

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 65-13611

Exam Date: 10/4/2016

1. Current Owner:
TIMOTHY D FRITZLEY 4585 N CAMAS CREEK WAY MERIDIAN ID 83646 650-400-5655
2. Accompanied by: Timothy D Fritzley
Phone No: 650-400-5655
Address: 4585 Camas Creek Way
Relationship to Permit Holder:
3. **SOURCE:**
MIDDLE FORK PAYETTE RIVER
- TRIBUTARY:**
PAYETTE RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 65-13730
2. Other water rights with the same point-of-diversion: None

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

MIDDLE FORK PAYETTE RIVER SW¼SE¼ Sec. 16, Twp 09N, Rge 04E, B.M. BOISE County
MIDDLE FORK PAYETTE RIVER SW¼SE¼ Sec. 16, Twp 09N, Rge 04E, B.M. BOISE County

Method of Determination: Owner directed and showed us to the two separate points of diversion, compared with PLSS mapping and satellite imagery.

2.

PLACE OF USE: IRRIGATION

Tw p	Rg e	Se c	NE				NW				SW				SE				Total Is
			N E	N W	S W	S E	N E	N W	S W	S E	N E	N W	S W	S E	N E	N W	S W	S E	
09N	04E	16															14.0		14.0

Total Acres: 14

STOCKWATER same as IRRIGATION

Method of Determination: Owner's description of use, on-site observation, and use of satellite imagery.

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
#1	Unknown	10	Unknown	Unknown	6" PVC
#2	Balder Reliance	20	39K061W669	Unknown	3" PVC

*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
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A

2. Measurements: Unable to make any system measurements as system was not running at time of examination.

E. FLOW CALCULATIONS

Measured Method:

X Additional Computation Sheets
Attached

Pump #1:	Pump #2	Big Gun (see Big Gun Sprinkler chart attached)
10 hp	20 hp	75 series
15' lift, $t_1=0.35$	15' lift, $t_2=0.71$	0.70"
60-80 psi	60-80 psi	121 gpm @ 80 psi x4 =484 gpm
$t_1 + t_2 = 0.35 + 0.71 = 1.06 \text{ cfs}$		1 cfs/448.83gpm x 484gpm =1.08cfs

Measured Method:

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Efficiency = 0.70

Depth to water = 15

psi = 60-80

hp= 10 & 20

See attached theoretical sheets.

Theoretical = 1.06 cfs

Permit 0.420 cfs

B.U. Standard Allowance 0.28 cfs (Irrigation)

	0.02 cfs (Stockwater)
	0.30 cfs (Total)
B. U. Proof Fee	\$100 → 0.21-1.00 cfs
Measurement or Theoretical Rate	1.06 cfs
License Recommendation	0.30 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = (14.0) \times (3.5) = 49.0\text{af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = [0.28(\text{cfs})] \times (231) \times 1.9835 = 128.3\text{af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 49.0\text{af}$$

$$2. \text{ Volume Calculations for Other Uses: } 8 \text{ mixed head, } 12\text{gpd} \times 8 \text{ animal} = 96\text{gpd} \times 365 \text{ days} = 35,040 \text{ gal} = 0.1\text{af}$$

G. NARRATIVE/REMARKS/COMMENTS

Field exam was completed by agent Justin Shearer on October 4th, 2016 and was accompanied by land owner Timothy Fritzley. Mr. Fritzley is the active permit owner since he purchased the land from the original owner in February of 2016.

There are a total of 2 diversion systems on the property, though the permit application only identifies one diversion. However, Mr. Fritzley is interested in using both diversions as the two systems are complimentary to each other for irrigation purposes. Minimal identification information was able to be obtained for either systems' equipment so for the purposes of this exam they will be referred to as Diversion #1 and Diversion #2. Diversion #1 has a 10hp submersible pump diverting from the middle fork of the Payette River and delivering water through 6" PVC. Diversion #2 has 20hp also diverting off the middle fork of the Payette River and delivering water through 3" PVC. Through discussion with the land owner, it was determined that Diversion #2 is the primary system used to deliver water to the majority of the property. This system in question uses 4-6 big guns with 0.70" nozzles that are wheeled around POU for irrigation purposes. Approximately 15 feet of rise from POD's to highest point on property was estimated through field observation and use of DRG topographic map.

Aerial imagery was used to determine irrigated acreage. ArcMap tools were used to estimate a total area of 14 acres. There are several horse stable structures and a horse arena constructed on the property that were developed during the beneficial use period. POU overlap review finds one existing water right (65-13730) for stockwater in the name of the same owner as WR being examined. Said WR is from an unnamed stream source for stock use of 10 head. Should have a combined use limit of 0.02 cfs and 0.1 af. No other overlap exists.

Mr. Fritzley estimated that his system operates at around 60-80gpm. Based on the information found during the field exam with a known nozzle size and pressure, the total diversion rate calculates to 484 gpm, or 1.08 cfs. A theoretical of the two POD's estimates a total diversion of 1.06 cfs. However, both are significantly higher than the recommended beneficial use limit of 0.02 cfs/acre or 0.28 cfs for these 14 acres. Thus, the B.U. Standard Allowance is the limiting factor for recommending flow, which comes out to be 0.28cfs. This amount is significantly lower than the calculated theoretical values which could be due in part to the fact that soil on said property required excessive watering to stay moist as per conversation with landowner. Updated season of use to match current standards.

Because the user has two separate POD's and there was only one POD requested at the time of application for permit, a request for amendment of a water right will be sent to the user. However, there is

evidence that Diversion #1 was developed to water the entire POU originally, but previous land owner found it to be more efficient to install Diversion #2 for same POU. Because both POD's are from the same source, have the capability of delivering water to the same POU, and at one point were used in this fashion during the development period, an amendment to add an additional POD is considered the appropriate course of action. Additionally, in email correspondence with current landowner, Ron Shurtleff, Water Master for the respective area, sees no problem with having two diversions based on the size of the property as long as they are properly monitored.

Condition 01M was removed and 01J was kept because consumptive use is >0.20cfs; becomes condition R43 for licensing. At the time of exam, Mr. Fritzley did not have a measuring device installed as conditioned on the permit. Confirmation of a sufficient measuring device installed at the POD was received from Water District 65 watermaster Ron Shurtleff 9/19/2017 via email.

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>
STOCKWATER	01/01 to 12/31	0.02 CFS	0.1
IRRIGATION	04/15 to 10/15	0.28 CFS	49.0
	<u>Totals:</u>	0.30 CFS	49.1 afa

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

Field Examiner's Name _____ Date _____

Reviewer _____ Date _____



State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region • 2735 Airport Way • Boise, Idaho 83705-5082

Phone: (208) 334-2190 • Fax: (208) 334-2348 • Website: www.idwr.idaho.gov

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

December 16, 2016

TIMOTHY D FRITZLEY
4585 N CAMAS CREEK WAY
MERIDIAN ID 83646

COPY

RE: Water Right Permit No. 65-13611

Dear Permit Holder(s):

The Department of Water Resources is reviewing the permit(s) referenced above prior to issuing water right license(s). By issuing a license, the Department confirms the extent of development that has been established in compliance with the terms of the permit.

