

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-32177
Exam Date: 10/4/2018

1. Current Owner:
THE DRAKE LLC 25998 HWY 95 PARMA ID 83660
2. Accompanied by: JOSH KLING AND DOUG BATES
Phone No: (208) 489-7488
Address: 950 W BANNOCK ST STE 1050 BOISE ID 83702
Relationship to Permit Holder: JOSH KLING – RANCH MANAGER, DOUG BATES – OWNER
3. **SOURCE:** UNNAMED SLOUGH **TRIBUTARY:** BOISE 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: NONE

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

UNNAMED SLOUGH L4 (NW¼NW¼) Sec. 26, Twp 05N, Rge 05W, B.M. CANYON County

Method of Determination: Field exam, aerial imagery, and ArcMap tools.

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	
05N	05W	26						X L 4											

Method of Determination: Field exam, aerial imagery, and ArcMap tools.

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.

Diversion ID No.	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
924312	N/A	N/A	N/A	N/A	N/A

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 measurement was necessary.

E. FLOW CALCULATIONS

 X Additional Computation Sheets Attached

Measured Method: Please see the enclosed pond analysis sheets.

F. VOLUME CALCULATIONS

1. Volume Calculations for Wildlife Storage:

$$V_{IR} = \text{Storage Capacity} + \text{Seepage} + \text{Evaporation} = 5.0 \text{ AF} + 6.4 \text{ AF} + 5.4 \text{ AF} = 16.8 \text{ AF} \rightarrow \text{13.8 AF permitted limit}$$

G. NARRATIVE/REMARKS/COMMENTS**System Description:**

The unnamed slough comprises of Boise River water and waste water from neighboring fields that dump water in to the unnamed slough. A control structure located in L4NWNW of Section 26 is used to control how much water is stored in the unnamed slough. As such, wooden boards can be adjusted to fluctuate how much of the unnamed slough returns to the Boise River.

Boise River water is the main contributor to the unnamed slough. A control structure is located in the SESESE of Section 26 and NENENE of Section 35 boundary line.

Conditions:

Condition R05 was update to "may" and forwarded to licensing. Condition 121 and 01H were updated to 103 and R02 respectively and forwarded to licensing. Condition 219 and 220 were added to describe the reservoir capacity and consumptive uses. The explanatory condition describing wildlife storage was forwarded to licensing. Condition 18C was updated to include "Upon specific notification by the Department..." and forwarded to licensing. A waiver was received by WM Rex Barrie.

Ownership:

Permit identifies John Hauck as the owner. A letter was sent to Mr. Hauck with no received response. Current parcel data shows The Drake, LLC as new owners. An assignment of permit was received on 10/15/2018.

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>	<u>ANNUAL VOLUME</u>
WILDLIFE STORAGE	01/01 to 12/31		13.8 AF
<u>Totals:</u>			13.8 AF

2. Recommended Amendments

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

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

I. AUTHENTICATION

Field Examiner's Name  Date 11/15/2018

Reviewer  Date 12/11/18

State of Idaho
Department of Water Resources
Place of Use and Point of Diversion
WR Permit No. 63-32177



0 0.05 0.1 0.2 Miles

Legend

- Point of Diversion
- Wildlife Storage



State of Idaho
Department of Water Resources
System Diagram
Place of Use and Point of Diversion



Legend

-  Boise River Check Structure
-  Unnamed Slough Conveyance
-  Point of Diversion
-  Wildlife Storage

0 0.1 0.2 0.4 Miles



Overlap Analysis for Permit No. 63-32177 POD

05N05W26		Basin/Sequence	Draft Owner	Source	Use	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESSE	NWSE	SWSE	SESE	TotalAcres
Process		63-32177	Y	GOULD, JON C, HAUCK, JOHN	UNNAMED SLOUGH																	
Water Right	63-12057	N	VANDERWEY, AUGUST	GROUND WATER	WILDLIFE STORAGE																	
Water Right	63-201	N	ESTATE OF TINA IEST, HOFSTETTER, DANA L; MAMMON, JI BOISE RIVER	GROUND WATER	WILDLIFE																	
Water Right	63-21151	N	EST, TINA	GROUND WATER	WILDLIFE																	
Water Right	63-34448	N	BID LLC, HOFSTETTER, DANA L; MAMMON, JULIA, THE TIV BOISE RIVER	GROUND WATER	WILDLIFE																	

