

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATIONPermit No: 71-7178Exam Date: 8/27/2008

1. Current Owner: PATRICK W LEE

And/Or

JOHN T BROWN
PO BOX 61
SUN VALLEY ID 83353
(208)622-4438

RECEIVED**DEC 05 2008**

DEPARTMENT OF WATER RESOURCES

2. Accompanied by: John BrownPhone No: (208) 622-4438Address: PO Box 61, Sun Valley, ID 83353Relationship to Permit Holder: Co-Owner3. **SOURCE**

LOST CREEK

TRIBUTARY

SINKS

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 71-7179
2. Other water rights with the same point of diversion: NONE

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

LOST CREEK
CUSTER County

SE1/4SW1/4SE1/4

Sec. 34, Twp 08N, Rge 14E, B.M.

Method of Determination: Visual inspection and use of 2004 aerial photography.

2.

PLACE OF USE: WILDLIFE STORAGE

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	

Method of Determination: Visual inspection and use of 2004 aerial photography.

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/pipe i.d. as applicable.

SEE ATTACHED SHEET.

YES Copy of USGS Quadrangle Attached Showing location(s) of point(s) of diversion and place(s) of use (required).

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

YES 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
POINT OF DIVERSION	N/A	N/A	N/A	N/A	N/A

*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

2. Measurements: No field measurements were required. This is an on-stream storage right, so no flow rate is being licensed. The volume was calculated by aerial 2004 aerial photography and pond depth estimations.

E. FLOW CALCULATIONS

Measured Method:

____ Additional Computation Sheets Attached

N/A

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

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

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

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

2. Volume Calculations for Other Uses:

North pond = 0.3 acres of surface area. South pond = 0.1 acres of surface area. Average pond depth was 8 ft.

$(0.1 + 0.3 = 0.4 \text{ pond surface area}) \times 8 = 3.2 \text{ acres pond volume}$

Evaporation losses for this area = 30 inches per acre (see attached Free Water Evaporation map)

$(30 \text{ inches} / 12) \times 0.4 \text{ pond surface area} = 1 \text{ acre feet of evaporation losses.}$

$3.2 \text{ acre feet volume} + 1 \text{ acre feet evaporation} = 4.2 \text{ acre feet total volume required.}$

G. NARRATIVE/REMARKS/COMMENTS

Two permits have been filed to supply water to two wildlife storage ponds. These permits are 71-7178 from Lost Creek, and 71-7179 from ground water. The licensing exams for both of these permits were done together, since they are both a part of the same system and supply the same two ponds.

Under permit 71-7178, water is diverted at two points to provide water for the ponds. The two points are actually on two separate channels, but they appear to have the same source. Lost Creek travels down a ravine between two separate mountains. At the base of the mountains, the water travels out over a flat meadow before hitting the valley floor. The water in the meadow can actually flow through 1 of the 3 channels. Currently the main channel flows to the north of this meadow and flows along the base of the mountain on that side before it flows out onto the valley floor. It appears as though some man-made channeling might have occurred that changed the original flow of the creek. I will refer to the northern channel as the current Lost Creek Channel. The second channel flows through the middle of the meadow, and appears to be the old original channel for this creek, but according to the water right owner, this channel now only runs water during spring run-off and high rains. From the looks of the channel this appears to be a true statement. I will refer to this channel as the old Lost Creek channel. The third channel flows along the south side of the meadow, and flows into the old Lost Creek channel once it gets down to the valley floor. The third channel is irrelevant, because it combines with the old Lost Creek channel up-stream of the ponds.

The first point of diversion under 71-7178 is on the old Lost Creek channel. The ponds actually sit on the old Lost Creek channel, so they represent the on-stream storage described in the permit. The point of diversion would be described as the point where water enters the south pond in the SWSWSE S34 T8N R14E. Whereas these are dug ponds, the point of diversion would be at the point where the water enters the pond and not where it leaves the pond, since there is no dam. Due to the fact that the old Lost Creek channel only supplies water to the ponds during spring runoff and heavy rain events, it was not possible to determine the flow in the channel or the availability of water from this source.

