

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 71-10941
Exam Date: 6/10/2016

1. Current Owner:
PATRICK W LEE And/Or JOHN T BROWN
PO BOX 61 SUN VALLEY ID 83353 (208) 774-2900

2. Accompanied by: John T Brown (Jack) & Benny Walker (IDWR staff)

Phone No: 208-774-2303
Address: same as above
Relationship to Permit Holder: Partner

3. **SOURCE:**
LOST CREEK

TRIBUTARY:
SINKS

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 71-10940 (ground water); 71-7178, 71-7179 & 71-10929 (ponds)
2. Other water rights with the same point-of-diversion: 71-7178 & 71-10929

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

LOST CREEK SE¼SW¼SE¼ Sec. 34, Twp 08N, Rge 14E, B.M. CUSTER County(Injection)
LOST CREEK SE¼SW¼SE¼ Sec. 34, Twp 08N, Rge 14E, B.M. CUSTER County(Rediversion)
LOST CREEK SE¼SE¼SE¼ Sec. 34, Twp 08N, Rge 14E, B.M. CUSTER County

Method of Determination:

2.

PLACE OF USE: STOCKWATER

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	14E	34															X		

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	
08N	14E	34															11.0	4.0	15.0

Total Acres: 15

Method of Determination: Aerial photography and Jack Brown outlined irrigated acres on a map on 8/16/17.

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
X 1:24,000 or greater.

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

X Photo of Diversion and System Attached

D. FLOW MEASUREMENTS

1.

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

2. Measurements:

E. FLOW

_____ Additional Computation Sheets Attached

CALCULATIONS

Measured Method:

Water is diverted from Lost Creek through a slide head gate and measured by a V-notch weir. At the time of the exam it was noted that the high water mark on the v-notch weir was approximately 5 inches. According to the US Dept. of Interior Bureau of Reclamation chart for a V-notch weir with 5 inches of head, the flow is approximately 0.29 cfs. (see attached)

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: N/A

An irrigation volume is not required per Beneficial Use Examination Rules.

$$V_{IR} = (15 \text{ acres}) \times (3 \text{ af/ac}) =$$

$$V_{DR} = (0.29 \text{ cfs}) \times (184 \text{ days}) \times 1.9835 =$$

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

2. Volume Calculations for Other Uses:

Stockwater use on permit for 0.02 cfs is less than 13,000 gpd and is considered a domestic use per Beneficial Use Examination Rules. No volume required.

G. NARRATIVE/REMARKS/COMMENTS

On June 30, 2011, application for permit was filed for 0.02 cfs for stockwater use and for the diversion of up to 0.3 cfs for irrigation of 15 acres within a 160 acre authorized place of use. The permit was approved on October 28, 2011 and proof was filed on November 1, 2013.

The system consists of diversion from the new Lost Creek channel through a slide headgate and is then measured by a V-Notch weir. Once the water flows through the open channel holding the weir it is collected into a screened, 4-inch PVC pipe and conveyed approximately a ¼ mile to the south pond where a 5 HP pump re-lifts to the irrigation system. Note, that the south pond is located on the old Lost Creek channel as discussed in the 71-7178 licensing exam. The irrigation system is made of two 600 ft., 2-inch polyurethane pipes with sprinklers every 40 ft. (see pics) The two individual pipes are connected to two main risers in the pasture and can be pivoted around the risers by hooking to the back of an ATV and pulled from place to place within the 15 acre proposed place of use.

At the time of the exam approximately 2 inches of water was flowing over the weir. Jack Brown stated that typically this time of year flows were around 4 inches. It was noted that the high water mark on the v-notch weir was roughly

5 inches. According to the US Dept. of Interior Bureau of Reclamation chart for a V-notch weir with 5 inches of head, flow rate is approximately 0.29 cfs. The IDWR standard for irrigation for this area is 3 ft/ac. The permit is limited to 15 acres within a 160 acre permissible place of use. On August 16, 2017 Jack Brown again met with IDWR staff and outlined on a map the approximate 15 acres that have been irrigated. Note that the same approximate 15 acres have continually been irrigated so the 160 acre permissible place of use will not be recommended for licensing. An irrigation volume is not required for surface water per Beneficial Use Examination Rules. Therefore I am recommending a flow rate of 0.29cfs for the irrigation of 15 acres for license 71-10941.

The stock water use is for 10 horses that drink out of the old Lost Channel and the two ponds. This amount of water is calculated at less than 13,000 gpd and considered a domestic use under Beneficial Use Examination Rules which requires no volume. Therefore I am recommending a flow rate of 0.02 cfs with no volume for stockwater use.

A companion license 71-10940 is for ground water for the same irrigation and stockwater use. A combined limits condition was placed on the permits and should be carried over to the new licenses limiting them to 0.30 cfs with a volume of 45 AF for the irrigation of 15 acres.