Overlap Analysis for Permit No. 63-32177 POU

05N05W26		Basin/Sequence	Draft Owner	Source	Use	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESSE	NWSE	SWSE	SESE	TotalAcres
Process		63-32177	Y	GOULD, JON C, HAUCK, JOHN	UNNAMED SLOUGH																	
Water Right	63-11617	N	BID LLC, IEST, TINA, THE TINA IEST FAMILY LLP	BOISE RIVER	WILDLIFE																	
Water Right	63-11618	N	EST, TINA, THE TINA IEST FAMILY LLP	DIXIE SLOUGH	WILDLIFE																	
Water Right	63-12057	N	VANDERWEY, AUGUST	GROUND WATER	STOCKWATER																	
Water Right	63-138C	N	FARMERS COOPERATIVE DITCH CO, HONSINGER, CHARLES BOISE RIVER	BOISE RIVER	IRRIGATION																	
Water Right	63-174	N	BID LLC, HOFSTETTER, DANA L; MAMMON, JOHN, THE TIV BOISE RIVER	BOISE RIVER	IRRIGATION																	
Water Right	63-175	N	BID LLC, HOFSTETTER, DANA L; MAMMON, JOHN, RANDAL BOISE RIVER	BOISE RIVER	IRRIGATION																	
Water Right	63-178C	N	BID LLC, IEST, TINA, THE TINA IEST FAMILY LLP	BOISE RIVER	IRRIGATION																	
Water Right	63-178E	N	HOFSTETTER, DANAL, THE DRAKE LLC	BOISE RIVER	IRRIGATION																	
Water Right	63-188	N	FARMERS COOPERATIVE DITCH CO, HONSINGER, CHARLES BOISE RIVER	BOISE RIVER	IRRIGATION																	
Water Right	63-189	N	FARMERS COOPERATIVE DITCH CO, HONSINGER, CHARLES BOISE RIVER	BOISE RIVER	IRRIGATION																	
Water Right	63-190	N	FARMERS COOPERATIVE DITCH CO, HONSINGER, CHARLES BOISE RIVER	BOISE RIVER	IRRIGATION																	
Water Right	63-191	N	FARMERS COOPERATIVE DITCH CO, HONSINGER, CHARLES BOISE RIVER	BOISE RIVER	IRRIGATION																	
Water Right	63-201	N	ESTATE OF TINA IEST, HOFSTETTER, DANA L; MAMMON, JI BOISE RIVER	BOISE RIVER	IRRIGATION																	
Water Right	63-21151	N	EST, TINA	GROUND WATER	DOMESTIC																	
Water Right	63-21151	N	EST, TINA	GROUND WATER	STOCKWATER																	
Water Right	63-2212	N	UNITED STATES OF AMERICA ACTING THROUGH	PIPE GULCH DRAIN CR	IRRIGATION																	
Water Right	63-226	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD	BOISE RIVER	IRRIGATION																	
Water Right	63-227	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD	BOISE RIVER	IRRIGATION																	
Water Right	63-2279	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD	INDIAN CREEK	IRRIGATION																	
Water Right	63-228	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD	BOISE RIVER	IRRIGATION																	
Water Right	63-229	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD	BOISE RIVER	IRRIGATION																	
Water Right	63-2374	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD	INDIAN CREEK	IRRIGATION																	
Water Right	63-2389	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD	ARENA LAKE DRAIN	IRRIGATION																	
Water Right	63-266	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD, S BOISE RIVER	BOISE RIVER	IRRIGATION																	
Water Right	63-267	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD, S BOISE RIVER	BOISE RIVER	IRRIGATION																	
Water Right	63-268	N	BARKER, ALBERT P, BEL, REBECCA, RIVERSIDE IRRIGATION BOISE RIVER	BOISE RIVER	IRRIGATION																	
Water Right	63-296	N	FARMERS COOPERATIVE DITCH CO, HONSINGER, CHARLES BOISE RIVER	BOISE RIVER	IRRIGATION																	
Water Right	63-299	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD	BOISE RIVER	IRRIGATION																	
Water Right	63-300	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD	BOISE RIVER	IRRIGATION																	
Water Right	63-32066	N	BID LLC, THE TINA IEST FAMILY LLP, TINA IEST FAMILY LTD BOISE RIVER	BOISE RIVER	WILDLIFE																	
Water Right	63-32579	N	UNITED STATES OF AMERICA ACTING THROUGH	BOISE RIVER	IRRIGATION FROM STORAGE																	
Water Right	63-33252	N	BARKER ROSHOLT & SIMPSON LLP, RIVERSIDE IRRIGATION EAST ARENA DRAIN	BOISE RIVER	IRRIGATION																	
Water Right	63-33498	N	BID LLC, HOFSTETTER, DANA L, THE TINA IEST FAMILY LLP BOISE RIVER	BOISE RIVER	IRRIGATION																	
Water Right	63-33499	N	HOFSTETTER, DANAL, THE DRAKE LLC	BOISE RIVER	IRRIGATION																	
Water Right	63-33682	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD	CHRISTIAN GULCH WA	IRRIGATION																	
Water Right	63-33683	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD	GUESS GULCH CREEK	IRRIGATION																	
Water Right	63-33735	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD	WEST END DRAIN	IRRIGATION																	
Water Right	63-33736A	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD	MAAMMEN GULCH CRI	IRRIGATION																	
Water Right	63-33736B	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD	MAAMMEN GULCH CRI	IRRIGATION																	
Water Right	63-33855	N	HOFSTETTER, DANA L, THE TINA IEST FAMILY LLP	MAAMMEN GULCH CRI	IRRIGATION																	
Water Right	63-4007	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD	MEADOWS GULCH DR	IRRIGATION																	
Water Right	63-4008	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD	MAAMMEN GULCH CRI	IRRIGATION																	
Water Right	63-4010	N	BARKER, ALBERT P, RIVERSIDE IRRIGATION DISTRICT LTD	WEST END DRAIN	IRRIGATION																	
Water Right	63-4851	N	FARMERS COOPERATIVE DITCH CO, HONSINGER, CHARLES SAND HOLLOW DRAIN	IRRIGATION																		
Water Right	63-4852	N	FARMERS COOPERATIVE DITCH CO, HONSINGER, CHARLES CONWAY DRAIN	IRRIGATION																		
Water Right	63-5179	N	ESTATE OF TINA IEST, HOFSTETTER, DANA L, IEST, TINA, TH DIXIE SLOUGH	IRRIGATION																		
Water Right	63-5181	N	BID LLC, ESTATE OF TINA IEST, IEST, TINA, THE TINA IEST FA BOISE RIVER	IRRIGATION																		