The second point of diversion under 71-7178 is on the current Lost Creek channel in the SESESE S34 T8N R14E. Water from this diversion point is diverted from the creek through a slide headgate, and measured by a V-notch weir. Once the water flows through the open channel holding the weir it is collected into a 4-inch PVC pipe that carries the water to the south pond where it is open discharged into the pond. This diversion would require a diversion to storage component on water right 71-7178. Since there is no diversion to storage component on the permit, this diversion cannot be recommended for licensing. The original application did have a diversion to storage component, but the diversion to storage component was removed by the owners to satisfy an agreement to resolve a protest by Idaho Fish and Game (IDFG). I will go into more detail on this issue latter in this narrative.

Under permit 71-7179, ground water is diverted from a well in the SWSESE S34 T8N R14E. The water from the well is diverted in a buried 4-inch PVC pipe that injects the water into the old Lost Creek channel in the SWSWSE S34 T8N R14E. From this point the old Lost Creek Channel re-diverts the well water at the point where it is delivered into the south pond in the SWSWSE S34 T8N R14E at the same location as the point of diversion for the old Lost Creek channel. In order to adequately describe the delivery system for the well, a licensing amendment will be needed to add the point of injection into the old Lost Creek channel and the point of re-diversion into the south pond.

All of the water from all three sources flows into the South pond. Once the south pond is full, any excess water then flows into the north pond. It appears as though the old Lost Creek channel is still used between the two ponds, but the old channel is pretty decimated at this point and it is difficult to tell exactly where the old channel went at this point.

As stated above, permit 71-7178 only shows the on-stream storage component. Initial review of the application showed that the owners of this permit did include the diversion to storage and an irrigation component on their original application. Further review of the application process showed that the application was protested by IDF&G, and an agreement was reached between IDF&G and the owners of this permit. In order to facilitate the agreement, the owners then removed the irrigation component and the diversion to storage component from the application prior to the permit being approved. By removing the diversion to storage component, the owners were only allowed to develop the ponds on-stream, and could not take water from the current Lost Creek channel. Taking this information into account, we can only license the on-stream storage on the old Lost Creek channel. The owners will need to file another application for permit to authorize the diversion from the current Lost Creek channel. The watermaster should be instructed to not deliver any water from the current Lost Creek diversion with the headgate and the V-notch weir.

There is another water right on Lost Creek above the diversions associated with this permit, but they are earlier in time, and should not affect the licensing of this permit. These two licenses are the only two water rights for these ponds. Therefore, overlapping water rights should not hinder the licensing of these permits.

I recommend that both of these permits be licensed as shown on the field exam reports. The volume is limited by the storage volume of the facility and the evaporation losses incurred or $3.2 + 1 = 4.2$ acre feet of water. Therefore, when 71-7178 and 71-7179 are combined, they should not supply more than 4.2 acre feet of water. Both water rights can have a total volume of 4.2 acre feet, since it is unclear how much water could be supplied by the old Lost Creek channel, so we need to give them the ability to divert the entire storage needs from the well. No measurement should be required on the pond, but the well should have a means of calculating annual volume to ensure that it doesn't exceed the water right. The watermaster is currently using the PCC method to monitor the annual volume of ground water being diverted from the well.

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>
WILDLIFE STORAGE	01/01 to 12/31		4.20 AF
<u>Totals:</u>			4.20 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 ☐ Other

I. AUTHENTICATION

DANIEL A. NELSON – SENIOR AGENT

Field Examiner's Name Daniel A. Nelson Date 10-7-08

Reviewer _____ Date _____ SEAL

T8N R14E S34

Salmon

Ponds

Current Lost Creek Channel

Point of Diversion Lost Creek Channel (Diversion to Storage)