Note the Watermaster of 170 waived the data logger requirement for the new license.(see attached e-mail dated 9/21/17)

Have conditions of permit approval been met? X Yes No

H. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>
IRRIGATION	05/01 to 07/01	0.29 CFS
STOCKWATER	01/01 to 12/31	0.02 CFS

Totals: 0.290 CFS

2. Recommended Amendments

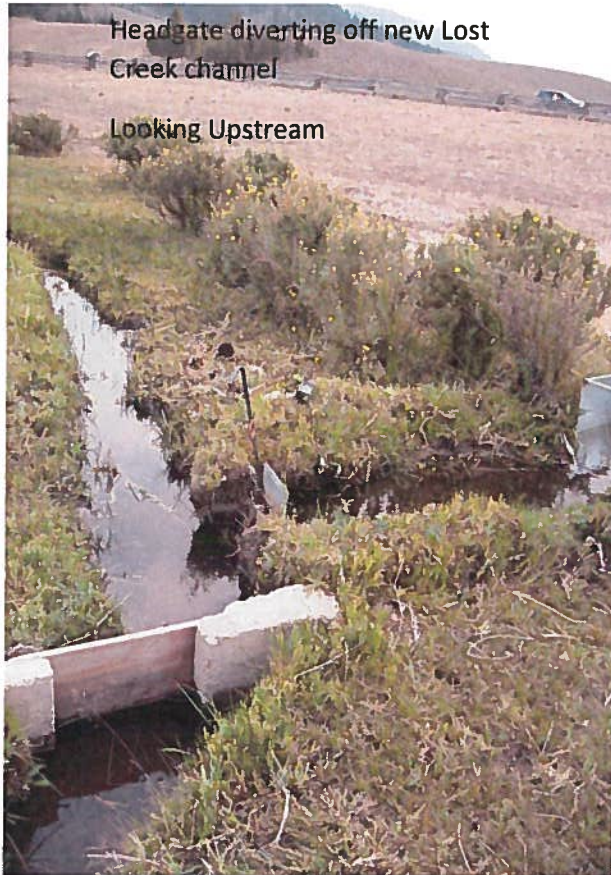
Change P.D. as reflected above Add P.D. as reflected above ✓ None

Change P.U. as reflected above Add P.U. as reflected above None

I. AUTHENTICATION

Field Examiner's Name Sana Reeder Date 9/21/17

Reviewer Date



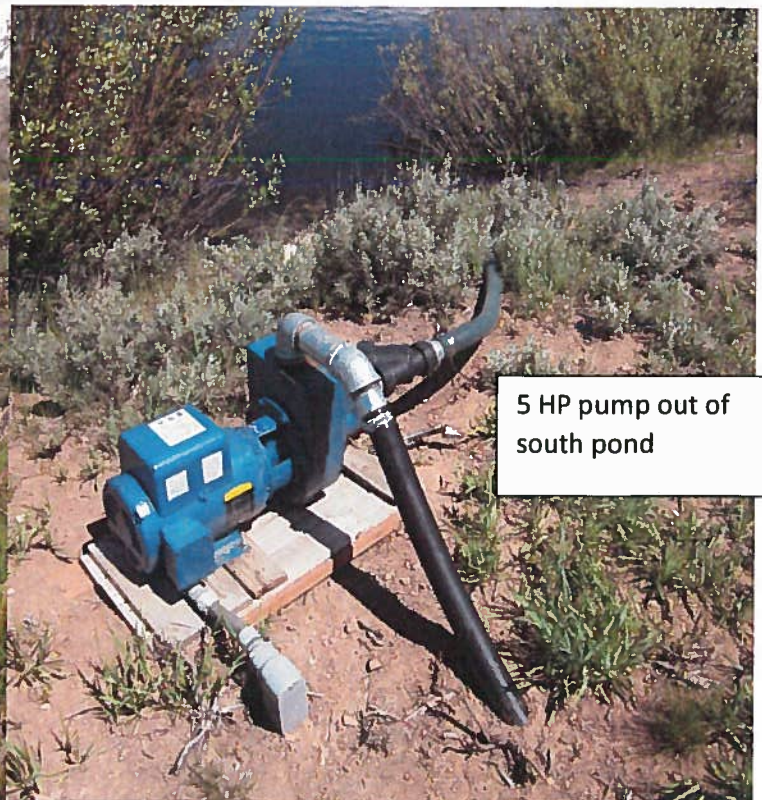
Headgate diverting off new Lost
Creek channel
Looking Upstream



