

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 65-23147
Exam Date: 7/18/2017

1. Current Owner:
COUNTY OF PAYETTE
COUNTY CLERK
1130 3RD AVE N RM 104
PAYETTE, ID 83661
(208) 642-6000
2. Accompanied by: Allen Scarborough
Phone No: 208-642-6036
Address: 2560 Highway 52, Payette, ID 83661
Relationship to Permit Holder: Clay Peak (County of Payette) Landfill Supervisor
3. **SOURCE:**
PAYETTE RIVER

TRIBUTARY:
SNAKE RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: None
2. Other water rights with the same point-of-diversion: Lower-Payette Ditch Co. WR's, 65-2376, 65-4982, 65-11212, & 65-13955

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

PAYETTE RIVER L3 (SE¼NW¼) Sec. 7, Twp 07N, Rge 03W, B.M. PAYETTE County

Method of Determination: Handheld GPS

2.

PLACE OF USE: INDUSTRIAL

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
08N	05W	1	X L 1	X L 2	X	X	X L 3	X L 4	X	X	X	X	X	X	X	X	X	X	
08N	05W	2	X L 1			X								X					

Method of Determination: Handheld GPS, ArcMAP, and Aerial Imagery.

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.

 x 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

 x 1:24,000 or greater.

 NA Aerial Photo Attached (required for irrigation of 10+ acres).

 x 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
NA	GE	25	23075612	NA	10 "

*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
NA	NA	NA	NA	NA	NA	NA

2. Measurements: The applicant had a Seametrics Flow Meter installed at the pumping point that measured instantaneous flow so no additional flow measurement was taken.

E. Flow Calculations

Measured Method: Seametrics Flow Meter reading

Instantaneous flow reading of 245.4 gpm

245.4 gpm/448.83 gpm/1 cfs = 0.546 cfs→**0.55 cfs**

Conveyance Losses: 18.8%

100% -18.8%=81.2%

$x(0.812) = 0.55\text{cfs} \rightarrow 0.55\text{cfs}/0.812 = 0.677\text{cfs} \rightarrow \mathbf{0.68\text{cfs}}$

0.68cfs -0.55cfs= 0.13cfs lost through conveyance

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: NA

2. Volume Calculations for Other Uses: INDUSTRIAL

Volume was calculated based on estimates of usage provided by applicant. The water trucks filled used for dust suppression have 4,000 gallon tanks and are filled at most 7 times a day. Normal operations are 6 days a week and un-operational for the standard 10 government holidays. Using this information:

4,000 gal x 7 truckloads/day = 28,000 gal/day

28,000 gal/day x 302 operating days/year (6 days/week – 10 standard government holidays) = 8,456,000 gal/yr

8,456,000 gal / 325,850 gal/acre-foot = 25.95 af→**26.0 AF**

G. NARRATIVE/REMARKS/COMMENTS

Field exam was completed by Agent Justin Shearer on July 18, 2017 and was accompanied by Clay Peak Landfill Supervisor Allen Scarborough; Clay Peak Landfill and Clay Peak Recreation Area are operated by Payette County. County of Payette manages both the Clay Peak Landfill and the Clay Peak Recreation Area. WR 65-23147 covers use for the motorsports park and WR 65-13955 covers use for the landfill. The County of Payette is the original permit holder. The point of diversion (POD) is located approximately 7 miles SE of the place of use (POU) on the Payette River. More specifically the water is diverted from the Payette River at the canal head-gate for Lower-Payette Ditch Co. From the POD, the water travels NW within the Lower-Payette Ditch Co.'s gravity canal to the pumping point whereupon the water is delivered uphill approximately ¾ mile through 10" steel pipe to three 20,000 gallon storage tanks at the Clay Peak Recreation Area for Industrial purposes. From the storage tanks the water is delivered approximately a ¼ mile SE downhill to a standpipe where it is made available for water trucks to fill up for dust abatement purposes at the motorsports park and landfill. Motor make, serial number, and HP information were obtained, however information regarding the type or serial information of the pump could not be obtained during the exam. There is POD overlap with Lower-Payette Ditch Co. WR's, as well as WR's 65-2376, 65-4982, 65-11212, & 65-13955. There is no pertinent POU overlap associated with this water right.