The examiner who verified your water use reported that certain elements of the permit(s) have been developed differently than described on your permit(s). Changes that do not increase the authorized use of water under the permit(s) can be requested and approved in accordance with Section 42-211, Idaho Code. Before license(s) can be issued, your permit(s) must be amended to depict your water use as it was actually developed.

Based on the examiner's report, the following elements were developed differently than described on your permit(s):

 x Point(s) of Diversion

 Place(s) of Use

 Other

The enclosed Application for Amendment form(s) depicts the elements of the water right(s) as they will appear on the license(s) when issued. Please review the amendment form(s) carefully. If you concur with the information presented, please sign and return the form(s) with the \$100.00 filing fee within 14 days.

If you have any questions, please call me at 208 334-2190.

Sincerely,

Justin Shearer
Water Resource Agent

Enclosure(s): Application for Amendment
cc:

State of Idaho
Department of Water Resources
APPLICATION FOR AMENDMENT
(For Licensing Purposes)
WATER RIGHT NO. 65-13611

PRIORITY: March 22, 1995

Maximum Diversion Rate: 0.30 CFS

Comes now

TIMOTHY D FRITZLEY 4585 N CAMAS CREEK WAY MERIDIAN ID 83646

and represents to the Idaho Department of Water Resources that he is the owner and holder of Permit to Appropriate the Public Waters of the State of Idaho No. 65-13611, and requests that the permit be changed as follows:

SOURCE:
MIDDLE FORK PAYETTE RIVER

TRIBUTARY:
PAYETTE RIVER

BENEFICIAL USE

STOCKWATER
IRRIGATION

PERIOD OF USE

01/01 to 12/31
03/15 to 10/31

DIVERSION RATE

0.02 CFS
0.28 CFS

LOCATION OF POINT(S) OF DIVERSION:

MIDDLE FORK PAYETTE RIVER SW¼SE¼ Sec. 16, Twp 09N, Rge 04E, B.M. BOISE County
MIDDLE FORK PAYETTE RIVER SW¼SE¼ Sec. 16, Twp 09N, Rge 04E, B.M. BOISE County

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
09N	04E	16															14.0		14.0

Total Acres: 14

Permit holder asserts that no one will be injured by such change and that such change will be made at permit holder's own risk. Signed this _____ day of _____, 2016.

(Signature)

COPY

State of Idaho
Department of Water Resources
APPLICATION FOR AMENDMENT
(For Licensing Purposes)
WATER RIGHT NO. 65-13611

FOR DEPARTMENT USE ONLY

Preliminary check by _____ Fee = _____ Received by _____ # _____ Date _____

ACTION OF THE DEPARTMENT OF WATER RESOURCES

The Idaho Department of Water Resources hereby approves the above Application for Amendment for Permit No. 65-13611 with the following:

CONDITIONS OF APPROVAL

1. This right when combined with all other rights shall provide no more than 0.02 cfs per acre nor more than 3.5 afa per acre at the field headgate for irrigation of the place of use.
2. Rights 65-13611 and 65-13730 when combined for stockwater use shall not exceed a total diversion rate of 0.02 cfs, a total annual maximum diversion volume of 0.1af.
3. Use of water under this right will be regulated by a watermaster with responsibility for the distribution of water among appropriators within a water district. At the time of this approval, this water right is within State Water District No. 65.
4. The right holder shall maintain a measuring device and lockable controlling works of a type approved by the Department in a manner that will provide the watermaster suitable control of the diversion(s).

This amendment is issued pursuant to the provisions of Section 42-211, Idaho Code.

Signed this _____ day of _____, 2016.

NICK MILLER
Western Regional Manager

COPY

State of Idaho
Department of Water Resources

Attachment for Application to Amend a Permit

65-13611

This map depicts the IRRIGATION place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.

04E

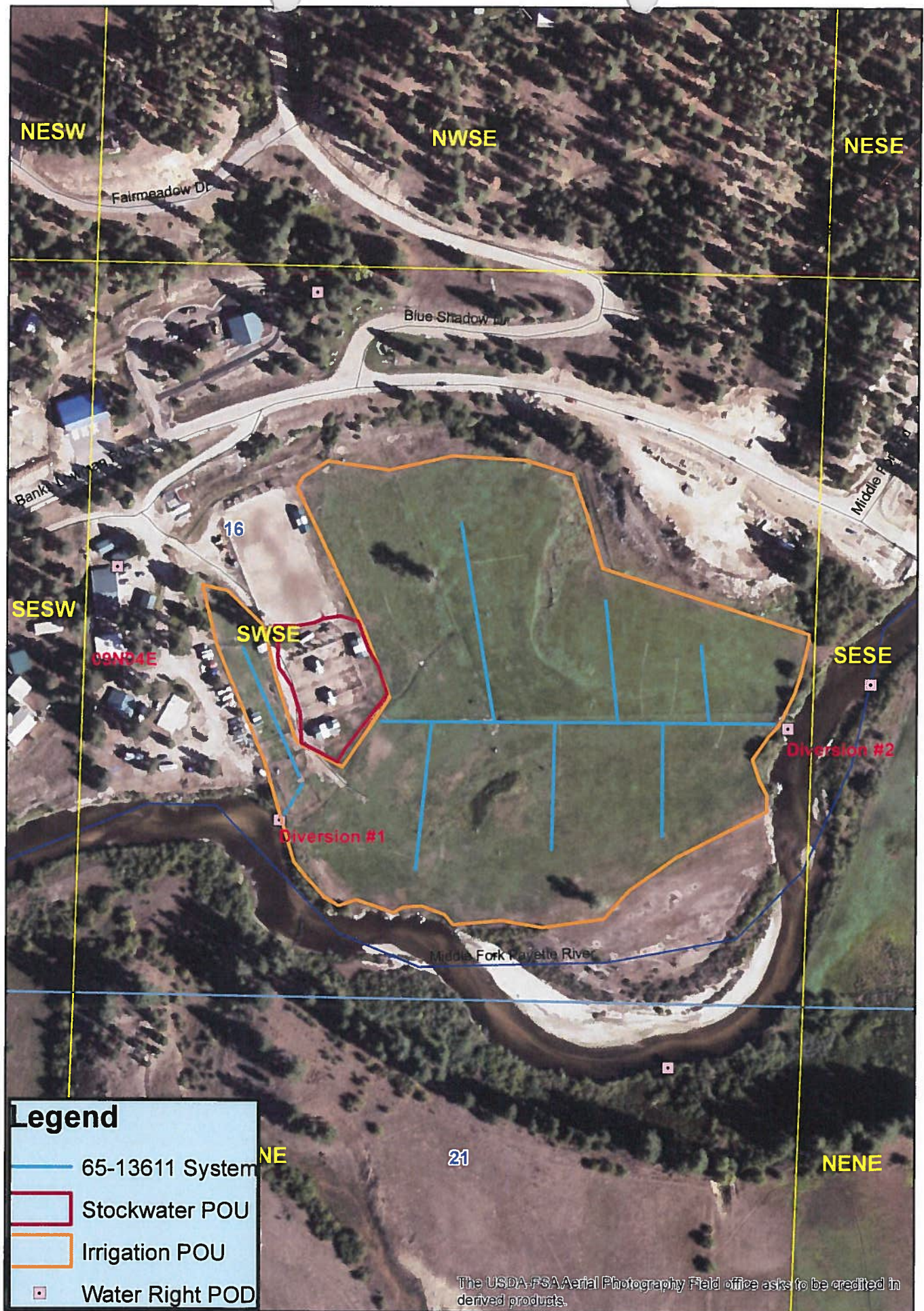


0 0.035 0.07 0.14 Miles

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

COPY





THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 65-13611
 Reviewer: Justin Shearer
 Date of Review: 10/4/2016

P/D No.:	Scenario 1	Scenario 2	Scenario 3
PUMP HORSEPOWER	20	20	20
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	15	15	15
DISCHARGE PRESSURE	60	70	80
RATE OF FLOW (cfs)	0.80	0.70	0.62 0.71

The above calculates the formula =
$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Assumptions: %70 efficiency.
 No Friction

Examiners Notes:

Two small hp pumps (one 10 hp, & one 20 hp) were identified and the requested diversion rate is relatively small. Lift was measured using the DRG map. Topography from the high point to shore waters measures close to 15 feet. A range of discharge pressures were used under what we would expect to see from the model of sprinklers used on the property (from 60 to 80psi) when paired with their respective pump and motor systems. Theoretical average flow rate for both systems is 1.06cfs.

