

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-9661
Exam Date: 09/14/2018

1. Current Owner:
BARBARA STOUT 500 RAVENWOOD LN SANDPOINT ID 83864 AND/OR
ROBERT STOUT 500 RAVENWOOD LN SANDPOINT ID 83864
2. Accompanied by: Barbara Stout

3. **SOURCE:**
GROUND WATER

Method of Determination: Arcmap and DRG

B. OVERLAP REVIEW

1. Other water rights with the same place of use: None

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

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

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
GROUND WATER NW¼ SW¼, Sec. 20, Twp 57N, Rge 02W, B.M. BONNER County

Method of Determination: Maps and GPS. POD (D0051839) located at -116° 36.573, 48° 16.341 given IDWR tag A0020191

PLACE OF USE: IRRIGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
57N	02W	20										0.7							0.7

Total Acres: 0.7

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	
57N	02W	20										X							

Method of Determination: Google Earth and Arcmap.

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 Serial No.	Pump Make	Pump Serial No. or Discharge Size
D0051839	FRANKLIN	2			

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
N/A						

2. Measurements: N/A

E. FLOW CALCULATIONS☒ Additional Computation Sheets Attached

Measured Method: Unable to perform flow measurement because piping was buried and went directly to pressure tanks. Theoretical pumping equation estimates a flow rate of 11.0 gpm or 0.02 cfs. Franklin pump curve for 2hp pump shows a pump rate of 10.1 gpm or 0.02 cfs. See attached pump curve and theoretical pumping equation.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.7 \text{ AC} \times 3.0 \text{ AF} = 2.1 \text{ AF}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.02 \text{ CFS} \times 214 \times 1.9835 = 8.5 \text{ AF}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 2.1 \text{ AF}$$

2. Volume Calculations for Other Uses: Domestic use for 1 home is equal to 0.6 acre-feet

G. NARRATIVE/REMARKS/COMMENTS

Field exam with applicant, Barbara Stout, showed a well being used for domestic and irrigation purposes. The original well D0017974 had been deepened under tag D0051839. There were no visible tags welded on during exam, but they could have been lower under the grass level. I was unable to perform flow measurement because piping was buried and went directly into pressure tanks in garage. Theoretical pumping equation and 2hp Franklin pump curve have similar diversion rates of 11 gpm and 10.1 gpm or 0.02 cfs. The diversion rate for this right will be issued at 0.02 cfs.

The applicant had a nice home with green grass and landscaping. The applicant had below ground irrigation system in place along with frost free hydrants for manual irrigation. The applicant would irrigate around shop and roundabout as long as well was producing good. When production rates would slow later in the summer, they would cease irrigating certain areas and focus around the home. The actual irrigation was traced out to be 0.7 acres and will be given an annual volume of 2.1 acre-feet. The domestic use for the home will be given an annual volume of 0.6 acre-feet. Each use will be limited to a diversion rate of 0.02 cfs with an overall diversion rate of 0.02 cfs. The annual volume for both will be limited to 2.7 acre-feet.

Condition 046 will be removed from license as it is no longer needed. Condition X60 will be amended to add place of use in addition to point of diversion describing the use in a subdivision. All other conditions will remain. There are no overlap concerns.

Have conditions of permit approval been met? ☒ 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>
IRRIGATION	04/01 to 10/31	0.02 CFS	2.1 AF
DOMESTIC	01/01 to 12/31	0.02 CFS	0.6 AF

