

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A Beneficial Use Field Report is prepared by a water right examiner as the result of an examination to clearly confirm and establish the extent of the beneficial use of water established in connection with a permit during the development period authorized by the permit and any extensions of time previously approved.

A. GENERAL INFORMATIONPermit No. 63-12426

1. Owner James M. Gramling Phone No. 208-938-0597
Current address 8464 W. Brookside LN, Boise ID 83714
2. Examiner's name Steve Lester EXAM DATE 8/25/2011
3. Accompanied by Marci Gramling Email jim_gramling@yahoo.com
Address same
Relationship to permit holder spouse Phone No. same
4. Source Ground water tributary to N/A

B. OVERLAP REVIEW

1. Other water rights with the same place of use none
2. Other water rights with the same source and point of diversion none

C. DIVERSION AND DELIVERY SYSTEM

1. Point(s) of Diversion:

Ident. No.	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County	Method of Determination/Remarks
			NE	SW	25	5N	1E	Ada	2011 aerial photo

2. Place(s) of Use: Method of determination same

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
5N	1E	25									3.3								3.3
											D								

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☒ see attached.

Scale: 1" = _____

- use* ☒ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (required)
☒ Aerial photo attached (required for irrigation of 10+ acres)
☒ Photo of diversion and system attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
	Sta-Rite	1.5	unknown	same as motor	2" mainline

*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
sprinkler pitot gauge		Wika				2010

2. **Measurements:** _____

40, 42, 48, average about 43 psi

Hunter PGP sprinklers, oval shaped nozzles with narrow dimension 3/32" to 1/8"

E. NARRATIVE/REMARKS/COMMENTS

8" diameter, 204' well with a 1.5 HP submersible pump and 2" buried mainline provides in-house water to 1 home and irrigation for 3.3 acres. There is not a pressure gauge or measuring device. Irrigation is yard, L-shaped pasture and scattered trees/shrubs on the slope east of the home. Pop-up sprinklers are used for the pasture and yard. Drip irrigation covers some of the trees/shrubs in the northeast portion of the place of use. Southeast portion of pasture not currently irrigated but obviously has been and can be credited (bottom right of the L).

The mainline reduces to 1.5" then 1" for the pasture. Typical use includes 6 heads at once. Non-standard sprinkler nozzles were found: oval instead of circular. This made it difficult to accurately measure pressure at 3 sprinklers. The unusual nozzles are not compatible with standard sprinkler tables for gpm/nozzle and pressure.

The owner is an engineer who is quite familiar with system details. He provided the system information attachment included with this report. The nominal 20 gpm pump performance table confirms a yield of about 24 gpm for the known pump size and assumed pressure/assumed pumping depth (depth fairly consistent with static level from well log). Note assumed 40 psi from that table is reasonably consistent with average 43 psi measured during the exam - the pitot gauge proved useful at least for that.

Allow 24.3 gpm or 0.05 cfs for the license based on the system information attachment that is confirmed with HP equation.

The drilling fee upgrade for the well was fully paid soon after the exam. Well Construction staff was notified. The well log confirms the water bearing zone. The condition of approval for the zone should be continued in the license for shallow ground water above Star.

Property aka Lot 9, Spring Creek Estates.

Has the permit holder met all conditions of permit approval, including any mitigation requirements and/or measuring device installation requirements? ☒ Yes ☐ No If no, what must be done to meet the permit requirements?

F. FLOW CALCULATIONS

☐ Additional computation sheets attached

Measured Method:

- 1) Pump information from owner & manufacturer, assumes 40 psi, 80 ft. pumping level = 24.3 gpm
= $24.3 / 448.8 = 0.05$ cfs
- 2) HP equation with same assumptions: $(8.8 \times 0.7 \times 1.5) / [(2.31 \times 40) + 80] = 9.24 / 172.4 = 0.05$ cfs

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 3.3 \times 4.5 = 14.9$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = \frac{0.05 \times 260 \times 1.9835}{1} = 25.8$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 14.9$$

2. Volume Calculations for Other Uses:

in-house domestic, 1 home (yard covered by irrigation use): allow 0.6 af

note: system can produce full volume for irrigation & domestic uses

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion	Annual Volume
	From	To	Q (cfs)	V (afa)
Irrigation	3/1	11/15	0.05	14.9
Domestic	1/1	12/31	0.04	0.6
Totals:			0.05	15.5

2. Recommended Amendments

- ☐ Change P.D. as reflected on page 1 ☐ Add P.D. as reflected on page 1 ☒ None
☐ Change P.U. as reflected on page 1 ☐ Add P.U. as reflected on page 1 ☐ Other

