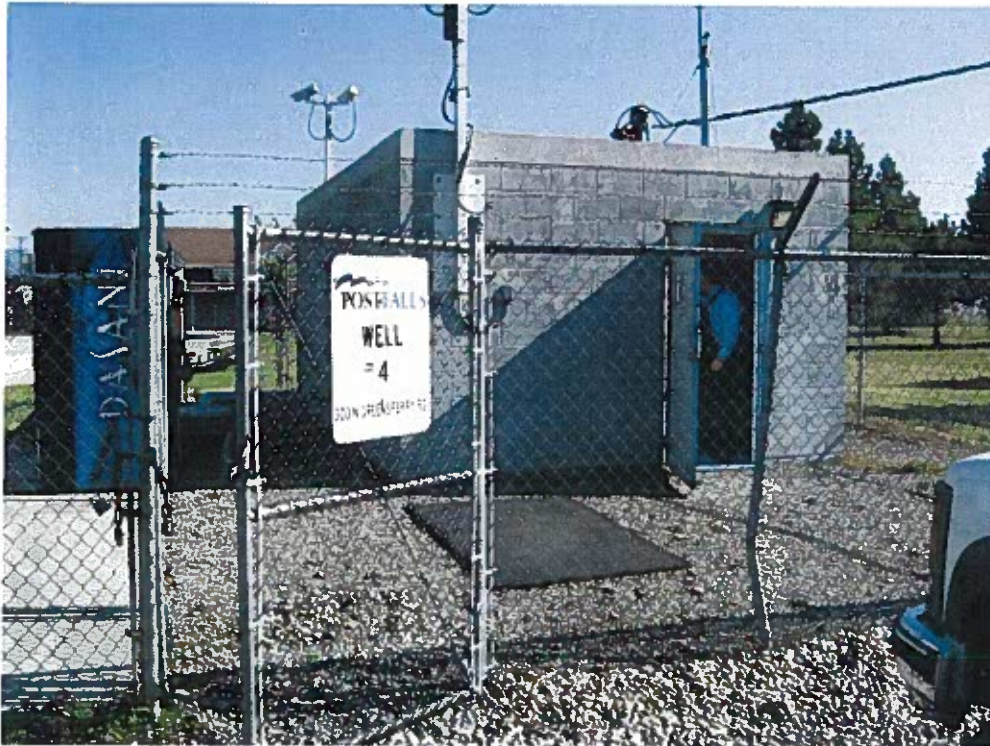


Well 1 Telemetry

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Well 3 Exterior

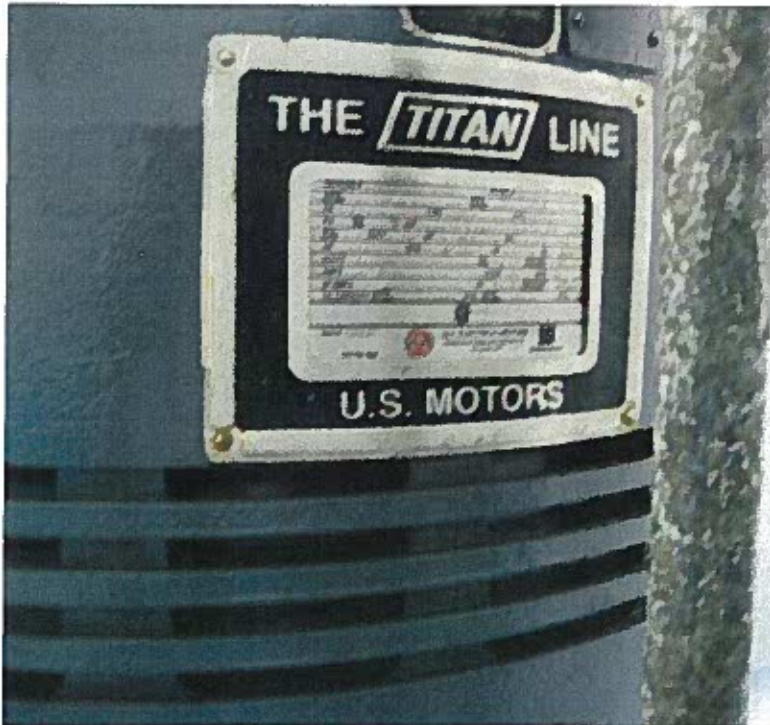


Well 4 Exterior

95-9137



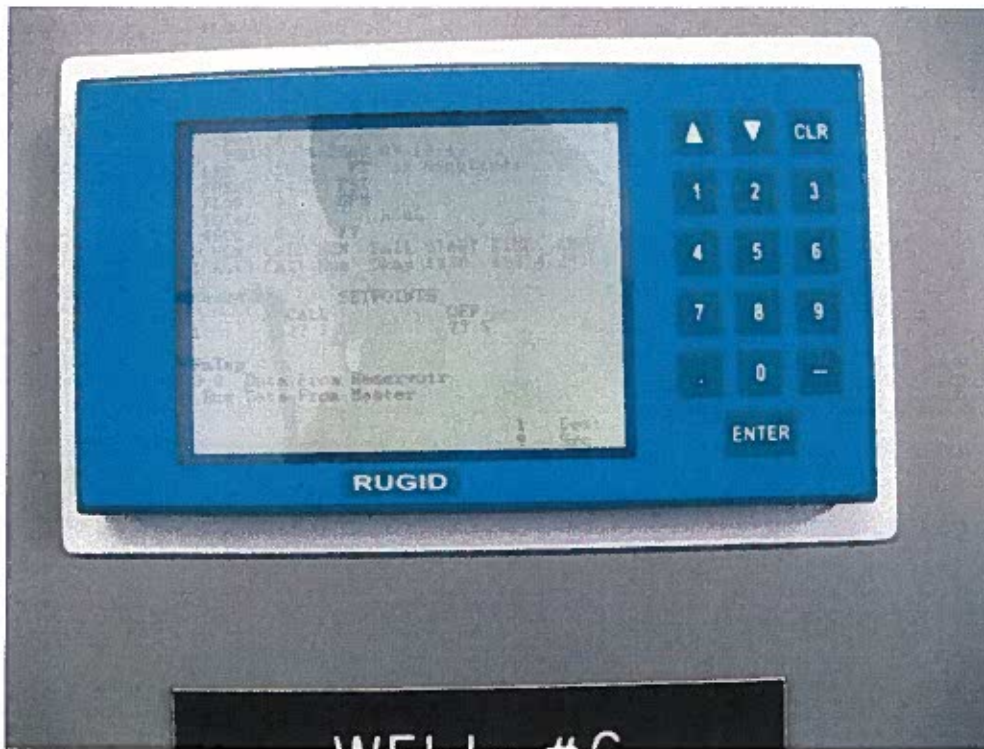