Headgate and wier looking down
ditch

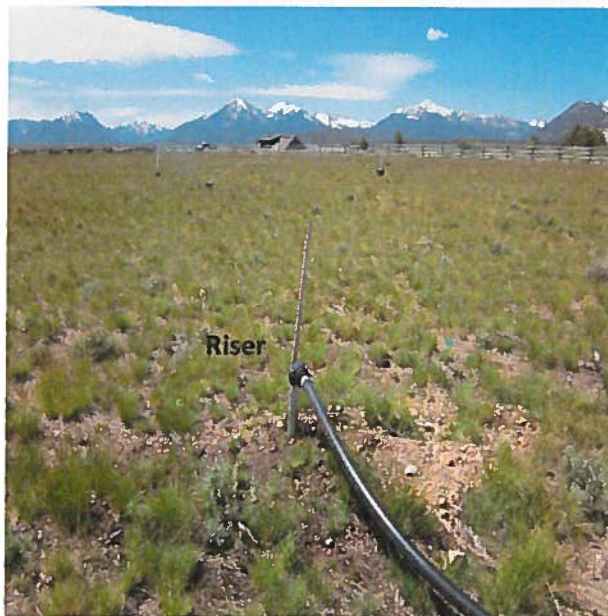
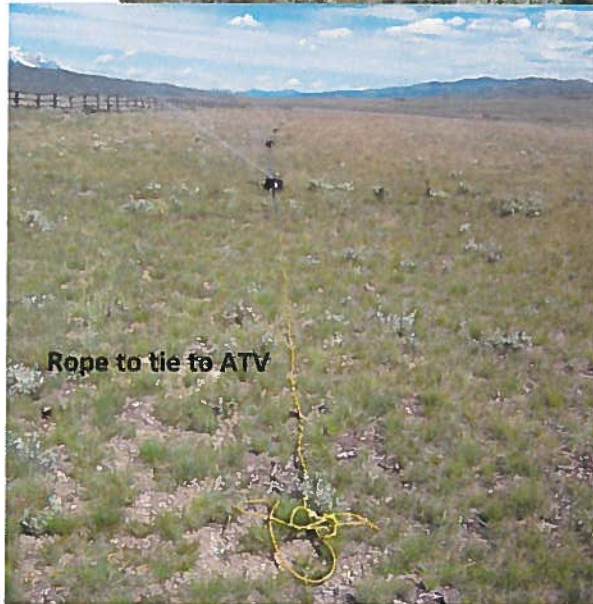
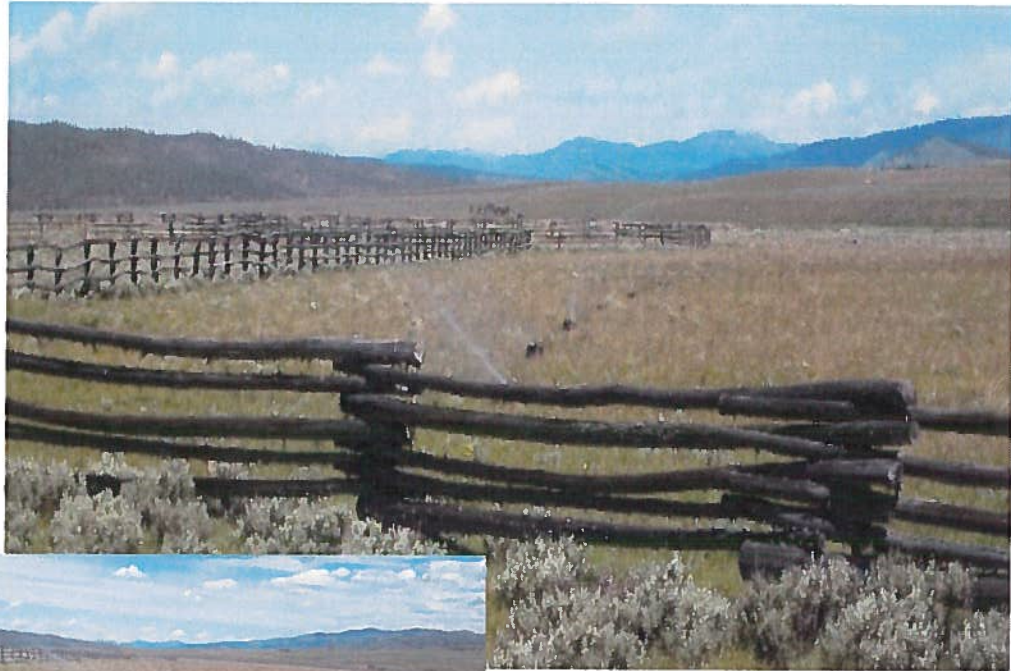