I. AUTHENTICATION

Field Examiner's Signature

Date _____

Reviewer

Date _____

~~SECRET~~

63-12426

T5N, R1E, Section 25



Legend

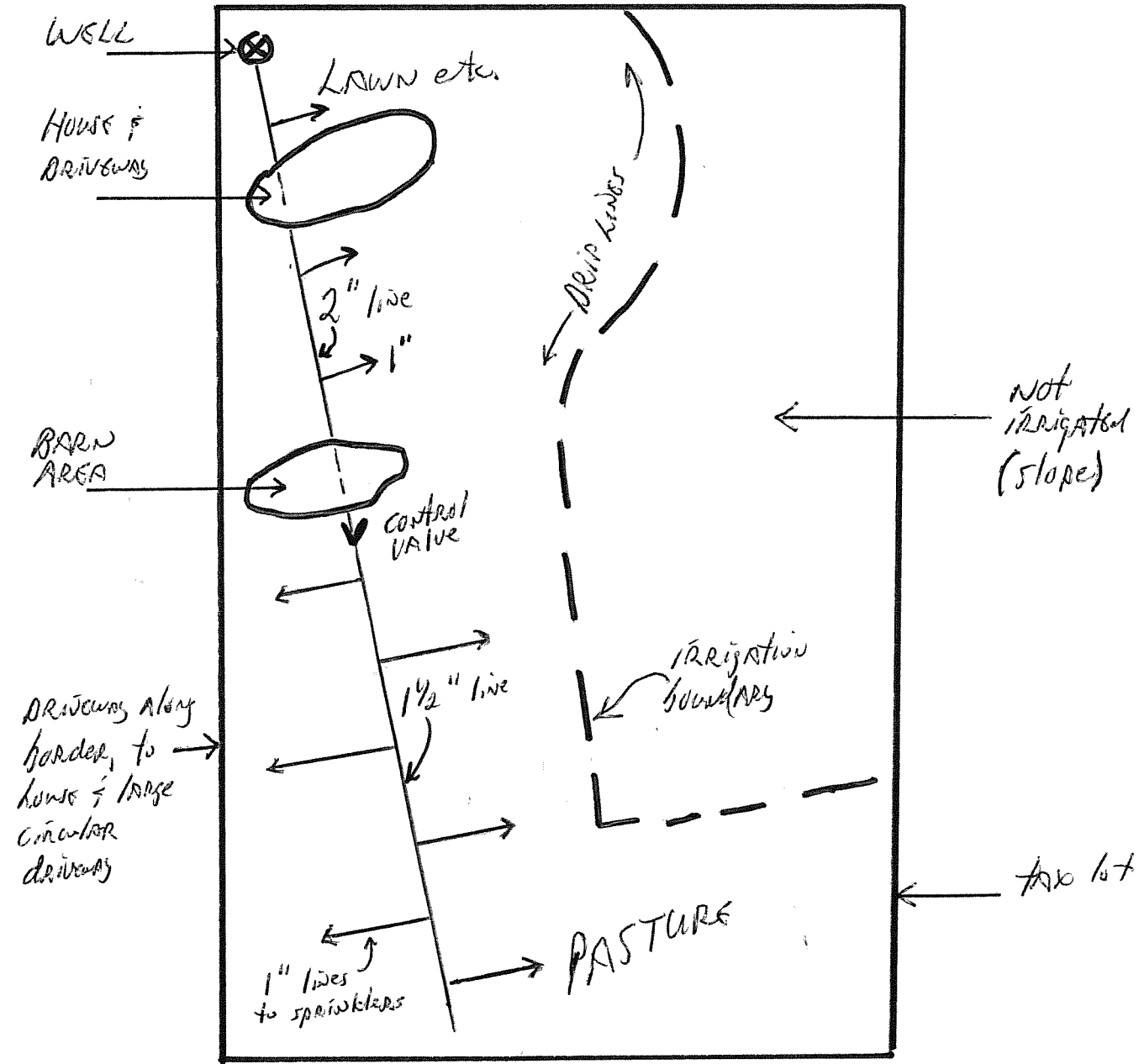
- POD
-  Irrigated Area
-  Taxlots
-  QQ



0 0.015 0.03 0.06 Miles

2009 NAIP Imagery
August, 2011

63-12426 Diagram



↑
N
↓
NOT to
SCALE



Water Right field exam, Permit No. 63-12426

Monday, August 8, 2011 1:53 PM

From: "Lester, Steve" <Steve.Lester@idwr.idaho.gov>

To: jim_gramling@yahoo.com

Hi Jim & Marci –

A field visit to verify your well and irrigation system is set for 8:30 a.m., Thursday, August 25. We will locate the well and inspect the irrigation system while it is in use for its normal operation. Here are some additional things that would be useful to know if we cannot observe them during the visit:

1. Pump/motor – horsepower, brand & model #, serial #, pump curve (if you have one)
1 1/2 HP, Sta-Rite
2. Mainline from well – pipe diameter
2" poly
3. Sprinklers - type (Rainbird, Nelson etc.) & nozzle size(s), how many normally used at same time
Hunter, PGA, 3.0, 6/circuit
4. Pressure of system when irrigating
Guess ~40 psi
5. Any pump data you might have from pump tests/maintenance etc.
See attached
6. If submersed pump in well – pump depth.