Well 5 And Well 7



Well 5 Data Plate

Well 5 Interior

95-9137

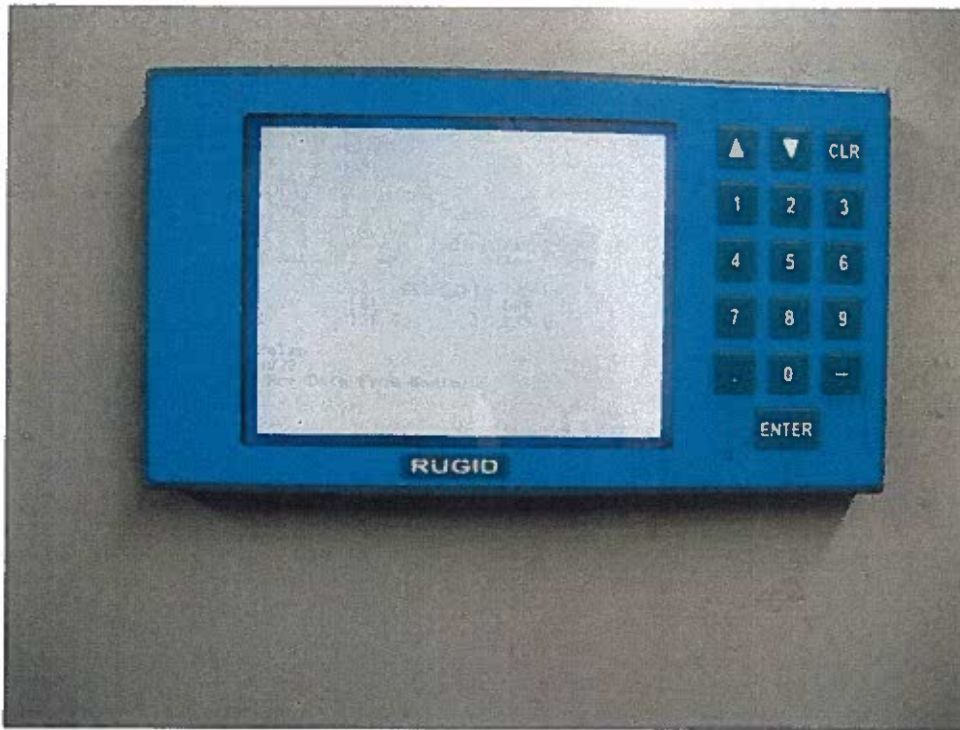


Well 6 74 PSI



Well 7 Inside

95-9137



PF Well 7 Telemetry

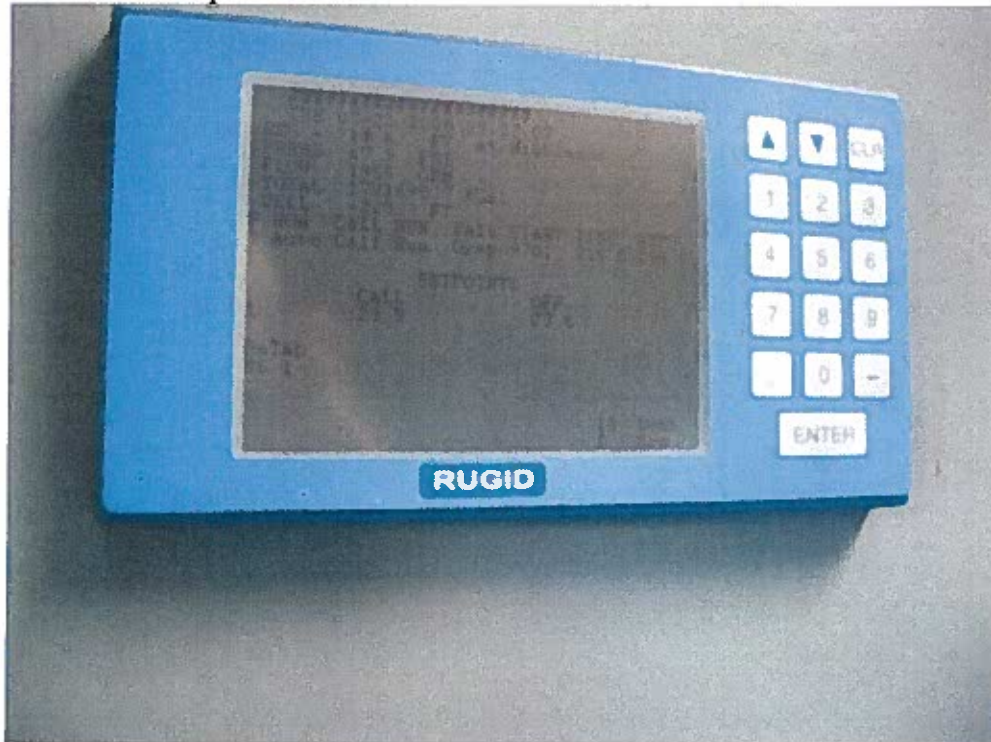


PF Well 8 Inside

95-9137



PF Well 8 Pump & Motor



Well 8 Telemetry 1956 GPM

95-9137



Well 9 Pump Data



PF Wells 5 & 7 Reservoir

95-9137



Well 9 and Reservoir



3rd AVE Lift Station and Reservoir

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