Totals: 0.02 CFS 2.7 AF

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 ☒ None

I. AUTHENTICATION

Adam Frederick - Water Resource Agent, Senior

Field Examiner's Name Adam Frederick Date 4/12/2017

Reviewer Douglas Jones P.E. Date 6/27/19

State of Idaho
Department of Water Resources
Attachment to Field Exam
96-9661

DOMESTIC / SYSTEM DIAGRAM

02W



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

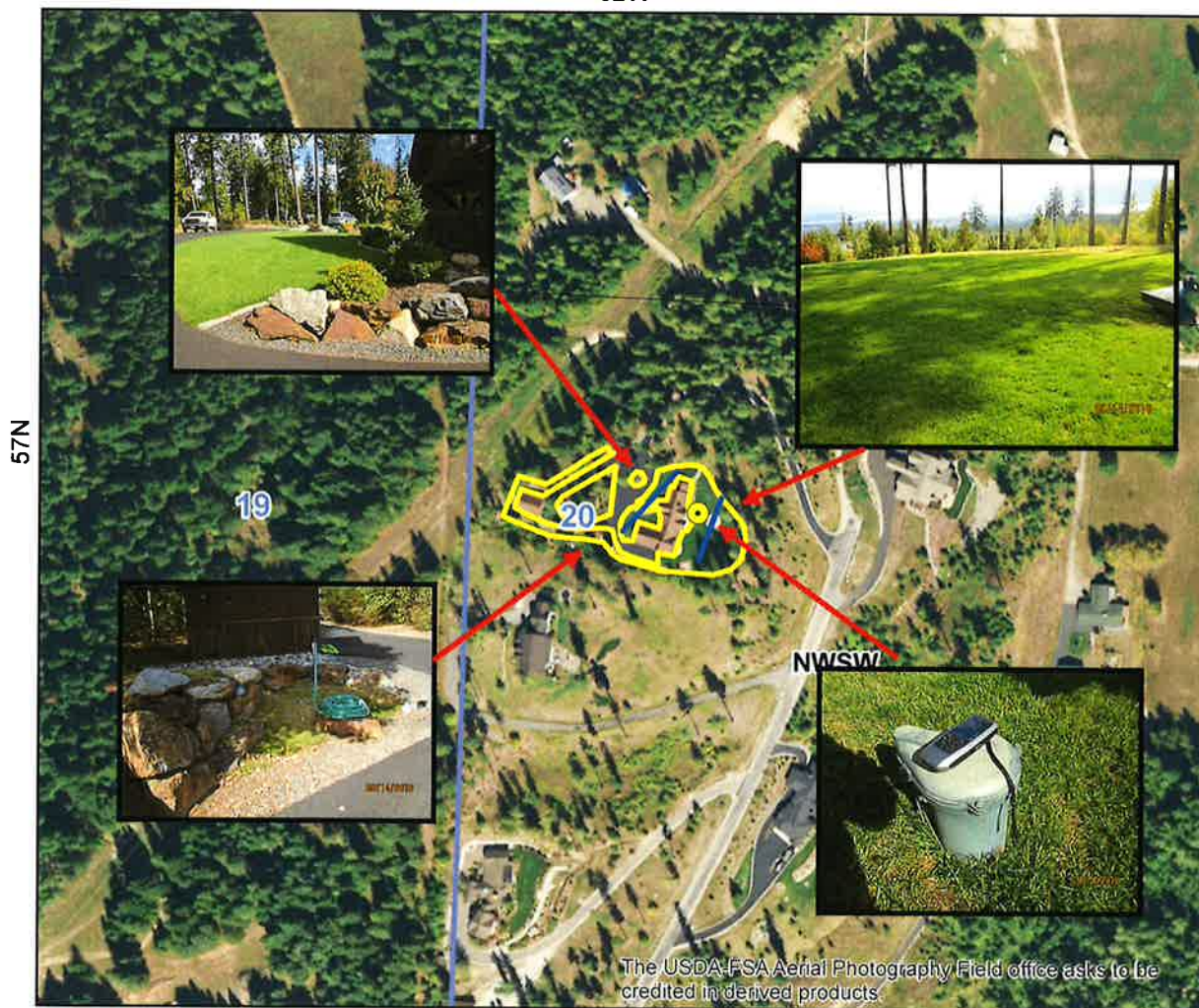
0 0.035 0.07 0.14 Miles



State of Idaho
Department of Water Resources
Attachment to Field Exam
96-9661

IRRIGATION / SYSTEM DIAGRAM

02W



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

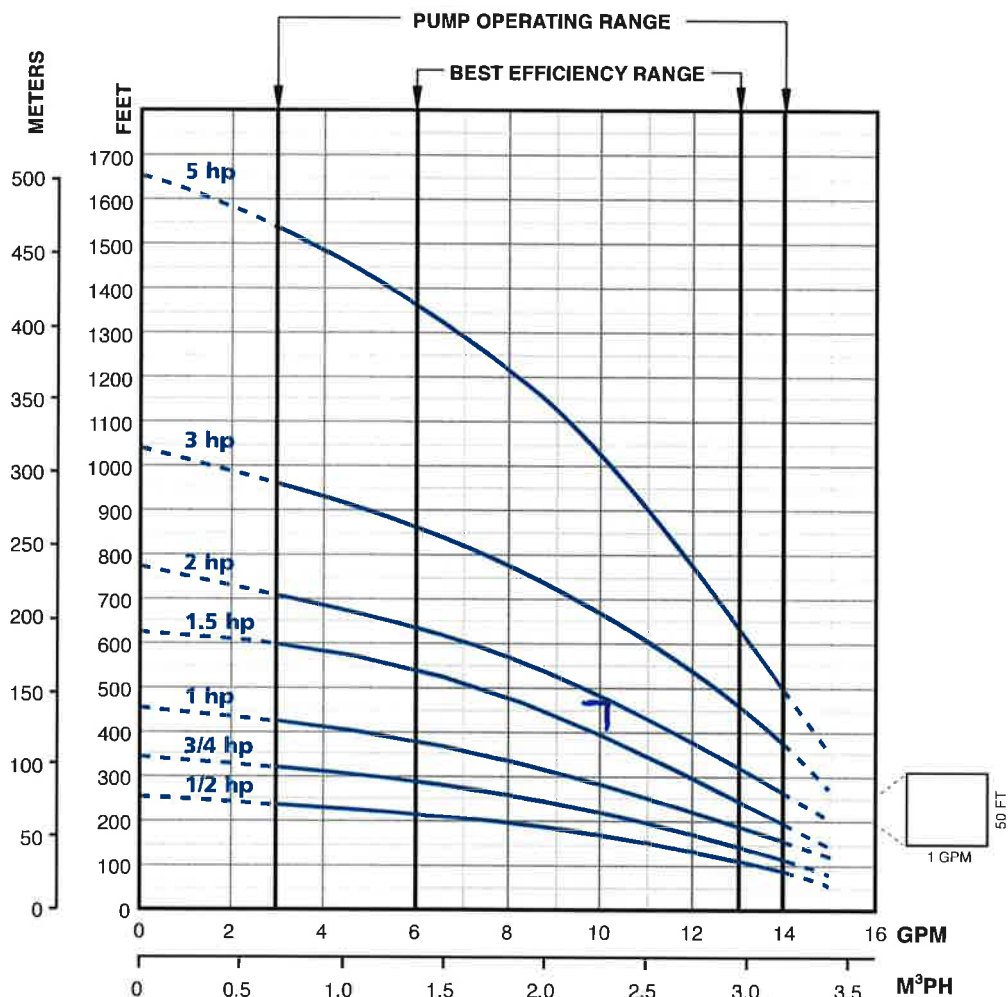
0 0.035 0.07 0.14 Miles



PUMP EQUATIONS WATER RIGHT No. 96-9661						
		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	2	577.517	0.8	485	40
Q = 0.024 cfs			11.0 gpm			