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 65-13611
 Reviewer: Justin Shearer
 Date of Review: 10/4/2016

P/D No.:	Scenario 1	Scenario 2	Scenario 3
PUMP HORSEPOWER	10	10	10
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	15	15	15
DISCHARGE PRESSURE	60	70	80
RATE OF FLOW (cfs)	0.40	0.35	0.31 0.35

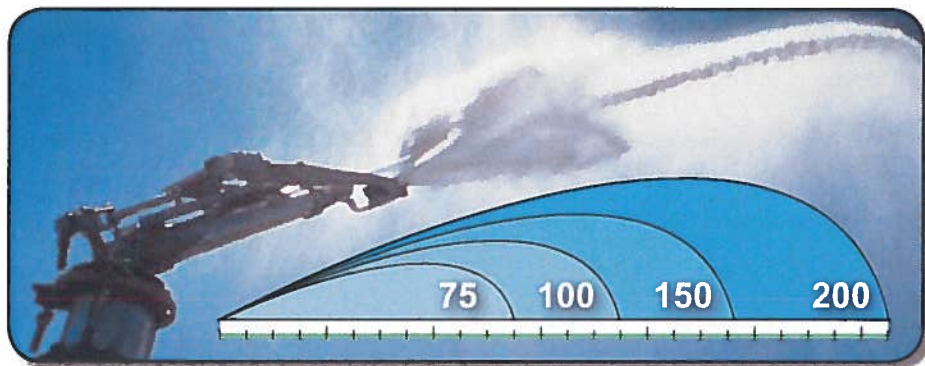
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BIG GUN® OPTIONS AVAILABLE



TO ORDER BIG GUNS® SPECIFY THE FOLLOWING:

Model No., Trajectory, Connection Size & Type, Nozzle Size & Type, Optional Coatings (Anodized or Anodized and Powder Coated) NOTE: Extended lead time may be necessary for large quantities of anodized or anodized and powder coated products.

Specification Example:
SR100 (24°), 2" FNPT, 100T-0.8"

	75 SERIES		100 SERIES			150 SERIES			200 SERIES	
PERFORMANCE	30-160 GPM (6.8-36.3 M ³ /H)  25-80 PSI (1.75-6 Kg/cm ²)		50-300 GPM (10-70 M ³ /H)  40-110 PSI (3.5-8 Kg/cm ²)			100-630 GPM (23-150 M ³ /H)  50-120 PSI (3.5-9 Kg/cm ²)			250-1200 GPM (55-275 M ³ /H)  60-130 PSI (4-9 Kg/cm ²)	
MODEL & TRAJECTORY	Full Circle F75	Part Circle SR75	Full Circle F100	Part Circle SR100	Part Circle SRA100	Full Circle F150	Part Circle SR150	Part Circle SRA150	Full Circle F200	Part Circle SR200
	21°, 24°	18°, 21°, 24°, 43°	18°, 21°, 24°, 43°		15-45° Adjustable	21°, 24°	21°, 24°, 27°, 43°	15-45° Adjustable	21°, 24°, 27°	
NOZZLE OPTIONS	0.4-0.8" (10.2-20.3 mm)		0.5-1.0" (12.7-25.4 mm)			0.7-1.4" (17.8-35.6 mm)			1.05-1.9" (26.7-48.3 mm)	
	Not Available		100T (Specify Size)			150T (Specify Size)			200T (Specify Size)	
	TR75 (Specify Size)		100TR (Specify Size)		NA for SRNV	150TR (Specify Size)			Not Available	
RING	Not Available		100R (Includes Set of Rings)			150R (Includes Set of Rings)			200R (Includes Set of Rings)	
	Not Available		NA for SRNV			NA for SRNV			NA for SRNV	
SPECIAL OPTIONS	Not Available		Anodized & Powder Coated, Vaneless Range Tube*			Anodized & Powder Coated, Stainless Steel (SRA150 N/A), Vaneless Range Tube			Anodized & Powder Coated	
ADD-ON KITS	HD Lower Bearing, 12° Wedge Kit, Counterbalance Kit, Stream Straightener Vane		Low-Pressure Drive Vane Kit, Counterbalance Kit, Secondary Nozzle Kit, 12° Wedge Kit, Stream Straightener Vane			Counterbalance Kit, Secondary Nozzle Kit, Stream Straightener Vane			Secondary Nozzle Kit (standard), 12° Wedge Kit (SR200 only)	
MOUNTING DETAILS	Fits QC** & 2" 800 Series Valve		Fits QC** & 2" 800 Series Valve (QC NA for SRNV100)			Substantial thrust on riser, use 3" valve minimum			Substantial thrust on riser, use 4" valve minimum	
CONNECTION OPTIONS	1 1/2" or 2" FNPT or FBSP ANSI/DIN Nelson or Euro Flange		2" FNPT or FBSP, 2 1/2" FNPT ANSI/DIN, Nelson or Euro Flange		2" FNPT or FBSP for SRNV	Nelson, Euro or ANSI/DIN Flange Also, Nelson Flange to Female Adapters			Nelson, Euro or ANSI/DIN Flange Also, Nelson Flange to Female Adapters	

*Vaneless Range Tube option is for wastewater applications containing hair, straw, etc.

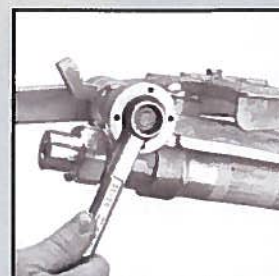
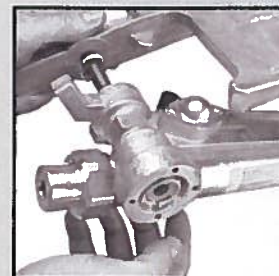
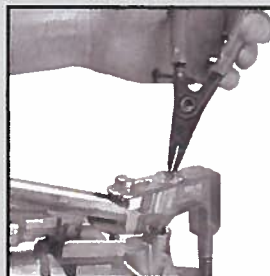
** The "Quick Coupling Valve" inlet is available in both 2" and 3" FNPT and FBSP for connection to the piping system. The "Quick Coupling Key" outlet is available in 2" FNPT, 2" FBSP, and Nelson Flange Connection for connection to the Big Gun.