Any/all of these that you know will help. The most critical thing to know is horsepower.

A permit is personal property, not real property attached to the land. The end result of this process will be a water license issued to you. A license is real property attached to your land (property right). A license remains with the land unless legally withheld from the property in the future. A license remains valid provided it is used at least once every 5 years (1 irrigation season out of 5). Thanks for your cooperation & see you then. Please call if you have any questions or concerns.

Steve Lester
Water Rights Supervisor
IDWR Western Region, Boise
334-2190

System info from owner

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*REC'd onsite in exam
from owner*

Can-Ada Well Drilling & Pump Co. Inc.**4250 Murphy Rd.****Kuna, ID 83634***Earl Skinner***208-922-1165****Invoice**

Date	Invoice #
8/20/2008	64

Bill To
Jim Ramling 8464 W. Brookside Lane Boise, Idaho 83704 938-0597

Ship To

Terms	Due Date	Rep
Due on receipt	8/31/2008	EFS

Description	Qty	Cash	List Price	Total List
1 1/2 HP 20 GPM Sta-Rite pump & motor	1	1362.00	1,703.00	1,703.00
Service Call	1	80.00	100.00	100.00
Labor	1	80.00	100.00	100.00
1 1/4 Galvanized Pipe	21	5.31	6.63	139.23
Sta-Rite 1/2 - 1 1/2 HP 5 Year Warranty	1	25.00	31.25	31.25
TOTAL OF INVOICE BEFORE DISCOUNT				2,073.48
20% DISCOUNT IF PAID WITHIN 10 DAYS OF INVOICE			-20.00%	-414.70
<i>63.12426</i> <i>PS 2 of 3</i>				

Thank you for your business.

Discounted Total**\$1,658.78**

10, 15, 20, and 30 GPM 4" Submersible Pumps

24.3 gpm

2660m

Pump Performance

20 GPM

✓ HP	Series	PSI	Pumping Depth in Feet													
			20'	40'	60'	80'	100'	125'	150'	175'	200'	250'	300'	350'	400'	450'
			Capacity - Gallons Per Minute													
3/4	20	0	—	30.9	28.9	26.4	23.9	20.4	15.0	15.0						
		20	28.2	25.8	23.1	20.3	16.5	7.1								
		30	25.1	22.6	19.7	15.2	7.7									
		40	22.4	19.4	14.7	7.0										
		50	18.6	13.2	4.9											
		60	12.0													
1	20	0	—	31.9	30.6	29.1	27.5	25.2	22.8	20.3	17.1	2.1				
		20	30.2	28.8	27.0	25.1	23.3	20.8	17.9	12.5	4.5					
		30	28.4	26.7	24.8	22.9	20.9	18.0	13.0	5.0						
		40	26.4	24.7	22.7	20.7	18.4	14.0	5.9							
		50	24.2	22.4	20.1	17.9	14.1	6.1								
		60	21.9	19.9	17.2	13.0	6.7									
1-1/2	20	0	—	—	31.6	30.4	29.3	27.7	25.9	24.2	22.2	18.0	8.9			
		20	31.2	30.2	29.0	27.6	26.2	24.5	22.7	20.6	18.5	10.1				
		30	30.0	28.8	27.4	26.0	24.7	22.8	20.9	18.7	15.3	3.0				
		40	28.6	27.2	25.8	24.3	22.9	21.0	18.8	15.4	11.2					
		50	27.0	25.7	24.1	22.7	21.1	18.9	15.5	11.5	5.0					
		60	25.2	23.9	22.3	20.9	19.1	16.1	9.5	5.5						
2	20	0	—	—	—	31.5	30.7	29.7	28.6	27.3	26.0	23.2	20.2	16.2	8.5	
		20	—	31.3	30.5	29.7	28.8	27.5	26.1	24.9	23.4	20.6	16.7	9.5		
		30	31.1	30.3	29.5	28.7	27.6	26.2	25.0	23.5	22.1	19.1	13.8	4.8		
		40	30.2	29.4	28.5	27.5	26.4	25.1	23.7	22.2	20.8	17.2	10.1			
		50	29.3	28.3	27.2	26.1	25.1	23.8	22.3	20.9	19.3	14.0	5.7			
		60	28.1	27.1	26.0	25.0	23.9	22.4	21.0	19.4	17.3	10.8				
3	20	0	—	—	—	—	31.9	31.1	30.6	29.7	29.0	27.2	25.3	23.5	21.3	19.1
		20	—	—	31.7	31.1	30.7	29.9	29.1	28.3	27.3	25.4	23.6	21.6	19.3	16.1
		30	—	31.7	31.0	30.6	29.9	29.2	28.5	27.4	26.6	24.8	22.7	20.6	18.1	14.5
		40	31.6	31.0	30.5	29.8	29.2	28.6	27.5	26.7	25.5	23.8	21.7	19.6	16.8	12.5
		50	30.9	30.4	29.7	29.1	28.6	27.6	26.7	25.6	24.9	22.8	20.8	18.5	15.0	9.5
		60	30.3	29.6	29.1	28.5	27.7	26.8	25.7	24.9	23.9	21.8	19.8	16.9	12.7	5.6
5	20	0	—	—	—	—	—	—	—	31.7	31.1	30.5	29.5	28.5	27.5	26.5
		20	—	—	—	—	—	31.7	31.2	30.9	30.6	29.5	28.6	27.6	26.6	25.3
		30	—	—	—	—	31.8	31.3	30.9	30.7	30.0	29.0	28.0	27.1	26.0	24.9
		40	—	—	—	31.7	31.4	31.0	30.7	30.0	29.6	28.7	27.7	26.7	25.4	24.2
		50	—	32.0	31.7	31.2	31.0	30.8	30.0	29.6	29.1	28.1	27.2	26.0	25.0	23.6
		60	31.9	31.6	31.2	30.9	30.8	30.1	29.7	29.1	28.8	27.8	26.8	25.5	24.3	23.0