Submersible Pumps

4" Tri-Seal Pumps - 10 GPM



Capacities in U.S. Gallons per Minute

HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																	
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500
3	0														14	13	13	12	12
	20													14	13	13	12	12	11
	30												14	14	13	13	12	12	10
	40											14	14	13	13	12	11	11	9
	50										14	14	14	13	12	12	11	11	9
	60								14	14	14	14	13	13	12	12	11	10	9
	80							14	14	13	13	13	12	12	11	11	10	9	8
Shut-off PSI		438	430	421	413	404	395	387	378	369	361	343	335	317	291	274	257	240	231
5	0				14	13	13	12	11	11	10	9	8	6	5				
	20				14	13	12	12	11	10	9	8	7	6	4				
	30				14	13	12	12	11	10	9	8	7	5	4				
	40				14	13	12	11	11	10	9	8	7	5	3				
	50			14	13	13	12	11	10	9	9	7	6	5	3				
	60			14	13	13	12	11	10	9	8	7	6	4					
	80		14	14	13	12	11	11	10	9	8	7	5	3					
Shut-off PSI		670	626	583	540	497	453	410	367	324	280	237	194	151	107				

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

RECEIVED

Form 238-7

11/9 NOV 27 2001

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

IDWR/North

1. WELL TAG NO. D0017974

DRILLING PERMIT N

Other IDWR No

2. OWNER:

Name AL Crider

Address P O Box 1152

City Sandpoint

State ID

Zip 83864

3. LOCATION OF WELL by legal description:

N		Twp	57N	North	☒ or	South	☐
Rge		02W	East	☐ or	West	☒	
Sec		20	1/4	NW	1/4	SW	1/4
Gov't Lot		10 Ac		40 Ac		160 Ac	
County		Bonner					
Lat		Long					

Address of Well Site: (see next line)

Pines, top of hill, 2nd drive on left

City Sandpoint

Lot Blk Sub. Name (see next line)

4. USE:

- ☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

- ☒ New Well ☐ Modify ☐ Abandonment ☐ Other

6. DRILL METHOD

- ☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other

7. SEALING PROCEDURES

SEAL/FILTER PACK			Amount	Method
Material	From	To	Sacks/Lbs	
Bentonite	0	44	12 Sacks	dry pour

Drive Shoe Used? ☒ Y ☐ N Shoe Depth(s) 44'Drive Shoe Seal Tested? ☐ Y ☒ N How?

8. CASING/LINER

Diam	From	To	Gauge	Material	Casng	Liner	Weld	Thrded
6	1	44	0.250	Steel	☒	☐	☒	☐
4	40	400	0.165	PVC	☐	☒	☐	☐
					☐	☐	☐	☐

Length Headpipe Length Tailpipe

9. PERFORATIONS/SCREENS

- ☐ Perforations? Method
☒ Screens? Screen Type PVC

From	To	Slot	Nmbr	Diam	Material	Casng	Liner
360	400	.040			PVC	☐	☒
						☐	☐
						☐	☐

10. STATIC WATER LEVEL or ARTESIAN PRESSURE

45 ft. below ground. Artesian pressure lb.

Depth flow encountered 124 ft. Describe access port or

control devices: Steel cap, welded

Office Use Only

Inspected by

Twp Rge Sec

1/4 1/4 1/4

Lat: : : Long: : :

11. WELL TESTS:

☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pump Level	Time
4	100%	395	1 hr.

Water Temp. cold Bottom hole temp. cold

Water Quality test or comments: (below) Depth first Water Encountered 124

clear, cold, no smell

12. LITHOLOGIC LOG (Describe repairs or abandonment)

Bore Diam	From	To	Remarks: Lithology, Water Quality and Temperature	Water	
				Y	N
8	0	38	Clay, brown w/boulders & gravel		☒
8	38	44	Decomposed granite		☒
6	44	90	Decomposed granite		☒
6	90	124	Granite - black/white		☒
6	124	125	Granite - broken (4 gpm)	☒	
6	125	400	Granite - black/white		☒

Completed Depth 400 (Measurable)

Date: Started 11/7/01 Completed 11/9/01

13. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm United Drilling Inc.