BIG GUN® FLANGE DETAILS

	75 & 100 SERIES	150 SERIES	200 SERIES
NELSON FLANGE	5/16-18 UNC 2B Threaded Through 2.3" (59mm) 4.0" (102mm) 4.6" (117mm) Use 5/16-18 Bolts Connects to 2" Nelson Flange Bolt Pattern	.406" (10.3mm) Hole Drilled Through 3.2" (81mm) 5.75" (146mm) 8.5" (216mm) Use 3/8-16 Bolts & Nuts or M10 Bolts & Nuts Connects to 3" Nelson Flange Bolt Pattern	3/8-16 UNC Thread .75" (19mm) Deep 4.35" (111mm) 5.75" (146mm) 7.6" (193mm) Use 3/8-16 Bolts & Nuts Connects to 4" Nelson Flange Bolt Pattern (F200 has same bolt pattern as SR150.)
ANSI/DIN COMPATIBLE FLANGE	1/2-13 UNC 2B Threaded Through 2.32" (59mm) 4.62" (117mm) 5.72" (145mm) Use 1/2-13 Bolts Connects to 2" ANSI or 50mm DIN Flanges	1/2-13 UNC 2B Threaded Through 3.2" (81mm) 5.88" (149mm) 6.9" (175mm) Use 1/2-13 Bolts Connects to 3" ANSI or 80mm DIN Flanges	1/2-13 UNC 2B Threaded Through 4.35" (111mm) 7.74" (197mm) 8.9" (226mm) Use 1/2-13 Bolts Connects to 4" ANSI or 100mm DIN Flanges
EURO FLANGE	9.1mm Hole Drilled Through 56mm 130mm 150mm Use M8 Bolts & Nuts Connects to European Traveler Flange	M8 x 1.25 - 6H Threaded Through 81mm 130mm 165mm Use M8 x 1.25 Bolts Connects to European Traveler Flange	M8 x 1.25 - 6H Thread .75" (19mm) Deep 111mm 130mm 193mm Use M8 x 1.25 Bolts Connects to European Traveler Flange

Contact the factory or go to www.nelsonirrigation.com for Parts Lists, Operation & Maintenance Guides, Repair Kits, Dimensional Drawings, Add-on Kit literature & Thrust Force information.

Nelson Big Guns
are easy to repair
with readily
available parts.



BIG GUN® PERFORMANCE (U.S. UNITS)

Flow and diameter (feet) information at various pressures with different nozzle sizes. (See information at bottom of page 11.)

75 TAPER RING NOZZLE — 24° TRAJECTORY

PSI	0.4"		0.45"		0.5"		0.55"		0.6"		0.65"		0.7"		0.75"		0.8"	
	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.
25*	—	—	—	—	—	—	42	146	50	155	59	161	69	167	80	174	91	182
30*	—	—	—	—	37	158	45	158	55	165	64	172	75	182	87	187	99	192
35	—	—	32	154	40	164	49	172	59	178	69	191	81	196	93	202	106	208
40	27	149	35	160	43	171	52	180	63	190	74	198	87	204	98	213	112	221
45	29	155	37	167	46	180	56	189	67	198	79	206	91	214	104	223	118	230
50	30	161	39	174	48	186	59	195	70	203	83	212	95	220	109	230	123	237
55	32	165	41	179	50	193	62	203	74	213	87	221	100	230	115	239	130	247
60	33	169	42	184	53	198	64	208	77	220	91	228	104	237	120	245	136	254
65	35	172	44	189	55	205	67	216	80	227	95	237	109	247	125	254	142	263
70	36	175	45	194	57	210	69	221	83	232	98	243	113	254	129	260	147	270
75	37	179	47	201	59	217	72	228	86	239	101	250	117	261	134	268	153	277
80	39	182	49	207	61	222	74	234	89	244	105	256	121	266	138	274	158	283

*Operating at pressures above 30 PSI provides better performance.

100 TAPER BORE NOZZLE — 24° TRAJECTORY

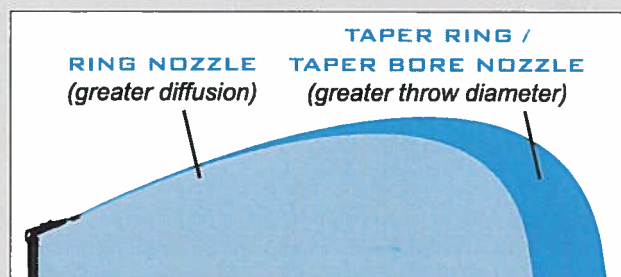
PSI	0.5"		0.55"		0.6"		0.65"		0.7"		0.75"		0.8"		0.85"		0.9"		1.0"	
	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.
40	47	191	57	202	66	213	78	222	91	230	103	240	118	250	134	256	152	262	—	—
50	50	205	64	215	74	225	87	235	100	245	115	256	130	265	150	273	165	280	204	300
60	55	215	69	227	81	240	96	250	110	260	126	270	143	280	164	288	182	295	224	316
70	60	225	75	238	88	250	103	263	120	275	136	283	155	295	177	302	197	310	243	338
80	64	235	79	248	94	260	110	273	128	285	146	295	165	305	189	314	210	325	258	354
90	68	245	83	258	100	270	117	283	135	295	155	306	175	315	201	326	223	335	274	362
100	72	255	87	268	106	280	123	293	143	305	163	316	185	325	212	336	235	345	289	372
110	76	265	92	278	111	290	129	303	150	315	171	324	195	335	222	344	247	355	304	380

150 TAPER BORE NOZZLE — 24° TRAJECTORY

PSI	0.7"		0.8"		0.9"		1.0"		1.1"		1.2"		1.3"		1.4"	
	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.
50	100	250	130	270	165	290	205	310	255	330	300	345	350	360	408	373
60	110	265	143	285	182	305	225	325	275	345	330	365	385	380	446	396
70	120	280	155	300	197	320	245	340	295	360	355	380	415	395	483	412
80	128	290	165	310	210	335	260	355	315	375	380	395	445	410	516	427
90	135	300	175	320	223	345	275	365	335	390	405	410	475	425	547	442
100	143	310	185	330	235	355	290	375	355	400	425	420	500	440	577	458
110	150	320	195	340	247	365	305	385	370	410	445	430	525	450	605	471
120	157	330	204	350	258	375	320	395	385	420	465	440	545	460	632	481

200 TAPER BORE NOZZLE — 27° TRAJECTORY

PSI	1.05"		1.1"		1.2"		1.3"		1.4"		1.5"		1.6"		1.75"		1.9"	
	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.	GPM	DIAM. FT.
60	250	345	285	355	330	375	385	390	445	410	515	430	585	445	695	470	825	495
70	270	360	310	380	355	395	415	410	480	430	555	450	630	465	755	495	890	515
80	290	375	330	395	380	410	445	430	515	450	590	470	675	485	805	515	950	535
90	310	390	350	410	405	425	475	445	545	465	625	485	715	505	855	535	1005	555
100	325	400	370	420	425	440	500	460	575	480	660	500	755	520	900	550	1060	575
110	340	410	390	430	445	450	525	470	605	495	695	515	790	535	945	565	1110	590
120	355	420	405	440	465	460	545	480	630	505	725	530	825	550	985	580	1160	605
130	370	425	425	445	485	465	565	485	655	515	755	540	860	560	1025	590	1210	620



See opposite page for nozzle descriptions.