No overlap

Seepage Loss Calculations

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total annual seepage losses from a pond.

FILE NUMBER	63-32177
REVIEWER	Aaron Skinner
DATE	10/3/2018

User Input
Calculated value
Formula Explanations

INPUTS

Pond Surface Area (AC.)	2.5	AC.
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Pond Surface Area (SQ. FT.)	108900	SQ. FT.
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I used the following method to obtain my Soil Classification information:	NRCS Web Soil Survey	
My Soil Classification is	SC	
Suggested Seepage Rate (FT./DAY)	0.0070	FT./DAY

Formula: (Surface Area X Seepage Rate) X 7.48 = Gallons Per Day Loss		
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Convert to GPD	5702	GPD
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Total Seepage Loss (AFA)	6.4	AFA
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Though sand and gravel seepage rates may actually be higher, the maximum allowable rate is 0.2 ft/day, pursuant to Administrative Memo "Seepage Loss Standards for Ponds and Reservoirs."

Suggested Seepage Rates for Different Soil Types:	
GW, GP, GM, GC, SW, SP and SM (silty sand, sand silt mixtures and gravel mixtures) = 0.2 ft per day	
OL and ML (inorganic silts - very fine sands, silty, or clayey fine sands) = 0.02 ft per day	
SC (clayey sands, sand clay mixtures) = 0.007 ft per day	
CL (Low to medium plasticity clays) = 0.003 ft per day	
MH, OH, PT and CH (high plasticity clays) = 0.0003 ft per day	
LINED PONDS (liners can be chemical, fabric, or bentonite) = 0 ft per day	
Ponds Intercepting Groundwater (excavated ponds filled by ground water) = 0 ft per day	

PLEASE NOTE: The initial basis for the Suggested Seepage Rates in the table above is found on Page 16 of Seepage from Fish Ponds, Bulletin 599, August 1989 Alabama Agricultural experiment Station, Auburn University, Auburn University Alabama. If you don't know the soil type, please refer to the map provided at the NRCS Web Soil Survey (Tab #1), an ArcMap Soil Classification Map (Tab #1.1), or published NRCS Soil Survey (Tab #1.2). Use "0" if the pond fill relies on the water table.

Evaporation Loss Calculations

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the annual evaporation losses from a pond.