Firm No 414

Name

Firm Official and

Date 11/12/01

Supervisor or Operator Jason C. Beckham

Date 11/12/01

FORWARD WHITE COPY TO WATER RESOURCES

WELL DRILLER'S REPORT

Office Use Only		
Inspected by _____		
Twp _____	Rge _____	Sec _____
1/4 _____	1/4 _____	1/4 _____
Lat: : :	Long: : :	

sketch map location must agree with written

Twp. 57 ☒ North or ☐ South
 Rge. 02 ☐ East or ☒ West
 Sec. 20 NW 1/4 SW 1/4 1/4
 Gov't Lot _____ County BONNER
 Lat: : : Long: : :

Address of Well Site Ravenwood Lane
City Sandpoint

(Give at least name of road + Distance to Road or Landmark)

Lt. _____ Blk. _____ Sub. Name _____

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

☐ New Well ☐ Modify ☐ Abandonment ☒ Other Deepening

☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other

SEAL/FILTER PACK			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s)

Was drive shoe seal tested? ☐ Y ☒ N How?

Diameter	From	To	Gauge	Materi
				Casing Liner Welded Threaded

Length of Headpipe _____ Length of Tailpipe _____

☐ Perforations Method _____

☐ Screens Screen Type _____

[illegible]

Depth flow encountered _____ ft. Describe access port or control devices: _____

57N 2W 20

☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

gal./min.	Drawdown	Pumping Level	Time
5			1hr

Temp. cold Bottom Hole Temp cold

Quality test or comments: clear

Depth first Water encountered 442

12. LITHOLOGIC LOG:(Describe repairs or abandonment)

Bore Diam	From	To	Remarks: Lithology, Water Quality, Temperature	Y	Water
6	400	442	black and white granite	☐	☒
6	442	450	black and white granite fractured	☒	☐
6	450	500	black and white granite	☐	☒
REVISED TAG NUMBER RECEIVED APR 1 2007 IDWR/North					
Completed Depth <u>500</u> (Measurable) Date: Started <u>8/14/2006</u> Completed <u>8/16/2006</u>					

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name H2O Well Service, Inc. Firm No. 448