SESE

SWSE

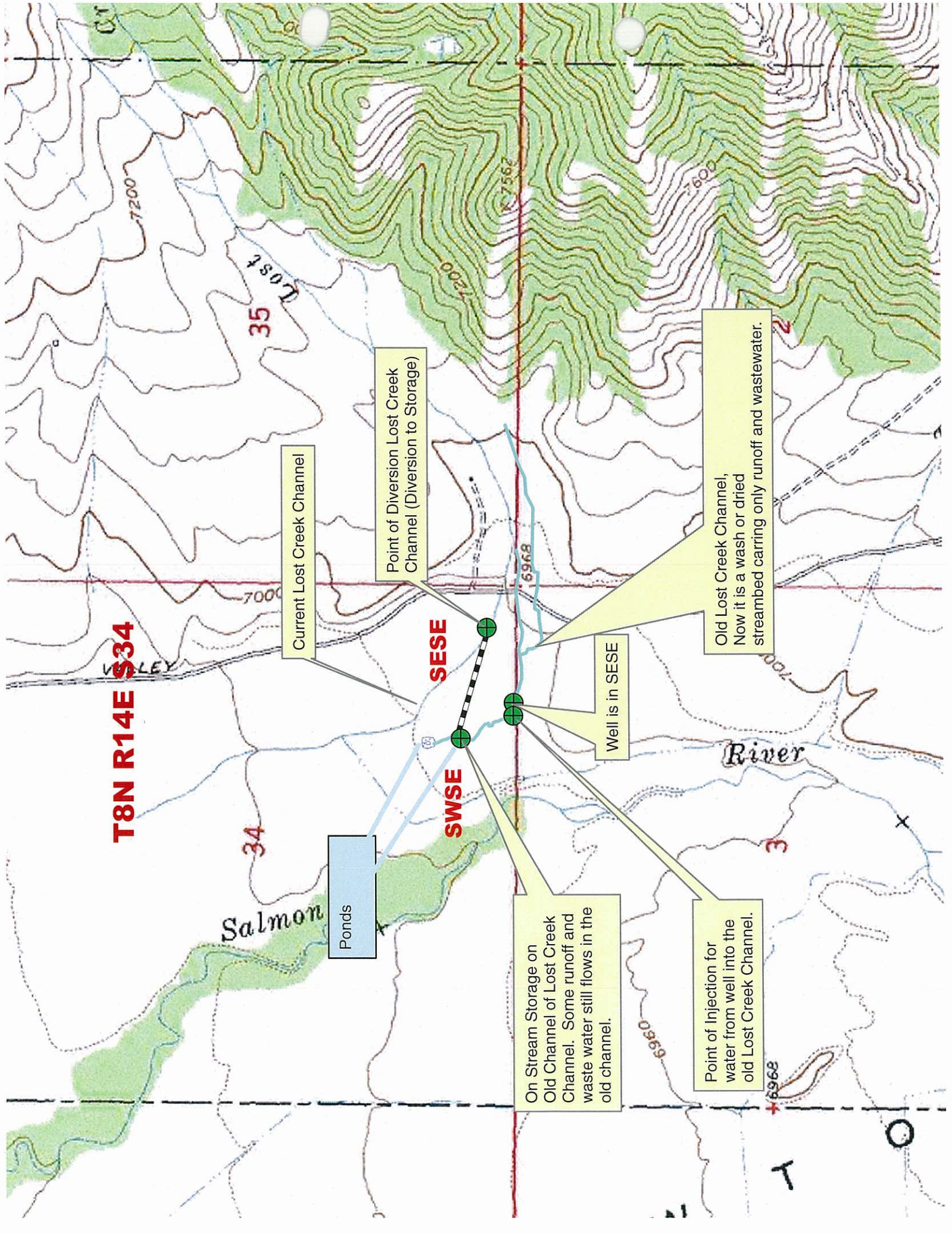
On Stream Storage on Old Channel of Lost Creek Channel. Some runoff and waste water still flows in the old channel.

Well is in SESE

Point of Injection for water from well into the old Lost Creek Channel.

Old Lost Creek Channel, Now it is a wash or dried streambed carrying only runoff and wastewater.

River



The water for these two ponds are diverted from three sources, Lost Creek, the Old Lost Creek Channel, and ground water. The water for the two ponds diverted from Lost Creek in the SESE of S34 and delivered through a buried PVC pipeline to the pond. The water for the two ponds diverted from the Old Lost Creek Channel is diverted at the ponds. The ponds are on this stream, which account for the onstream storage. The Old Lost Creek Channel and the Lost Creek channel were connected at one time. There also may be times during high runoff that they still share water, but basically, they are separate at this time. The ground water is diverted from a well in the SESE into a PVC pipeline that

T8N R14E S34

Ponds

North Pond = 0.3 acres surface area
South Pond = 0.1 acres surface area
Both Ponds 8 Ft. Deep
(0.1 + 0.3) X 8 = 3.2 acre feet

SWSE

Current Lost Creek Channel

SESE

Point of Diversion Lost Creek Channel (Diversion to Storage)

Well is in SESE

On Stream Storage on Old Channel of Lost Creek Channel. Some runoff and waste water still flows in the old channel.