FILE NUMBER	63-32177
REVIEWER	Aaron Skinner
DATE	10/3/2018

User Input
Calculated value
Formula Explanations

The acronyms used on the Kimberly Research Center website are defined below:

P = Precipitation
ET= Evapotranspiration
P _d = Precipitation deficit
P _d =ET-P

USING THIS SPREADSHEET

Use the link below to access the Kimberly Research Center website. This website provides the Precipitation Deficit for a station most representative of the pond under examination. The Precipitation Deficit is the total amount of free water surface evaporation minus the precipitation for a given area, which gives the total amount of evaporative losses incurred by the pond. There are several weather sites that are used throughout the state. IDWR staff can find the nearest site using Arc Map. The shape file containing the sites can be found at <X:/Spatial/Climate/ETIdahostations.shp>.

Instructions:

1. Use the link below to navigate to ET Idaho 2012.
2. Select the station which is most representative to your pond location.
3. Click Submit Query.
4. Under "Land Covers with Evapotranspiration Estimates," select "Open Water - Shallow Systems (ponds, streams)" or "Open Water - small stock ponds" depending on the pond size.
5. Click the link to "Precipitation Deficit."
6. Reference and copy (ctrl + C) the first subheading "Mean" values.
7. Click the "Paste Values from ET Idaho" button. The table will automatically enter a zero (0) for any negative precipitation deficit values.

Found at: <http://data.kimberly.uidaho.edu/ETIdaho/>

Precipitation Deficit

Station: Parma (AgriMet -- PMAI)

Month	mm/day ¹	Days per month	mm/Month
Jan	0.00	31	0.00
Feb	0.38	28	10.64
March	1.28	31	39.68
April	2.00	30	60.00
May	2.63	31	81.53
June	3.42	30	102.60
July	4.29	31	132.99
August	3.80	31	117.80
September	2.67	30	80.10
October	1.13	31	35.03
November	0.10	30	3.00
December	0.00	31	0.00

Total mm/year = 663.37

PLEASE NOTE: The seasonal average for precipitation deficit should not be used for calculations because precipitation often exceeds evaporation during wetter months of the year. If the pond is kept full, excess precipitation during wetter months does not serve to refill the pond during drier months.

For example, see Sandpoint KSPT (NWS -- 108137), the annual precipitation deficit is -106 mm. However, April through September have positive precipitation deficit values. To properly estimate the annual volume of water necessary to refill a pond due to evaporation losses, the table will automatically enter a zero (0) for each month that the precipitation value is reported as a negative value.

As described above, precipitation offsets evaporation in winter months, so the net effect is that wintertime precipitation deficit is usually zero.

$[(\text{mm/yr}) \div (\text{convert to feet})] \times (\text{Surface area of pond, in acres}) = \text{Evaporation Loss in Acre Feet}$

$$(663.37 \div 304.8) \times 2.50 = 5.4 \text{ AFA}$$

Total Storage Calculations

FILE NUMBER	63-32177
REVIEWER	Aaron Skinner
DATE	10/3/2018

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond.

User Input
Calculated value
Formula Explanations

Surface Area (AC.)	2.5	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	2	"Average Pond Depth" depicts the actual depth of the pond either measured or estimated. Note: If you know the maximum depth and not the average depth, the Field Examiner's Handbook suggests multiplying the maximum depth by 0.4 to get the average depth, or you can use any method that seems reasonable to attain average depth.
Pond Capacity (AF)	5	Pond Capacity is calculated by multiplying the Pond Surface Area by the Average Pond Depth. If you know the capacity, divide the capacity by surface area and enter the average pond depth in the space above. Note: If pond capacity is determined using a method shown on the "Pond Capacity" sheet, the user may need to modify the value of "Pond Capacity" (cell B9) manually. Note that if the value is modified manually, the formula will be altered for future use.
Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF)	0	The "Multiple Fill Volume Above Initial Fill" is the acre-feet of water required to meet a <i>from storage</i> component if the <i>from storage</i> component exceeds a one time fill. This section should not include the amount of water needed to fill the pond initially or the amount of water needed to maintain the pond level due to evaporation or seepage. For example: if a pond has a capacity of 5 acre feet and 2.5 acre feet of seepage and evaporation, but the pond is used for irrigation that requires 10 acre feet of from storage for the irrigation use, then you would insert 5 acre feet into this location (10 acre feet needed - 5 acre feet from the initial fill = 5 acre feet of additional storage needed). Note: You must have a "From Storage" component exceeding the initial fill on the permit to include a volume in this space.
Estimated Seepage Loss (AF)	6.4	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	5.4	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	16.8	The "Total Volume Required" is calculated by adding the Pond Capacity, Multiple Fills, Seepage Loss, and Evaporation Loss amounts to determine the total amount of storage required.