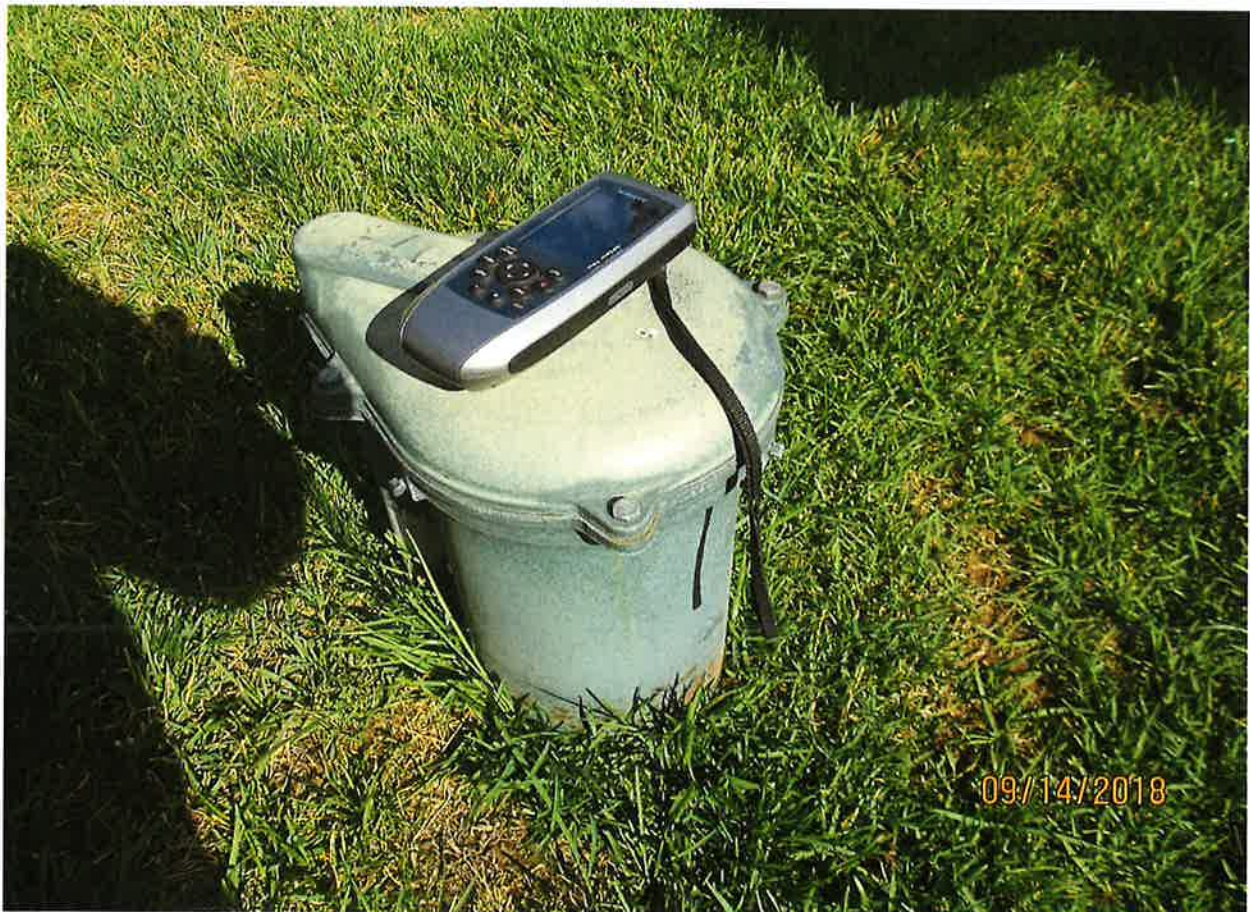
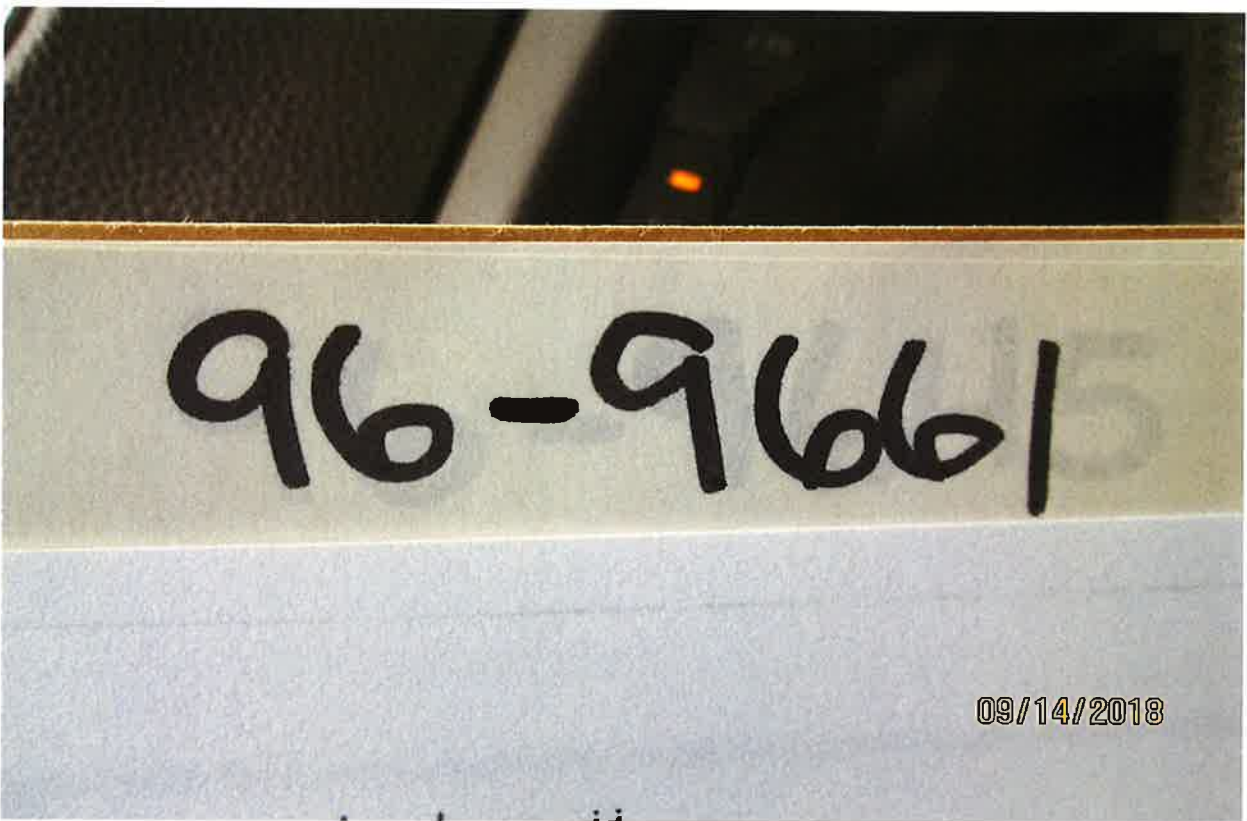
Firm Official Om K. L. Date 4-12-07