Headgate, Wier and ditch to 4 inch
pipe



5 HP pump out of
south pond

Pipe



8/16/17
Per Jack Brown

Valley Rd

NWSE

NESE

34

08N14E

SWSE

SESE

NWNE 2

3

07N14E

NENE 1

Field Exam 71-10941

pressed rectangular

$$3Lh_1^{1.5}$$

Length, L, ft	Head h ₁ , ft	L 5.0
19.2	1.55	32.1
19.5	1.56	32.4
19.7	1.57	32.8
20.0	1.58	33.1
20.3	1.59	33.4
20.5	1.60	33.7
20.8	1.61	34.0
21.1	1.62	34.3
21.3	1.63	34.6
21.6	1.64	35.0
21.9	1.65	35.3
22.2	1.66	35.6
22.4	1.67	35.9
22.7		
23.0		
23.3		
23.5		
23.8		
24.1		
24.4		
24.7		
25.0		
25.3		
25.5		
25.8		
26.1		
26.4		
26.7		
27.0		
27.3		
27.6		
27.9		
28.2		
28.5		
28.8		
29.1		
29.4		
29.7		
30.0		
30.3		
30.6		
30.9		
31.2		
31.5		
31.8		

Table A7-4. Discharge of 90° V-notch weirs, in ft³/sec, computed from the formula $Q=2.49h_1^{2.48}$

Head H, ft	Discharge Q, ft ³ /sec	Head H, ft	Discharge Q, ft ³ /sec	Head H, ft	Discharge Q, ft ³ /sec	Head H, ft	Discharge Q, ft ³ /sec
0.20	0.046	0.65	0.856	1.10	3.15	1.55	7.38
.21	.052	.66	.889	1.11	3.23	1.56	7.50
.22	.058	.67	.922	1.12	3.30	1.57	7.62
.23	.065	.68	.957	1.13	3.37	1.58	7.74
.24	.072	.69	.992	1.14	3.45	1.59	7.86
.25	.080	.70	1.03	1.15	3.52	1.60	7.99
.26	.088	.71	1.06	1.16	3.60	1.61	8.11
.27	.097	.72	1.10	1.17	3.68	1.62	8.24
.28	.106	.73	1.14	1.18	3.75	1.63	8.36
.29	.116	.74	1.18	1.19	3.83	1.64	8.49
.30	.126	.75	1.22	1.20	3.91	1.65	8.62
.31	.136	.76	1.26	1.21	3.99	1.66	8.75
.32	.148	.77	1.30	1.22	4.08	1.67	8.88
.33	.159	.78	1.34	1.23	4.16	1.68	9.02
.34	.172	.79	1.39	1.24	4.25	1.69	9.15
.35	.184	.80	1.43	1.25	4.33	1.70	9.28
.36	.198	.81	1.48	1.26	4.42	1.71	9.42
.37	.212	.82	1.52	1.27	4.50	1.72	9.56
.38	.226	.83	1.57	1.28	4.59	1.73	9.70
.39	.241	.84	1.62	1.29	4.68	1.74	9.83
.40	.257	.85	1.66	1.30	4.77	1.75	9.98
.41	.273	.86	1.71	1.31	4.86	1.76	10.1
.42	.280	.87	1.76	1.32	4.96	1.77	10.3
.43	.307	.88	1.81	1.33	5.05	1.78	10.4
.44	.325	.89	1.87	1.34	5.15	1.79	10.6
.45	.344	.90	1.92	1.35	5.24	1.80	10.7
.46	.363	.91	1.97	1.36	5.34	1.81	10.8
.47	.383	.92	2.02	1.37	5.44	1.82	11.0
.48	.403	.93	2.08	1.38	5.53	1.83	11.1
.49	.425	.94	2.14	1.39	5.63	1.84	11.3
.50	.446	.95	2.19	1.40	5.74	1.85	11.4
.51	.469	.96	2.25	1.41	5.84	1.86	11.6
.52	.492	.97	2.31	1.42	5.94	1.87	11.8
.53	.516	.98	2.37	1.43	6.05	1.88	11.9
.54	.540	.99	2.43	1.44	6.15	1.89	12.1
.55	.565	1.00	2.49	1.45	6.26	1.90	12.2
.56	.591	1.01	2.55	1.46	6.36	1.91	12.4
.57	.618	1.02	2.62	1.47	6.47	1.92	12.6
.58	.645	1.03	2.68	1.48	6.58	1.93	12.7
.59	.673	1.04	2.74	1.49	6.69	1.94	12.9
.60	.701	1.05	2.81	1.50	6.81	1.95	13.0
.61	.731	1.06	2.88	1.51	6.92	1.96	13.2
.62	.761	1.07	2.94	1.52	7.03	1.97	13.4
.63	.792	1.08	3.01	1.53	7.15	1.98	13.5
.64	.823	1.09	3.08	1.54	7.27	1.99	13.7