Flow Rate into Pond (CFS)	0.04	The "Flow Rate into Pond" depicts the actual flow, either measured or estimated, into the pond. For offstream facilities, this will be equivalent to "diversion to storage" rate.
Highest Daily Evaporation Rate From Evaporation Tab. (mm/Day)	4.29	This number is carried over from the "Evaporation Loss" sheet. It is the highest recorded number in the "Precipitation Deficit Table".
Required Daily Maintenance Volume (AF/Day)	0.05	"Required Daily Maintenance Volume" is the maximum volume of water needed on any given day during the year to maintain pond volume. It is calculated by adding the highest daily evaporation loss to the average daily seepage loss in acre feet. The average daily seepage loss is calculated by dividing the "Estimated Seepage Loss" by 365 days. This is acceptable, since the seepage rate shouldn't vary throughout the season unless the pond completely freezes over during the winter months. The highest daily evaporation loss is calculated by dividing the Highest Daily Evaporation Rate by the 304.8 conversion factor and multiplying this number by the pond surface area to attain a combined daily acre feet requirement.
Minimum Maintenance Flow (CFS)	0.03	The "Minimum Maintenance Flow" is the minimum amount of flow required to maintain the level of the pond. This number is determined by dividing the "Maximum Required Daily Maintenance Volume" by 1.9835. This flow can be used to determine if the flow rate into the pond is adequate to maintain the pond level.
Days Required to Fill the Pond	188	The "Days Required to Fill the Pond" is calculated by dividing the "Pond Capacity" by the "Flow Rate" minus "Minimum Maintenance Flow" multiplied by 1.9835. This section will assist you in determining if the flow rate being diverted to the pond is adequate to fill the pond while maintaining the pond level. The length of time to fill the pond will help determine if the flow rate is adequate for the size of pond being proposed. <i>If this number is approximately 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond.</i>
Days Required to Fill the Pond at 13,000 Gallons per Day	-391	Some water users may want to fill a pond under the 13,000 gallons per day domestic exemption. The "Days Required to Fill the Pond at 13,000 Gallons per Day" is calculated by converting the "Pond Capacity" and the "Required Daily Maintenance Volume" to gallons. The "Pond Capacity" is then divided by 13,000 gallons minus the "Required Daily Maintenance Volume" in gallons to determine the number of days to fill pond. <i>If this number is approximately 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond.</i> Negative values indicate that the supply of 13,000 gallons per day is not enough volume to overcome the required daily maintenance volume; the pond will never fill.



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A A A

Area of Interest (AOI) | Soil Map | Soil Data Explorer | Download Soils Data | Shopping Cart (Free)

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Construction Materials

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Land Classifications

Land Management

Recreational Development

Sanitary Facilities

Soil Chemical Properties

Soil Erosion

Soil Health

Soil Physical Properties

Engineering Properties

View Description | View Soil Report

Options

Include minor soils? ☐

View Description | View Soil Report

Fragments on the Soil Surface

Particle Size and Coarse Fragments

Physical Soil Properties

Soil Qualities and Features

Vegetative Productivity

Waste Management

Water Features

Water Management

Soil Map

Scale: [not to scale]

Report — Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk "*" denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007 (<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Canyon Area, Idaho

Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth In	USDA texture	Classification	Pct Fragments		Percentage passing sieve number—				Liquid limit L-R-H	Plasticity index L-R-H	
						>10 inches	3-10 inches	4	10	40	200			
FaA—Falk fine sandy loam, 0 to 2 percent slopes														
Falk	85	A	0-9	Fine sandy loam	SC-SM, SC	A-4, A-6	0-0-0	0-0-0	100-100-100	100-100-100	70-78-85	40-45-50	24-29-33	7-9-12
			9-33	Sandy loam, fine sandy loam	SC-SM, SC	A-4, A-2, A-6	0-0-0	0-0-0	90-95-100	80-90-100	45-65-85	25-38-50	23-27-31	7-9-12
			33-60	Very gravelly sand, very gravelly coarse sandy loam	GP, GP-GM, GM, GW	A-1	0-0-0	0-3-5	35-43-50	35-43-50	15-25-35	0-10-20	0-16-20	NP-1-3
Gp—Gravel pit														
Pits, gravel	100		0-60	Gravel, cobbles	—	—	—	—	—	—	—	—	—	
No—Notus soils														
Notus	85	A	0-1	Sandy loam	SM, SC-SM	A-2, A-4	0-0-0	0-0-0	95-98-100	90-95-100	55-70-85	25-38-50	17-21-24	2-4-6
			1-14	Fine sandy loam	SC-SM, SM	A-2, A-4	0-0-0	0-0-0	95-98-100	90-95-100	55-70-85	25-38-50	17-21-24	2-4-6
			14-60	Stratified sand to gravel	GP	A-1	0-0-0	0-0-0	35-40-45	35-40-45	25-30-35	0-1-2	0-0-0	NP
Re—Riverwash														
Riverwash	100		0-60	Stratified sand to gravel	—	—	—	—	—	—	—	—	—	

Description — Engineering Properties

Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007 (<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated

ETIdaho 2012 -- Evapotranspiration and Consumptive Irrigation Water Requirements for IdahoPlease send suggestions for improving this site to robison@kimberly.uidaho.edu Copyright 2012, University of Idaho.**Parma (AgriMet -- PMAI)**

Statistics based on thirty year normal spans 1990 to 2011 years

For a different land cover or crop click on the above link.

You can highlight this table and copy via the clipboard to a Microsoft Excel or OpenOffice spreadsheet to plot or otherwise work with this data.

Open water - shallow systems (ponds, streams)															
Precipitation Deficit (Click here for a graph)															
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Non Growing Season ^b	Annual
Mean ^j	mm/day												mm		
Monthly ^k	-0.43	0.38	1.28	2.00	2.63	3.42	4.29	3.80	2.67	1.13	0.10	-0.54	632	0	632
15-Day Moving Average ^d	-0.49	0.34	1.27	2.04	2.64	3.46	4.33	3.76	2.64	1.12	0.15	-0.48			
7-Day Moving Average ^e	-0.46	0.35	1.26	2.03	2.65	3.44	4.32	3.77	2.65	1.13	0.10	-0.51			
3-Day Moving Average ^f	-0.43	0.36	1.27	2.02	2.63	3.42	4.30	3.79	2.66	1.12	0.09	-0.52			
Standard Deviation ^l	mm/day												mm		
Monthly ^k	0.76	0.46	1.18	0.61	1.82	0.72	0.68	0.69	0.48	0.97	0.44	1.02	110	0	110
15-Day Moving Average ^d	0.74	0.54	1.02	0.76	1.77	1.00	0.52	0.62	0.68	0.99	0.57	0.82			
7-Day Moving Average ^e	1.00	0.70	1.17	1.11	2.18	1.40	0.65	0.76	0.94	1.37	0.85	1.18			
3-Day Moving Average ^f	1.40	0.99	1.55	1.62	2.65	1.90	0.90	0.94	1.23	1.84	1.17	1.72			
20% Exceedance ^g	mm/day												mm		
Monthly ^k	0.04	0.74	1.91	2.30	3.50	3.93	4.62	4.17	2.95	1.63	0.43	-0.15	740	0	740
15-Day Moving Average ^d	0.44	0.94	2.57	3.07	4.67	4.62	4.96	4.44	3.35	2.24	0.82	0.39			
7-Day Moving Average ^e	0.59	1.31	2.82	3.80	4.77	4.99	5.17	4.63	3.67	2.61	1.31	0.64			
3-Day Moving Average ^f	0.94	1.57	3.55	4.22	5.09	5.39	5.61	5.00	4.07	3.05	1.78	1.08			
80% Exceedance ^h	mm/day												mm		
Monthly ^k	-1.02	-0.17	0.40	1.50	1.68	2.81	3.84	3.08	2.11	0.24	-0.27	-1.07	510	0	510
15-Day Moving Average ^d	-1.77	-0.64	-0.31	0.64	-0.50	1.92	3.57	2.31	1.34	-0.85	-0.91	-2.01			
7-Day Moving Average ^e	-3.37	-1.37	-1.93	-0.64	-3.25	-0.69	3.17	1.75	-0.23	-2.57	-2.16	-3.81			
3-Day Moving Average ^f	-6.19	-3.31	-3.62	-2.40	-7.64	-4.18	1.79	0.63	-3.01	-4.84	-4.52	-7.50			
Ave Highest P _{def}	mm/day												--		
15-Day Moving Average ^d	0.23	0.67	1.91	2.71	3.70	4.23	4.65	4.22	3.09	1.82	0.58	0.24			
7-Day Moving Average ^e	0.46	1.07	2.41	3.35	4.48	4.67	4.90	4.42	3.45	2.31	0.95	0.53			
3-Day Moving Average ^f	0.73	1.40	3.00	3.88	4.88	5.08	5.24	4.78	3.81	2.88	1.34	0.85			
Ave Lowest P _{def}	mm/day												--		
15-Day Moving Average ^d	-1.01	0.05	0.67	1.29	1.43	2.59	4.03	3.38	2.21	0.40	-0.35	-1.11			
7-Day Moving Average ^e	-1.83	-0.42	-0.07	0.23	-0.25	1.36	3.55	2.88	1.53	-0.62	-1.16	-2.25			
3-Day Moving Average ^f	-3.56	-1.55	-1.55	-1.39	-2.81	-0.71	2.65	1.97	0.23	-2.52	-2.63	-4.51			
Special normal distribution parameters for monthly, seasonal, and annual intervals															
Skew ^m	-0.01	-0.87	-0.38	-0.19	-0.26	-0.55	-0.24	-0.14	-0.22	-0.32	-0.19	-0.38	-0.16	0.00	-0.16
Kurtosis ⁿ	0.52	3.16	0.95	3.41	0.84	3.31	0.80	0.60	2.58	0.76	2.45	0.99	2.30	0.00	2.30