Aerial imagery and the on-site field exam were used to determine the POU. ArcMap tools were used to examine the extent of the motorsports park area and POU. During the field examination Mr. Scarborough provided information regarding the amount of water used on an average basis to fill up the watering trucks for both the motorsports park and the landfill. This information was used to perform volume calculations (see section F). Flow measurements were taken from the Seametrics Flow Meter installed at the pumping point which provided instantaneous flow rates so no additional measurement was taken.

There was a totalizer on the flow meter, however Mr. Scarborough was not certain of when it was reset. Thus, the volume was estimated based on Standard Operating Procedure figures provided during field exam. The measured flow at the time of exam was 245.3 gpm or 0.55 cfs (see section E).

In an effort to take into account any conveyance losses incurred while the water traveled from the POD to the pumping point, Ron Shurtleff, Watermaster of Water District No. 65, was contacted for information in regards to this matter. In response he provided an equitable conveyance loss rate based upon documents from the Lower Payette Ditch Company's back file regarding transmission loss calculations for the canal system (see letter from Ron Shurtleff dated 11/21/17). A 1978 study documented the percentage of loss over a 20.4 mile study length to be 28.6% over that distance. The measured distance from the POD to the pumping point is 13.42 miles. The distance is 65.8% of the study length of 20.4 miles. Thus, we concluded that an equitable loss rate to apply to the Water Rights 65-13955 and 65-23147 would be 18.8%, which is 65.8% of the loss incurred over a 20.4 mile distance. Using this rate of loss estimation, it can be assumed that the 0.55 cfs pumping rate observed during the field exam is 81.2% of the full amount diverted at the canal POD in order to sufficiently provide enough water at the pumping point. Therefore, while taking into account an estimated 18.8% conveyance loss, a rate of 0.68 cfs is necessary in order to provide the needed 0.55 cfs at the pumping point. The recommended rate on the license has been reduced from 0.80 cfs to **0.68 cfs** to reflect the extent that the applicant's system has been developed to produce at the time of exam, and the conveyance losses associated with transporting the water in the Lower Payette Ditch Company's canal.

Because the storage system does not exceed the 24-hour refill rule, there is no need to add storage components to the beneficial uses described by the license. Additionally, because the applicant uses the same system for WR 65-13955, I am recommending a combined use limit for the WR's 65-23147 & 65-13955 where the two rights when combined, shall not exceed 0.68 cfs, and the volume of 26.0 AF. The system does have the capabilities to be lockable that would provide the watermaster suitable control of the diversion. In addition, a measuring device acceptable to the Department has been installed and maintained at the pumping point.

Condition X35 was added to create a combined use limit for WR's 65-13955 & 65-23147. Condition 106 pertaining to requirements administered by the Department of Environmental Quality or the Department of Agriculture was removed because there is no special circumstance in this particular case requiring it to remain on at licensing. Condition x56 was added to identify how much of the right is considered to be conveyance loss.

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>
INDUSTRIAL	01/01 to 12/31	0.68 CFS	26.0 AF
<u>Totals:</u>		0.68 CFS	26.00 AF

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☐ Other-NOU
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☒ None

I. AUTHENTICATION

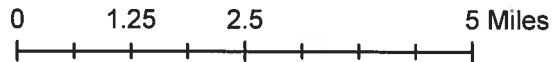
Field Examiner's Name Angela M. Ginn Date 12/28/2017
 Reviewer Angela M. Ginn Date 12/29/17

State of Idaho
Department of Water Resources

Attachment to Water Right License

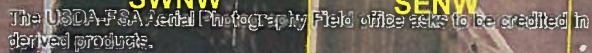
65-23147

This map depicts the INDUSTRIAL 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.



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





Legend

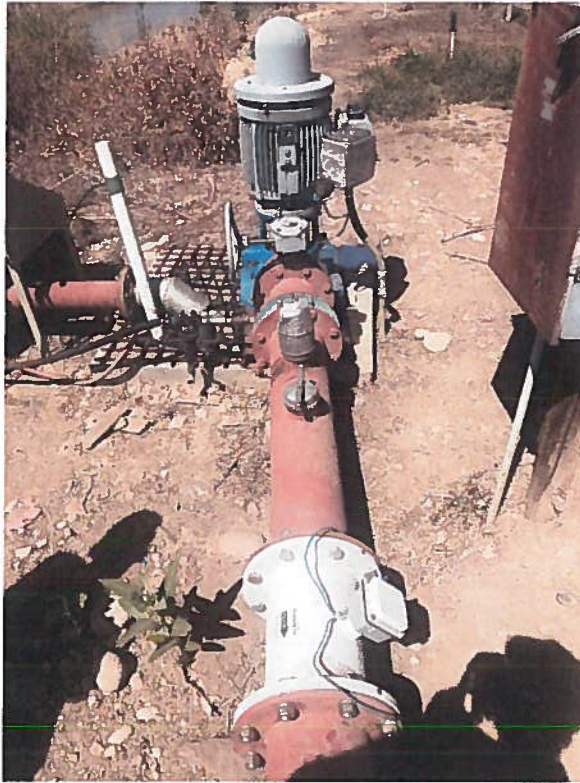
-  Pump Diversion from Canal
-  Water Line from Canal to Storage Tanks
-  Storage Tanks
-  Water Line from Storage Tanks
-  Standpipe
-  Township/Range
-  Sections
-  QQ