MEMORANDUM

Date: September 26, 2017
To: Water Right File 65-13611
From: Justin Shearer
Re: Measuring Device

Confirmation of a sufficient measuring device installed at the POD recieved from water district 65 watermaster Ron Shurtleff 9/19/2017 via email.

Shearer, Justin

From: Ron Shurtleff <waterdist65@srvinet.com>
Sent: Tuesday, September 19, 2017 3:17 PM
To: Shearer, Justin
Subject: RE: Tim Fritzley Pump Monitoring in Garden Valley

Justin,

I met with Mr. Fritzley and the meters will be sufficient once they are calibrated. He agreed to record the necessary data to calibrate them. I believe the applicant has met the obligation for a measuring device. And the application should be able to move forward.

Ron Shurtleff

Water District No. 65
102 N. Main
Payette, ID 83661
Phone: 208-642-4465
Fax: 208-642-1042
Cell: 208-642-0230

From: Shearer, Justin [mailto:Justin.Shearer@idwr.idaho.gov]
Sent: Tuesday, September 19, 2017 1:26 PM
To: Ron Shurtleff
Subject: RE: Tim Fritzley Pump Monitoring in Garden Valley

Good Afternoon Ron,

Just wanted to follow up with you on this to see where the applicant stands. Are the meters he has installed, going to be sufficient, or is there more to be done on the applicant's part to be satisfactory?

Please let me know at your earliest convenience.

Thanks and regards,

Justin Shearer
Idaho Department of Water Resources
Water Resource Agent
(208) 334-2190
justin.shearer@idwr.idaho.gov

From: Ron Shurtleff [mailto:waterdist65@srvinet.com]
Sent: Tuesday, August 01, 2017 10:25 AM
To: Shearer, Justin <Justin.Shearer@idwr.idaho.gov>
Subject: RE: Tim Fritzley Pump Monitoring in Garden Valley

Justin,

I believe the meters will be better than nothing. They appear to log a run time value that will need to be messaged to yield a diversion value. I am in the process of trying to see them in operation. I am sure we can make them work, but my disappointment is that data will not be accompanied with a date stamp. Record keeping will need to be accomplished to be truly meaningful.

I will put this on my priority list.

Thanks,

Ron Shurtleff

Water District No. 65
102 N. Main
Payette, ID 83661
Phone: 208-642-4465
Fax: 208-642-1042
Cell: 208-642-0230

From: Shearer, Justin [<mailto:Justin.Shearer@idwr.idaho.gov>]
Sent: Wednesday, June 07, 2017 3:40 PM
To: Ron Shurtleff
Subject: FW: Tim Fritzley Pump Monitoring in Garden Valley

Hi Ron,

Attached is a brochure for the power consumption meters that Mr. Fritzley is looking to install on his pumps. Would you please let me know if these are suitable to your liking and if they will be satisfactory for keeping accurate measurement of his water usage.

Thanks and regards,

Justin Shearer
Idaho Department of Water Resources
Water Resource Agent
(208) 334-2190
justin.shearer@idwr.idaho.gov

From: Timothy Fritzley [<mailto:fritzleyca@msn.com>]
Sent: Monday, June 05, 2017 8:59 PM
To: Shearer, Justin <Justin.Shearer@idwr.idaho.gov>
Subject: Tim Fritzley Pump Monitoring in Garden Valley

Justin;

Here is the product spec for the power usage meters I am installing on each pump.

It is a sealed, non-resettable unit so it cannot be tampered with, unless you destroy it.

They will be installed by next week. Once installed I will take photos and send to you.

I believe this will meet the overall requirement for a guaranteed accurate measurement. Let me know if you agree as I can find something else if required.

Kind regards,

Tim Fritzley

EKM METERING INC.

EKM-15E Spec Sheet



Technical Specifications:

- 120V Single Phase, external CT, kWh meter
- Rated Voltage: 120 volts (+/-30%)
- Rated Current: 5(50)Amps (use only the provided 50A CT)
- CT Inside Diameter: 14mm (about .55 inch)
- Pulse output impulse constant: 1000imp/kWh
- Range of allowable environmental conditions: Pollution Degree 2, Measurement Category III, Altitude rating 2000 meters max. Maximum Temperature Range: -20 Deg. C to 65 Deg. C.
- The equipment is protected throughout by double insulation as indicated by this symbol: 
- Accuracy Class: 1 ($\pm 1\%$ accurate) (Fig 3)
- Rated Frequency: 50Hz/60Hz
- Display mode: LCD 5+2: 99999.99kWh
- Start current: 0.4% Ib. (1.0)
- Power consumption: $\leq 8VA$ $\leq 0.4W$
- Voltage 12~27V, current $\leq 27mA$, max lead length: 20m
- Impulse width=90ms, connect pulse counter to terminal 20 and 21
- Outside dimensions: 117.5x55.8x18mm (Fig 1)

Safety Precautions:

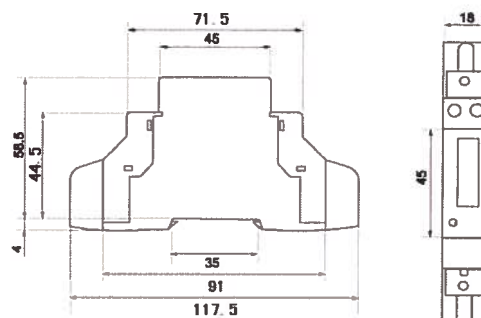
- Meter should be installed by a qualified electrician.
- Turn off all power supplying the equipment before performing any installation or service. Use a volt meter to confirm power is off.
- Use of this device inconsistent with this manual can cause permanent damage to the unit and/or serious harm to the installer or operator.

Tools/Materials List:

- Volt meter
- Small standard screwdriver
- DIN-Rail
- UL Listed Type 4 Enclosure (with appropriately rated conduit and fittings) is required if meter will be installed outdoors

Functions:

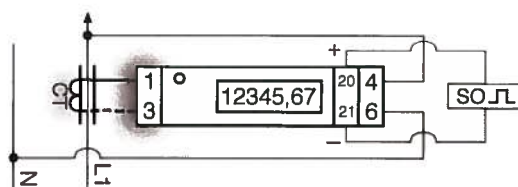
- Long-term active electricity measuring without adjustment.
- Meets IEC 61036
- Ideal for individual circuits or groups of circuits
- DIN rail Mounting
- Connect a pulse counter up to 200 feet away from the meter.



(Fig 1)

Installation Instructions:

1. Use a volt meter to confirm that you have 120 volts between L1 and neutral. This meter will not function correctly unless this is the case. If there are two hot lines and there is 240V between them, you have a 120/240V system. In this case you will use an EKM-25IDS v.2 meter.
2. Disconnect or switch power off before attempting to install, connect, disconnect, or service the meter. ALL POWER MUST BE TURNED OFF!
3. IMPORTANT: Distinguish and then identify the hot Line and the neutral line. Label both of them: L1, N.
4. Once the power has been turned off, pass L1 through the current transformer. (for a retrofit installation this may first require disconnecting L1 from your breaker or junction box)
5. Once the wire is through the CT, it should be reconnected in its original position in the breaker or junction box.
6. Connect the CT leads to ports 1 and 3 (direction doesn't matter).
7. Tap into L1 and connect a wire from it to port 4 on the meter. Also tap into N and connect a wire from it to port 6 on the meter. (Fig 2)
8. Mount the meter using 35mm DIN Rail in a protected indoor location. If installing outdoors, a UL Listed Type 4 Enclosure is required.
9. Once the above steps are completed, and you are ready, you can turn the power back on and begin to read your meter.