^a Growing Season: This is usually the time from green up or planting in the spring to a killing frost or harvest in the fall. It is not applicable for entries without a growing season and will be blank.^b Nongrowing Season: This is usually the time from a killing frost or harvest in the fall to the of green up in the spring. It is not applicable for entries without a growing season.^k Mean of the average daily value for month^d Mean of the fourteen 15-day period averages contained in the month^e Mean of the twenty three 7-day period averages contained in the month^f Mean of the twenty seven 3-day period averages contained in the month^g Mean of the highest/lowest 15-day period average in month^h Mean of the highest/lowest 7-day period average in monthⁱ Mean of the highest/lowest 3-day period average in month^j This value represents the mean value for the parameter for the month over the 'normal' period of record. Generally, the 'normal' period is the last thirty years with data.^l This value represents the standard deviation for the parameter for the month over the 'normal' period.^g This value represents the value for the parameter that has a 20% chance of being exceeded that month during any particular year. Conversely, there is an 80% chance that the parameter value will be less than the value shown.^h This value represents the value for the parameter that has a 80% chance of being exceeded that month during any particular year. Conversely, there is a 20% chance that the parameter value will be less than the value shown.ⁿ This value represents the skewness (asymmetry) of the distribution of the parameter values for the month (year) over the 'normal' period. A value near zero indicates that the distribution approximates a normal (Gaussian) and symmetrical distribution. A negative skew indicates that the parameter distribution has relatively few low values compared to high values. A positive skew indicates that the distribution has relatively few high values compared to the number of low values. A skew value near 1 indicates that the underlying distribution approximates a lognormal distribution.^o This value represents the kurtosis of the parameter value distribution for the month (year) over the 'normal' period. Kurtosis is a measurement of the height to width ratio of the probability distribution, or the peakedness (slenderness). A normal (Gaussian) distribution has a kurtosis of 3. A high kurtosis distribution has a sharper peak and longer tails, while a low kurtosis distribution has a more rounded peak and shorter tails.

This work and report were prepared by the University of Idaho Research and Extension Center at Kimberly, Idaho under contract with the Idaho Department of Water Resources. Work was supported by funding from IDWR and the Idaho Agricultural Experiment Station and Idaho Engineering Experiment Station. The authors gratefully acknowledge the long-term evapotranspiration data collection and long-standing advice provided by Dr. James L. Wright, USDA-ARS Kimberly (ret.), the more than two decades of high quality agricultural weather data collection by the U.S. Bureau of Reclamation AgriMet system, and the very long-standing, routine data collection by the hundreds of cooperative weather station volunteers across the state who, for more than one-hundred years, have faithfully observed daily air temperature and precipitation.

The citation for the evapotranspiration data used from this site should be: Allen, Richard G. and Clarence W. Robison, 2012. *Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho: Supplement updating the Time Series through December 2008*, Research Technical Completion Report, Kimberly Research and Extension Center, University of Idaho, Moscow, ID.