and

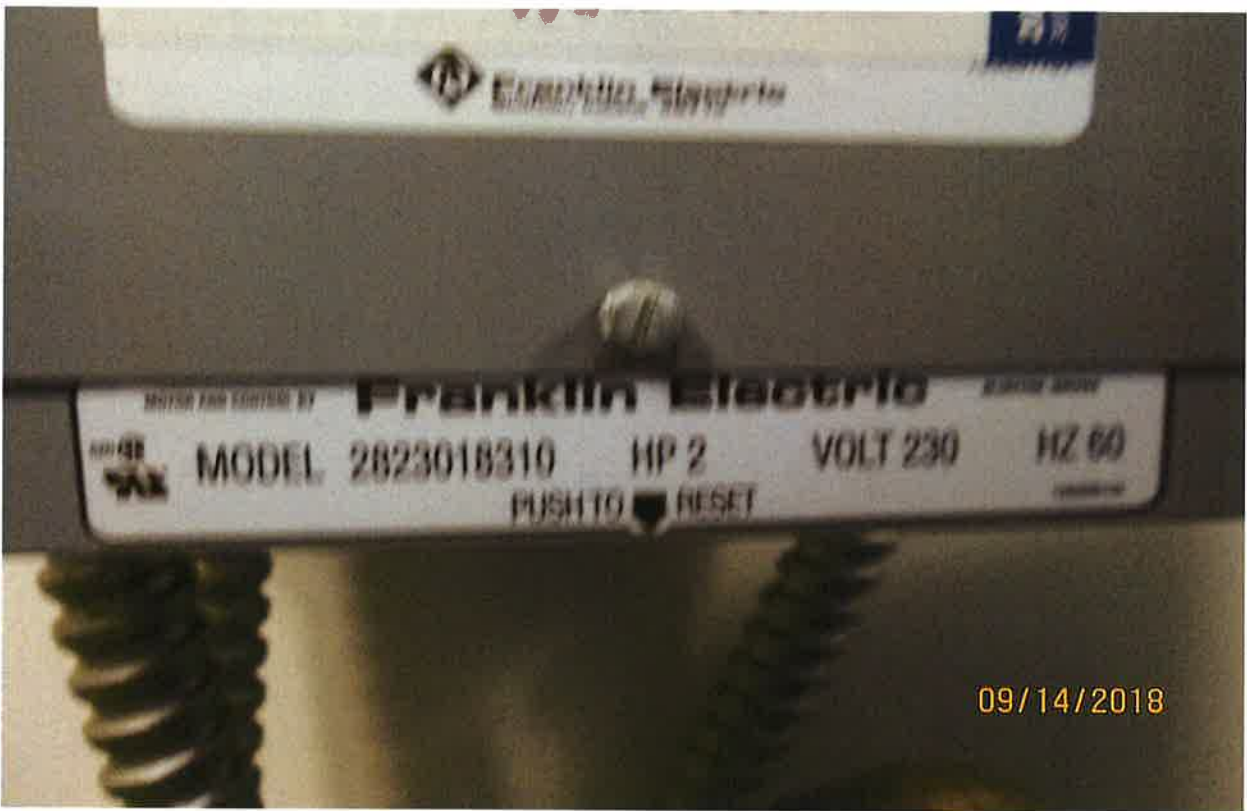
Supervisor or Operator Lib Keen Date 08/17/06

Bob Kern

(Sign Once if Firm Official and Operator)



Well D0051839 given IDWR tag A0020191.