Point of Injection for water from well into the old Lost Creek Channel.

Old Lost Creek Channel, Now it is a wash or dried streambed carrying only runoff and wastewater.

Ponds
North Pond = 0.3 acres surface area
South Pond = 0.1 acres surface area
Both Ponds 8 Ft. Deep
 $(0.1 + 0.3) \times 8 = 3.2$ acre feet

Current Lost Creek Channel

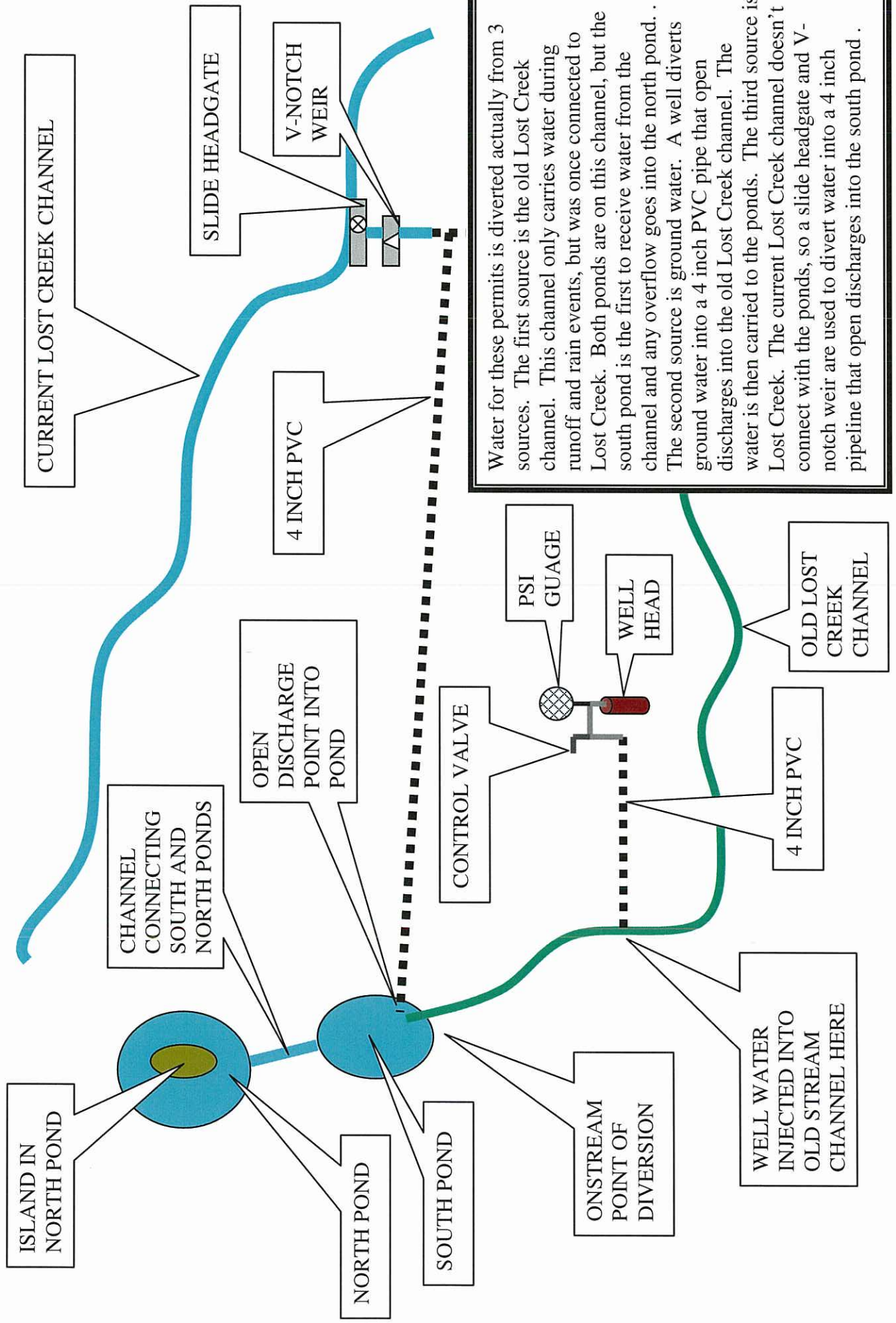
On Stream Storage on Old Channel of Lost Creek Channel. Some runoff and waste water still flows in the old channel.