(Fig 2)

Pulse Output:

- Terminals 20 and 21 are for pulse output (Fig 1). Pulse rate: 1000 Impulse/kWh. Polarity sensitive. Maximum 27VDC, 27mA.
- Red LED on the meter face flashes 1000 times/kWh. 1 flash = 1Wh.

Load current	Power factor COS θ	Basic error %		
		Class 0.5	Class 1	Class 2
0.05Ib	1.0	± 1.0	± 1.5	± 2.5
0.1Ib~Imax	1.0	± 0.5	± 1.0	± 2.0
0.1Ib	0.5(L)	± 1.0	± 1.5	± 2.5
	0.8(C)	± 1.0	± 1.5	---
0.2Ib~Imax	0.5(L)	± 0.5	± 1.0	± 2.0
	0.8(C)	± 0.5	± 1.0	---

(Fig 3)

EKM METERING INC.

Working Principle

When the meter is working, the energy consumed by the user is transformed into voltage and current signals, which are sampled by sample circuits. A pulse signal is then produced by a specialized IC. The Pulse signal is directly proportional to power consumption. The MCU records and stores the corresponding energy use. The LCD screen displays the energy use.

Data

The LCD display shows one piece of data: total electricity consumed(kWh). By design the kWh cannot be reset. The memory is not affected by a power shortage or power outage. The meter will go at least 10 years without power and still keep its kWh readings. In other words, the memory will not be erased if there is no power.

Transport and Handling

The meter should be handled with care, as there are precision components inside that could break and/or cause faulty readings should the meter become damaged. The process of transportation, handling, and installation should be done according to the transportation and storage rule of GB/T15464-1995. Keep the meter in the original packaging when stored. The storage temperature range should be 0–40°C. The relative humidity should be ≤85%. There should be no toxic chemicals present and no corrosive substances or gases in the air. The meters should be stacked on a platform no more than ten units high.

Warranty

Within two years from the date of sale, and on the condition that the user abide by the specifications and installation instructions listed here, and the sealing is kept completely intact. If the meter does not correspond with the rule of the enterprise standard, the meter shall be repaired free or replaced.

Shearer, Justin

From: Timothy Fritzley [fritzleyca@msn.com]
Sent: Friday, October 07, 2016 10:52 AM
To: Shearer, Justin
Subject: RE: 851 Banks Lowman Road Garden Valley Prior Water Permit Letters

Follow Up Flag: Follow up
Flag Status: Flagged

Justin,

Just a quick follow-up. I have spoken to Ron Shurtleff who is the water master for Garden Valley – Water District 65.

We are setting up an appointment for next week and will agree on a monitoring system for the two pumps/diversions.

He sees no problem with having two diversions based on the size of the property as long as they are properly monitored.

I will follow-up with you once we have agreed to the best set up. There are several options that can be used and he will recommend one once he sees the installations.

Tim

From: Tim Fritzley [<mailto:fritzleyca@msn.com>]
Sent: Friday, October 7, 2016 10:31 AM
To: justin.shearer@idwr.idaho.gov
Subject: 851 Banks Lowman Road Garden Valley Prior Water Permit Letters

Justin,

Please find attached 3 letters of correspondence that seem to be the most recent. Let me know if you want all of the correspondence. It goes back 1990.

Thanks for taking the time to come out to the property for the inspection. I always learn more about what I need to be aware of and doing.

Kind regards,

Tim Fritzley

Mobile: 650 400 5655

Payette River Basin, State of Idaho
Water District No. 65

Watermaster
Ron Shurtleff

102 N. Main
Payette, ID 83661

Phone: 208-642-4465
Fax: 208-642-1042
e-mail: waterdist65@srvinet.com

October 3, 2014

Dan Fry & Shauna Fry
P.O. Box 765
Garden Valley, Idaho 83629

Re: Payette River Water Right No. (s) 65-13611

Dear Mr. Fry

This irrigation season is quickly coming to an end. With this mailing I am once again requesting diversion data for your water rights on the Payette River. I trust you have been keeping track of the run times for your system and are ready to supply me with your specific information.

I have included a reporting page for your convenience. Please indicate usage and non-usage days and give me as much information about your rate of diversion as possible. If your water usage is accomplished by an electric pump with a dedicated electrical meter, we need to talk. With a little cooperation from you I can relieve you from this reporting process, whereas you can shift the burden to my office, by allowing access to Idaho Power load data.

I try to close the water accounting books by the end of November and thus will appreciate receiving your report as soon possible. My endeavor is to be fair and equitable to all water users on the system and I rely heavily upon your willingness to return accurate data in regard to your water usage.

The 2014 season treated us quite comfortably. Our reservoir system will enter the winter with a generous amount of carryover water, which will help us to secure next year's supply. Early forecasts however predict a mild El Nino. This may not be good, in the past; the northwest has experienced lower precipitation rates during the El Nino patterns.

I look forward to receiving your diversion report and please understand, if you have any questions do not hesitate to contact me via any of the methods listed below.

Sincerely,

Ron Shurtleff

Office: 208-642-4465
Cell: 208-642-0230
Fax: 208-642-1042
e-mail: waterdist65@srvinet.com

Water Right No.(s): 65-13611

208-642-1042

IDWR Ident. No. 13237927

334-2190

Priority: 3/22/1995

DAN FRY
PO BOX 765
GARDEN VALLEY, ID 83629

Source: Middle Fork Payette River
Type of Use: Irrigation/Stockwater
Diversion Rate: 0.42 CFS
Irrigated Acres: 20

Point of Diversion: SESE Sec. 16 T 09N R 04 E Boise Co.

Listed Water Right Owner(s)
Dan Fry & Shauna Fry

STATE WATER DISTRICT NO. 65
102 N MAIN
PAYETTE ID 83661

Place of Use: 09N 04E Sec. 16 SWSE

State Water District No. 65, Water Diversion Report; Water Year 2014

Day of Month	April	May	June	July	August	Sept.	October	Day of Month
1			.42-20	.42-20				1
2			.42-20		.42-20	.42-20	.42-20	2
3				.42-20	.42-20	.42-20		3
4			.42-20	.42-20	.42-20			4
5			.42-20	.42-20		.42-20	.42-20	5
6								6
7			.42-20	.42-20	.42-20			7
8			.42-20	.42-20	.42-20	.42-20	.42-20	8
9								9
10			.42-20	.42-20	.42-20	.42-20		10
11			.42-20	.42-20	.42-20			11
12						.42-20		12
13			.42-20	.42-20	.42-20			13
14			.42-20					14
15						.42-20		15
16		.42-20		.42-20	.42-20	.42-20		16
17		.42-20	.42-20	.42-20				17
18		.42-20	.42-20	.42-20	.42-20			18
19			.42-20		.42-20			19
20			.42-20	.42-20		.42-20		20
21		.42-20		.42-20				21
22		.42-20	.42-20		.42-20	.42-20		22
23			.42-20		.42-20			23
24		.42-20	.42-20	.42-20		.42-20		24
25		.42-20			.42-20			25
26		.42-20	.42-20	.42-20				26
27			.42-20		.42-20	.42-20		27
28		.42-20	.42-20	.42-20	.42-20			28
29		.42-20						29
30			.42-20	.42-20				30
31								31
	April	May	June	July	August	Sept.	October	