2hp Franklin pump in well.



Unable to perform flow measurement because of buried pipes to pressure tanks.



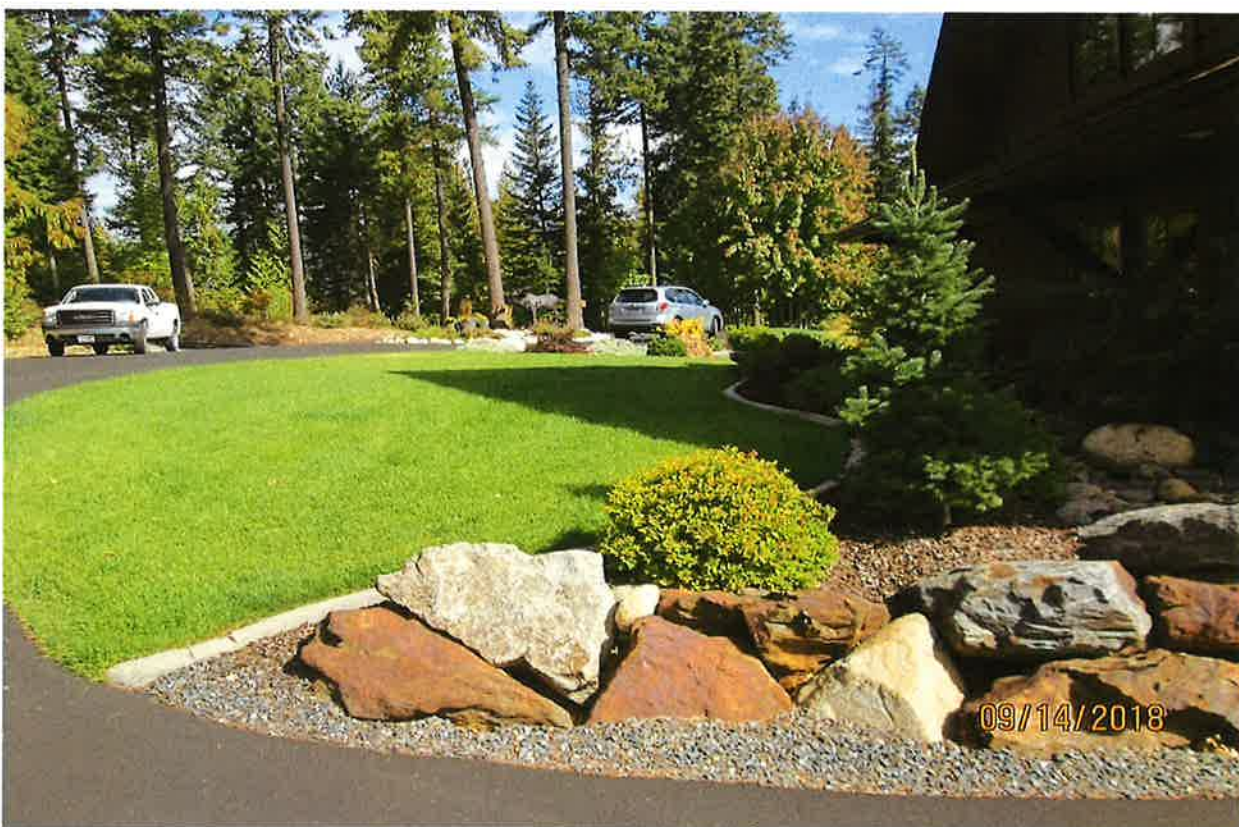
Irrigation POU.





Irrigation POU.





Irrigation and domestic POU.





Irrigation POU.





Irrigation POU.