CONTINUED ON NEXT PAGE.

CAUTION: DO NOT use pump at flow rates indicated by the symbol —.

To do so can cause premature failure of unit. Pump warranty void when failure occurs under these conditions.

Tested and rated in accordance with Water Systems Council Standards.

NOTE: Pumps installed with a CON-AIRE® tank require a 100 PSI relief valve. Pumps installed with a conventional tank require a 75 PSI relief valve. Relief valve must be capable of relieving entire flow of pump at relief pressure.

Specifications are subject to change without notice.

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RATE &/OR STORAGE RECOMMENDED FOR LICENSING**LESSER OF FOUR CHOICES**

1) Permit amount	<u>.14</u>	cfs	&/or	_____	af storage
2) Beneficial use limit	<u>.14</u>	cfs	&/or	_____	af storage
3) System measurement	<u>.05</u>	cfs	&/or	_____	af storage
4) Proof fee amount	<u>.20</u>	cfs	&/or	_____	af storage
Recommended Amount	<u>.05</u>	cfs	&/or	_____	af storage

e 750

NOTES

1) Can never exceed permit amount.

2) Beneficial use limits are recognized standards: 0.03 cfs for up to 5 acres, 0.02 cfs beyond 5 acres, stockwater chart, in-house domestic chart etc. Some exceptions acceptable if already approved in permit: excessive rate for parks etc.

3) System measurement can be actual measurement reflecting typical operations or theoretical measurement or some combination of both if actual measurement does not reflect true capacity of system based on other supporting information. Be cautious about using just theoretical measurement to limit the amount of water.

4) Confirm correct proof fee was paid. See "wr field exams/proof fees-2 schedules" for pre 11/1/1991 schedule and for on/after 11/1/1991 schedule.

If permit includes rate of flow and storage, fee is the greater amount for those two categories. Example with current filing fees:

1.0 cfs = \$100

15 af = \$50

required fee = \$100

If proof paid amount is the limiting factor for recommended flow/storage, confirm this was addressed in proof process but owner declined to pay more. If cannot confirm owner was provided a chance to pay correct fee, use 30-day letter for last chance to pay. Without additional payment, allow maximum rate/storage per fee paid.

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63-12426 PHOTOS

8/25/2011

Photo 1 – 8” well behind home at NW edge of property.



Photo 2 – View from NE end of pasture, looking south. Home & yard areas are behind viewer.



Photo 3 – View looking south from barn to pasture. Pasture ends at Brookside Lane seen in middle of picture. Note 6 sprinklers in use, normal irrigation operation.

Driveway on other side of fence & trees along right side of picture.

Pasture continues out of viewer's sight to the left by road (bottom part of L shaped field).



Did not photograph home, regular yard irrigation and drip irrigation area by home but verified those uses.