Pic of pumping point showing motor-pump system diverting water from Lower-Payette Ditch Co.'s gravity canal.



Pic showing motor-pump system and 10" discharge pipe heading into the ground.



Pic showing
pumping point and
Seametrics
Flowmeter.

MODEL KP264DTT6015A		HP	25
VOLTS	230/460	RPM	1760
AMP	66/32.5	POWER FACTOR	79.5
MAX. KVAR	7.3	PHASE	3
S. F.	1.15	RATING	CONT.
INS. CLASS.	F	MAX. AMB.	40° C
FRAME	1204TP12	NEMA DESIGN	B
LFL	312/156	ENCL	BPI
NEMA NOM. EFF.	91.7	CODE	F
SHAFT END BRG	G311	CONNECTION 	
OPP/END BRG	7311B		
SER. NO.	23075512	DATE CODE	AE 7P
STK. NO.	23609	WEIGHT	435 LB
50HZ DATA	20 HP 190 / 300 VOLTS 61 / 30.5 AMPS		
HIGH EFFICIENCY VERTICAL AC MOTOR MADE IN TAIWAN			

4-39394

Motor tag with
serial no., hp,
model, etc.



Seametrics
Flowmeter.



Reading on
flowmeter showing
measured 245.4
gpm flow rate.



Pic of the three
20,000 gallon
storage tanks.



Pic showing the
Inflow-Line (left)
that fills the tanks,
and a return line
(right).



Pic showing
Outflow-Line that
heads downhill to
standpipe.



Pic of standpipe
platform.



Water truck filling
up at standpipe
platform.



Water truck filling
up at standpipe
platform.

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WATER RESOURCES
WESTERN REGION

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

Watermaster,
Ron Shurtleff

102 N. Main
Payette, ID 83661

Phone: 208-642-4465
Fax: 208-642-1042
E-mail: wd65@srvinet.com

November 21, 2017

Justin Shearer
Idaho Department of Water Resources
Western Region
2735 Airport Way
Boise, ID 83705-5082

Dear Justin,

I found three documents in the Lower Payette Ditch Company's Back File regarding transmission loss calculations for the canal system. A March 31, 1970 document reported a loss of 30% but qualified its statement stating it was a rough calculation. Another document circa June of 1971 calculated also a 30% loss. The document dated September 19, 1978 appears to me to be the best documented and the percentage of loss over a 20.4 mile study length calculated to 28.6% over the stated distance.

I measured the distance of the Payette County's diversion point (Pump) on the Lower Payette Ditch Company's canal, from the point where the canal is diverted from the Payette River. That distance is 13.42 miles. The distance is 65.8% of the study length of 20.4 miles which calculated the 28.6% loss. In the study the loss per mile appears to be very consistent. I conclude that an equitable loss rate to apply to the Water Rights 65-13955 and 65-23147 would be 18.8% which is 65.8% of the loss incurred over a 20.4 mile distance.

I have included the documents for your review. If you need anything further please do not hesitate to give me a call.

Sincerely,


Ron Shurtleff

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WATER RESOURCES
WESTERN REGION

March 31, 1970

C
O
P
Y
Annabel Anderson
114 North 8th
Payette, Idaho 83661

Dear Mrs. Anderson:

Our office was requested to perform some calculations on ditch loss. Based on one inch per acre, the quantity needed at the headgate would be 185.4 c.f.s. plus an estimated loss assuming the type of soil as sandy loams for Lower Payette Ditch. We estimate that the approximate loss would be about 54. c.f.s., making the total quantity needed to be 239.4 c.f.s.