Point of Injection for
water from well into the
old Lost Creek Channel.

Well is in SESE

Old Lost Creek Channel,
Now it is a wash or dried
streambed carrying only runoff and wastewater.

SYSTEM DIAGRAM FOR FIELD EXAMS FOR 71-7179 AND 71-7179



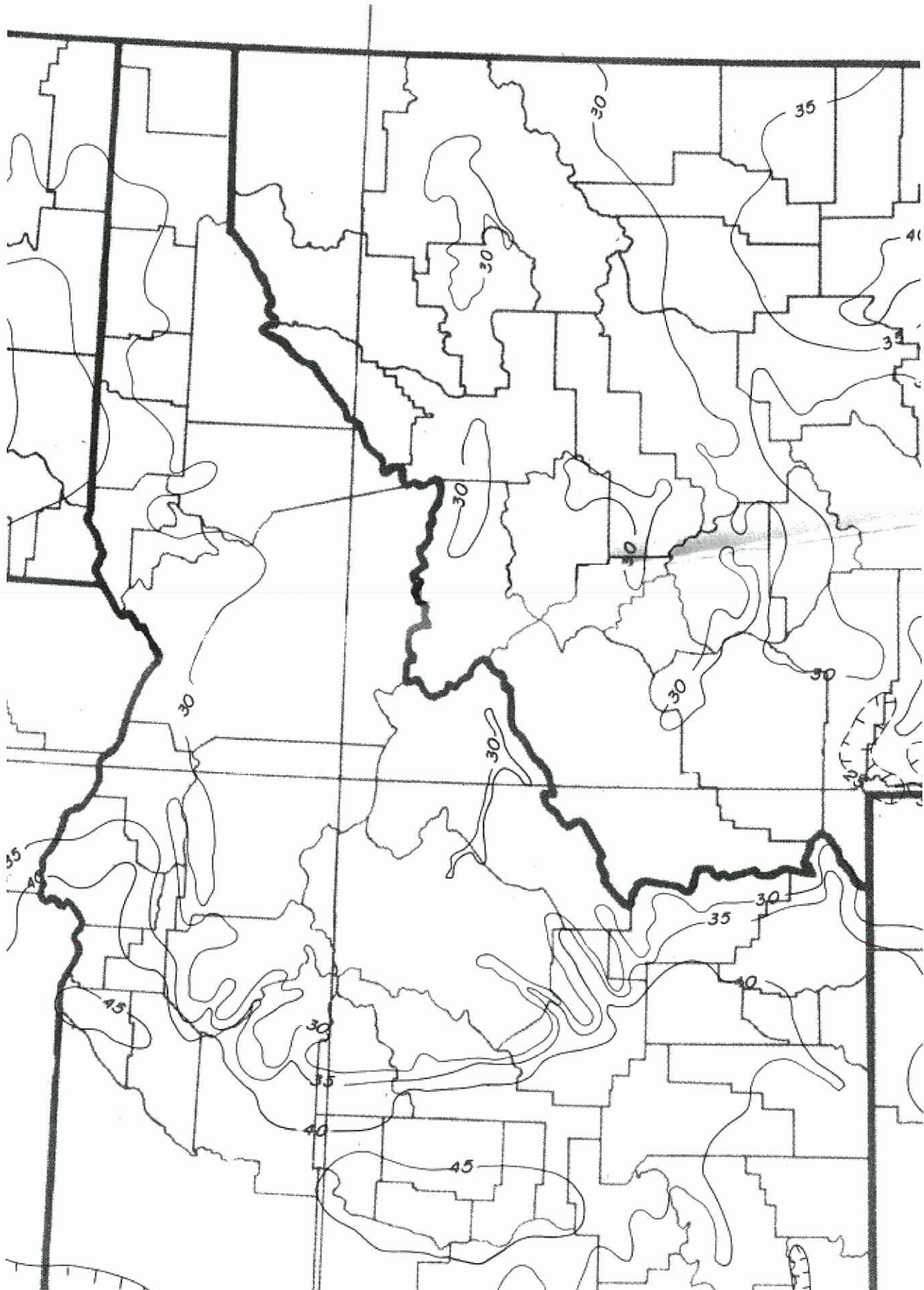
Log Name D:\salmon river stuff\8-25-08 data\PONDEXAM.LOG
Log Title D:\salmon river stuff\8-25-08 data\PONDEXAM.LOG
Start Time 8/27/2008 15:29
End Time 8/27/2008 15:40
Records 3
Interval 60
Error Flags 8208
Cyclic Flags 2