Signature

Shauna Fry
462-3219

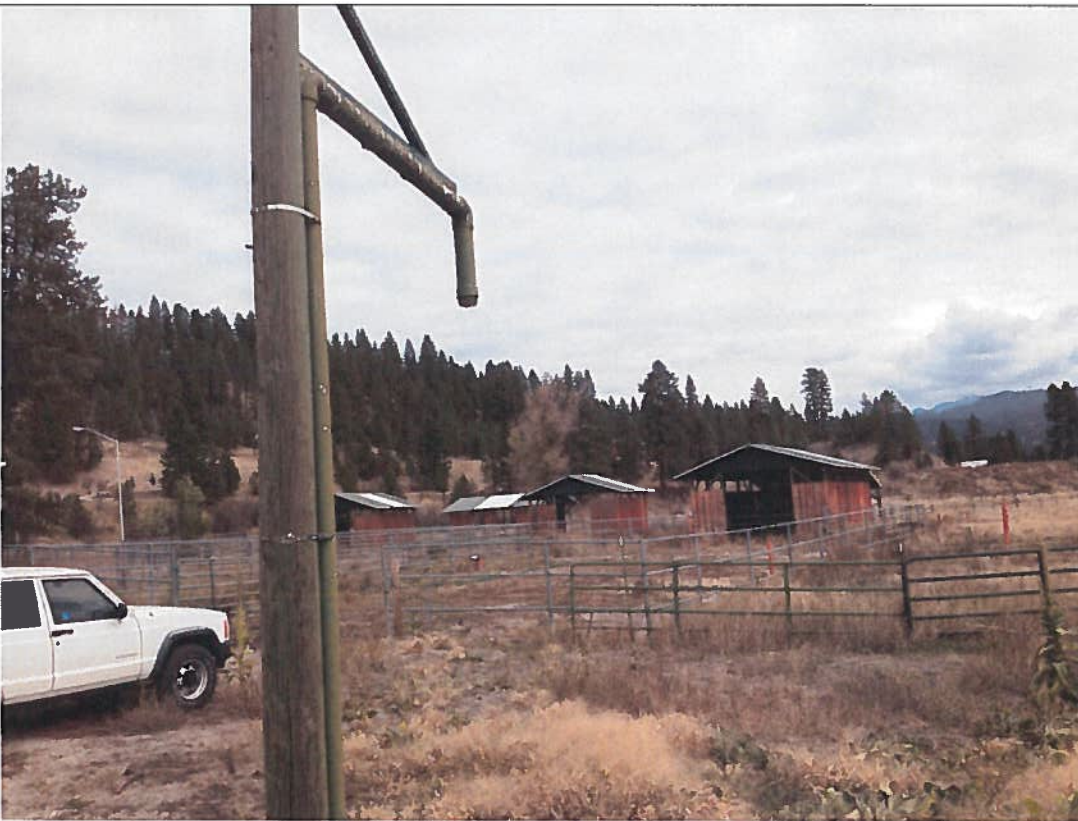
Date

7-29-15

BasinSequence	Owner	Source	Use	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	TotalAcres
65-10285	WILSON, BETTY H; WILSON, HARRY P	GROUND WATER	DOMESTIC												X					
65-10497	KULM, KATHLEEN I; REAY, D E; REAY, MARY B; REAY, MILES R	GROUND WATER	DOMESTIC																X	
65-10662	BORTLES, MARK; BORTLES, VAUDA	GROUND WATER	DOMESTIC																	
65-10663	BORTLES, MARK; BORTLES, VAUDA	CASTLE CREEK	IRRIGATION													X				
65-10667	CARPENTER, HAZEL L; CARPENTER, MERLE Q; VAUGHAN, ALAN DUANE; VAUGHAN, KATHLEEN M	CRAIG CREEK	DOMESTIC												X					5
65-10668	CARPENTER, HAZEL L; CARPENTER, MERLE Q; VAUGHAN, ALAN DUANE; VAUGHAN, KATHLEEN M	SPRING	DOMESTIC												X					
65-12317	INTERMOUNTAIN DISTRICT ADVISORY BOARD	UNNAMED STREAM	DOMESTIC														X	X		
65-13611	FRITZLEY, TIMOTHY D; FRY, DAN; FRY, SHAUNA	PAYETTE RIVER	IRRIGATION																	
65-13730	FRITZLEY, TIMOTHY D; FRY, SHAUNA	UNNAMED STREAM	STOCKWATER															X	14	14
65-13800	HELLHAKE, LARRY ; MOUNTAIN SHADOWS HOMEOWNERS ASSN	GROUND WATER	MUNICIPAL		X	X		X		X	X	X					X	X		
65-18106	REAY, D E; REAY, DAVID BRUCE, REAY, MARY B	GROUND WATER	DOMESTIC																X	
65-18106	REAY, D E; REAY, DAVID BRUCE, REAY, MARY B	GROUND WATER	STOCKWATER																X	
65-18129	MIMS, MICHELLE, PETERSON, GARY D; ROBESON, DORIS; ROBESON, DOUGLAS	GROUND WATER	DOMESTIC	X																
65-19623	FRAZIER, LORI; FRAZIER, MIKE; GLAUSER, GARY; GLAUSER, MARLO	UNNAMED STREAM	STOCKWATER																	
65-21968	FRAZIER, LORI; FRAZIER, MIKE; GLAUSER, GARY; GLAUSER, MARLO	GROUND WATER	DOMESTIC												X					
65-21968	FRAZIER, LORI; FRAZIER, MIKE; GLAUSER, GARY; GLAUSER, MARLO	GROUND WATER	STOCKWATER												X					
65-22385	FAKCKRELL, BARBARA; FACKRELL, EDGAR	PAYETTE RIVER	STOCKWATER												X					
65-23169	LOGAN, GEORGE	PAYETTE RIVER	STOCKWATER																	
65-23477	LOGAN, GEORGE	PAYETTE RIVER	IRRIGATION				1.5												1	2.5
65-23633	REAY, D E; REAY, MARY B; REAY, MILES R	POND	IRRIGATION														3.5			3.5
65-23634	KULM, KATHLEEN I; REAY, D E; REAY, MARY B	PAYETTE RIVER	IRRIGATION																5.7	5.7
65-2856	REAY, D E; REAY, DAVID BRUCE; REAY, MARY B	PAYETTE RIVER	IRRIGATION																5.9	5.9
65-5670	CORDER, JOHN W; MIMS, MICHELLE; PETERSON, GARY D; ROBESON, DORIS; ROBESON, DOUGLAS	CASTLE CREEK	DOMESTIC	X															10.4	10.4
65-5673	CORDER, JOHN W; MIMS, MICHELLE; PETERSON, GARY D; ROBESON, DORIS; ROBESON, DOUGLAS	GROUND WATER	DOMESTIC	X																
65-7608	FAKCKRELL, BARBARA; FACKRELL, EDGAR	PAYETTE RIVER	IRRIGATION																	
65-7935	BORTLES, MARK; BORTLES, VAUDA	CASTLE CREEK	IRRIGATION		15											7				7
65-7997	COUNTY OF BOISE	GROUND WATER	DOMESTIC																	15
65-9460	FAKCKRELL, BARBARA; FACKRELL, EDGAR	SPRING	DOMESTIC												X					
															X					



Pump System
#1;
10hp
submersible
pump.