29% loss

We would caution you that these are very rough calculations. We supply them only to give you some guidelines or directions in figuring what your needs for irrigation would be.

Very truly yours,

Gary L. Page
Survey Examiner

GLP:mh

? 185.4 cfs to 9270 Acres

65 0325

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Measurements on Lower Fayette Canal Co. (Attached)

Place	Date	Discharge (cfs)	Acreage
	6-22-71	241 ⁸⁰	12,090
	7-8-69	262 ⁰⁸	13,104
#2	4-30-70	192 ⁰¹	9,600
#1	4-30-70	214 ⁰⁷	10,704
	7-2-70	278 ⁶⁶	13,933
Way 52 Sta.	5-10-71	234 ⁶³	11,731
$\bar{x} = 237 \frac{21}{100}$ $\bar{x} - \#2 = 246 \frac{25}{100}$ cfs for 12,312.5 acres			

Found 13,546 Acres; needs 270.92 cfs
 All lands (companies) + loss of 30% = 352.2 gfa

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09\19\78 D.R.T.

* MACALLISTER'S MODIFICATION OF MORITZ *
* LOSS CALCULATION FOR *
* THE LOWER PAYETTE DITCH *
* WATER RIGHT NO. 0165X ABC *

Q DIVERTED: 283.09 TYPE OF SOIL: SANDY LOAM
Q DELIVERED: 220.09 (11,004 ACRES) SUBJECT SOIL CONSTANT= 1.50 (FEET/DAY)
PERCENTAGE LOSS: 28.6 TO MINOR CHANGE LENGTH OF HEAD OF DITCH: 8.40
LENGTH OF DELIVERY SECTION: 20.40

NOTE: PERCENTAGE LOSS WILL CHANGE VERY
LITTLE WITH SMALL (500AC) CHANGES IN ACREAGE.
LOSS TABLE FOR HEAD OF DITCH

MILE	Q (CFS)	LOSS (CFS)
1.00	280.54	2.55
2.00	278.00	2.54
3.00	275.46	2.54
4.00	272.92	2.54
5.00	270.39	2.53
6.00	267.86	2.53
7.00	265.33	2.53
8.00	262.81	2.52
8.40	261.81	1.01

FLOW = 94.96 (1.286)

= 122.12 cfs

AMT = 21366 (1.286)