Measurement for PCC and Field Exam for permit 71-7179

Item #	Label	Symbol	UnitType	Channel	Comport	Computer	Decimal	Width	Input	ModelID
0	Velocity	ft/s		578	0	PT878		4	12	2
1	Volume	gal/m		846	0	PT878		4	12	3
2	(+)Total	gal		1160	0	PT878		4	12	20

Date/Time	Velocity (ft/s)	Volume (gal/m)	(+)Total (gal)	Error #
8/27/2008 15:29:58	1.457724385	58.41677307	886190.3409	0
8/27/2008 15:30:58	1.447163142	57.99354236	886248.9143	0
8/27/2008 15:31:57	1.468730844	58.85784534	886305.7076	0
8/27/2008 15:32:57	1.464835984	58.70176292	886365.036	0
8/27/2008 15:33:57	1.482445071	59.40742858	886422.0322	0
8/27/2008 15:34:57	1.390926056	55.73990023	886481.055	0
8/27/2008 15:35:57	1.400142003	56.10921962	886537.8596	0
8/27/2008 15:36:58	1.438419938	57.64316765	886596.0543	0
8/27/2008 15:37:57	1.487075585	59.59299155	886653.1257	0
8/27/2008 15:38:58	1.482923397	59.42659698	886713.8108	0
8/27/2008 15:39:57	1.421369034	56.95987059	886770.1631	0

Last Total	First Total	Number of Readings	Average Flow Rate in GPM
886770.1631	886190.3409	10	57.98



PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 8/27/2008

FILE NUMBER 71-7178 and 71-7179



The photo above is of the well associated with permit 71-7179. This well pumps ground water into a PVC pipe that travels west toward the house in the photo and discharges into the old Lost Creek Channel.

The photo below shows the diversion from the current Lost Creek Channel. It diverts water from the creek and into a PVC pipeline that flows northwest to the south pond.



PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 8/27/2008

FILE NUMBER 71-7178 and 71-7179

The water from the current Lost Creek Channel is delivered through a buried PVC Mainline that discharges here.

The old Lost Creek Channel carrying the well water enters here.



The photo above shows where the water from the old Lost Creek channel and the well come into the pond, and where the water from current Lost Creek channel enters the pond. The well open discharges into the old Lost Creek channel which carries it to the pond.



The bottom photo shows the end of the buried PVC pipeline from the current Lost Creek Channel where it discharges into the south pond.

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 8/27/2008

FILE NUMBER 71-7178 and 71-7179

Well
location

Discharge into
old creek



These top three photos show the point where the well water is injected into the old Lost Creek stream channel. At the time of these photos the pump wasn't operating. This is a 3 inch mainline that open discharges into the channel.



This bottom photo shows the old Lost Creek Channel. As you can see it has had water in it this year due to the lack of vegetation in the bottom of the channel. However, the channel was very dry and didn't appear to have had water in it for some time, when we checked this channel in August. The watermaster has not seen water in this channel, but he is not a full time resident in the area.

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 8/27/2008

FILE NUMBER 71-7178 and 71-7179



The above photo shows the south pond. This is the pond that receives the water from all of the sources.

The photo below shows the outflow channel from the south pond to the North pond. This channel is approximately 175 feet and heads northeast to the north pond.



PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 8/27/2008

FILE NUMBER 71-7178 and 71-7179

Inflow channel
from south pond



This is a photo of the north pond. The inflow is shown on the left hand side of the photo. There is no outflow from this pond. There is an old wash or channel that could carry water if the pond overflows, but there is no designated outflow for this pond.

PHOTOGRAPHER AND DATE OF PHOTOS JOHN BROWN
FILE NUMBER 71-7178

The following photos were taken by John Brown to show that a measurement device has been installed in the proper channel of Lost Creek per my 10/24/2008 letter.



**V-NOTCH
WEIR**

**WELL
DISCHARGE
POINT**

**SOUTH CHANNEL
OF LOST
CREEK**



PHOTOS FROM OWNER.