Fill tower
BLM uses for
firefighting
purposes.



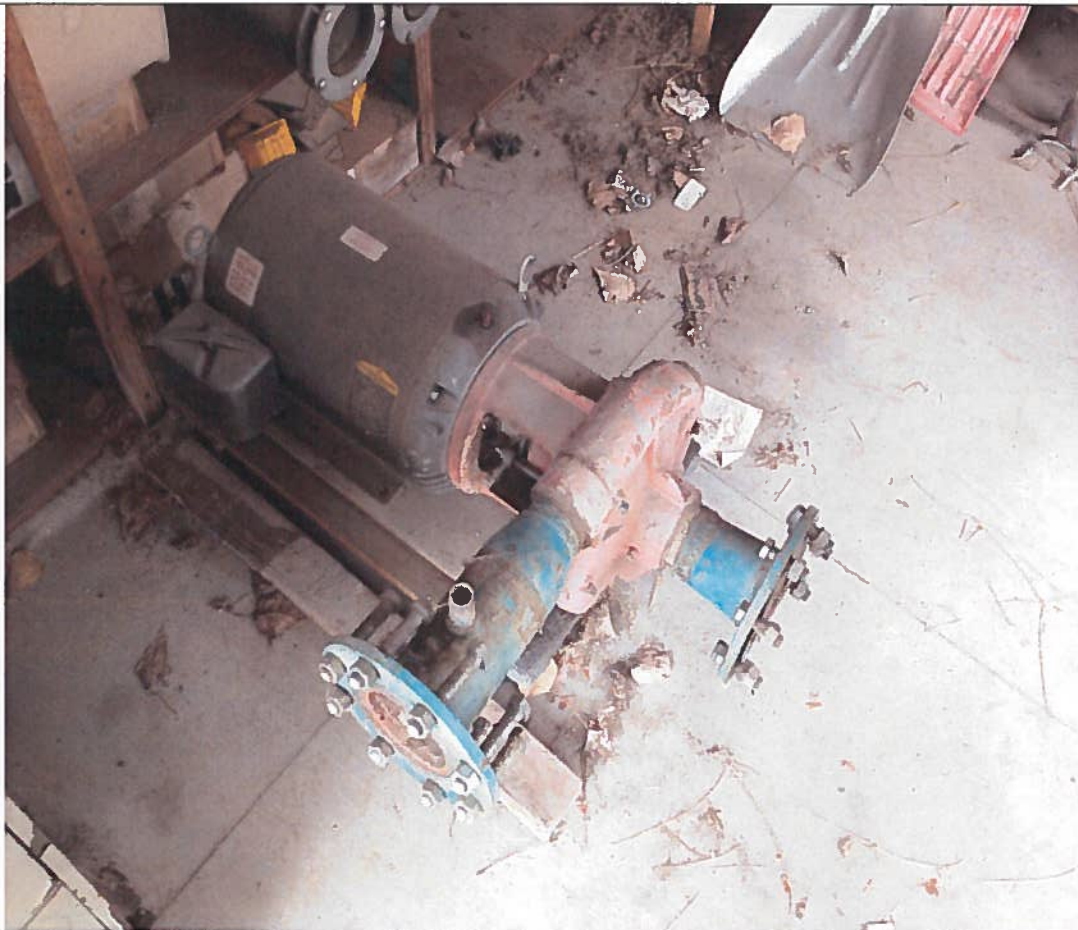
View of
stables and
pasture
looking
north.



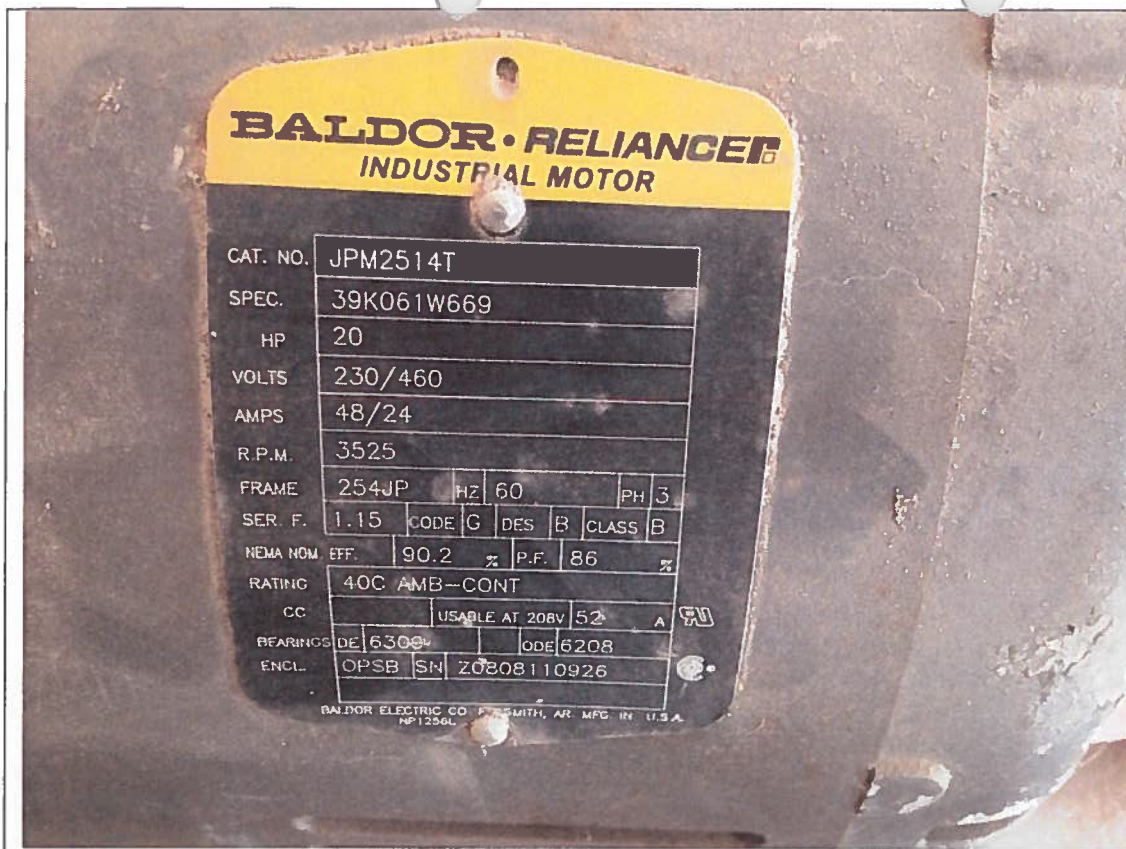
Main line for
Pump
System#2



Pump System #2 stage and control box. Note, control box does have locking capabilities should the water master need to lock device for any reason.



Pump #2,
20hp



Pump#2
Specs tag



Roll out
sprinkler used
to deliver
water to west
portion of
property



One of the solo Big Gun sprinklers used to water the pastures.



Big Gun
Specs 0.70"



Alternative view of
Big Gun



View of arena and
property looking
south.