= 27476.7 AFA

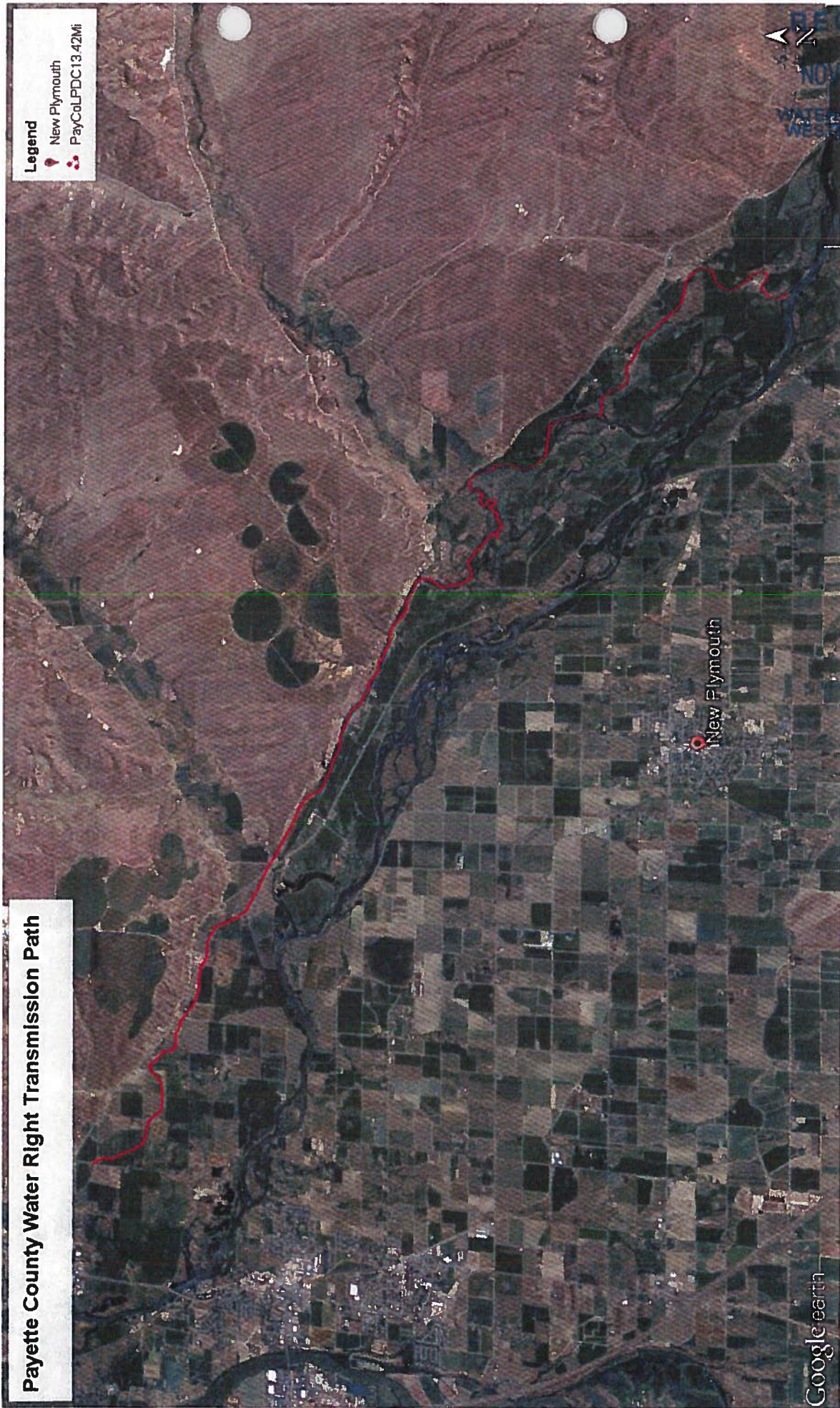
LOSS TABLE FOR DELIVERY

MILE	Q (CFS)	LOSS (CFS)	Q DELIVERED (CFS)
1.00	248.50	2.52	10.79
2.00	235.22	2.49	10.79
3.00	221.96	2.47	10.79
4.00	208.72	2.45	10.79
5.00	195.52	2.42	10.79
6.00	182.34	2.39	10.79
7.00	169.19	2.36	10.79
8.00	156.09	2.32	10.79
9.00	143.02	2.28	10.79
10.00	130.00	2.23	10.79
11.00	117.03	2.18	10.79
12.00	104.12	2.13	10.79
13.00	91.27	2.06	10.79
14.00	78.50	1.99	10.79
15.00	65.81	1.90	10.79
16.00	53.23	1.79	10.79
17.00	40.77	1.67	10.79
18.00	28.47	1.51	10.79
19.00	16.37	1.31	10.79
20.00	4.54	1.04	10.79
20.40	.00	.23	4.32

Payette County Water Right Transmission Path

Legend

- New Plymouth
- PayCoLPDC13.42Mi



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WESTERN REGION



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

June 29, 2017

PAYETTE COUNTY
1130 3RD AVE N RM 104
PAYETTE, ID 83661

COPY

RE: Scheduling Field Exam for Water Right Permit No. 65-23147

Dear Permit Holder:

We are planning to conduct water right examinations in the vicinity of the above-referenced permit **this season**. An examination is needed to verify the water use in order to issue a water right license.

The above-referenced permit authorizes **0.800 CFS** from **PAYETTE RIVER** tributary to **SNAKE RIVER** for **INDUSTRIAL** use. **If you have developed a beneficial use and still own the place of use property, please contact me at your earliest convenience to schedule an examination.**

If you did not develop a beneficial use of water under the permit during the beneficial use period, a license cannot be issued and the permit should be relinquished. If that use was developed, but have ceased using the water and you currently carry no interest in it, please relinquish the permit by submitting the enclosed Relinquishment of Permit form (no fee required).

If you did develop a beneficial use of water under the permit, but you no longer own the place of use property identified in the permit, please submit the enclosed Assignment of Permit form with the applicable \$25 processing fee.

Please contact me within the next thirty (30) days at (208) 334-2190 to either schedule an examination or submit a relinquishment or assignment form. If you no longer own the place of use property and/or do not respond to this letter, the department will work with the current property owner to issue a license or void the permit.

Sincerely,

Justin Shearer
Water Resource Agent

Enclosures: Relinquishment of Permit form
Assignment of Permit form
Water Permit Report and Map