Questions regarding the data should be addressed to [Clarence W. Robison](mailto:Clarence.W.Robison@uidaho.edu) or [Richard G. Allen](mailto:Richard.G.Allen@uidaho.edu), University of Idaho, Kimberly Research and Extension Center, 3793 North 3600 East, Kimberly, ID 83341. Telephone (208)-423-6610.



Unnamed Slough
where the slough
converges.



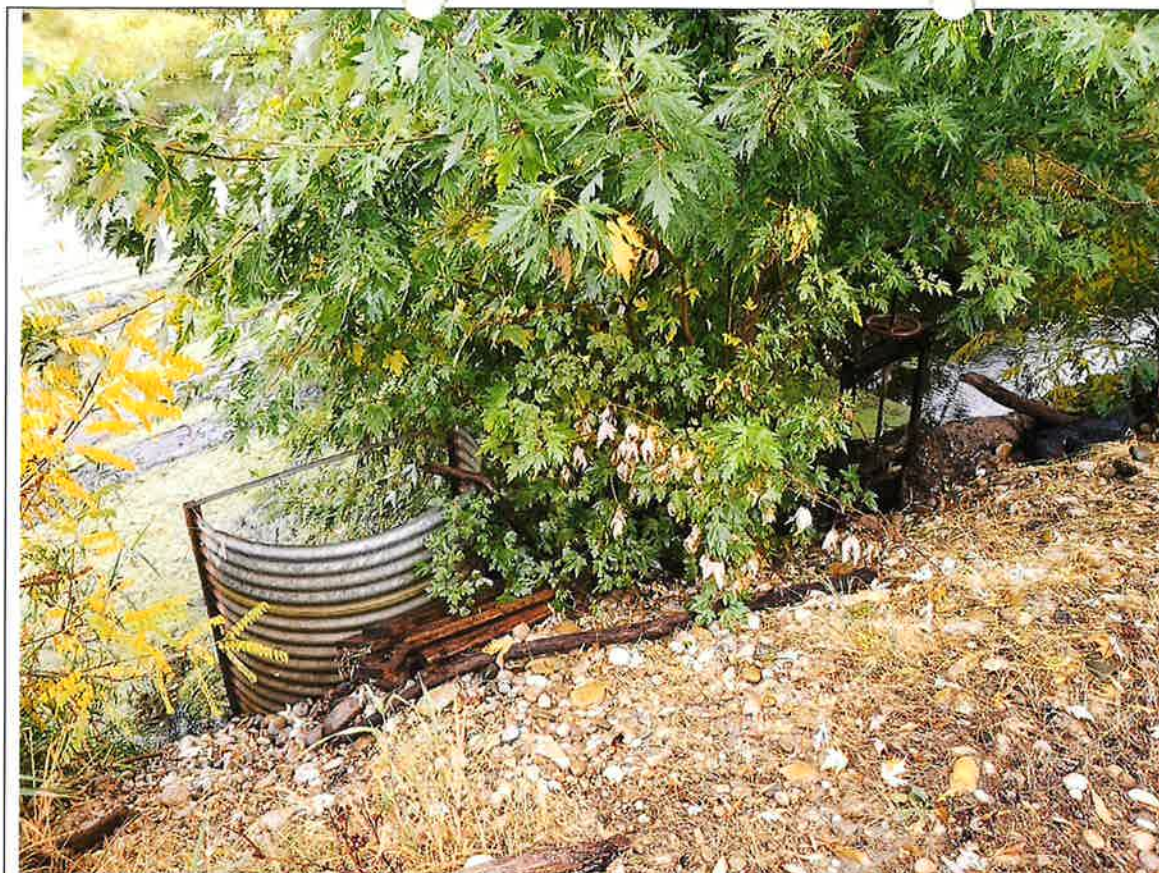
The unnamed
slough in the
southern section.



The high bank is marked by the red arrow on the fence post.



Looking east upstream of the unnamed slough standing at the control structure.



Control structure where boards are adjusted to control storage in the unnamed slough.



Looking west downstream of the unnamed slough standing at the control structure.

Skinner, Aaron

From: Terry Scanlan <TScanlan@spfwater.com>
Sent: Monday, November 12, 2018 8:07 AM
To: Skinner, Aaron
Subject: FW: Waiver for Condition 18C

Aaron --

The first paragraph below is in reference to 63-32177.

Terry

From: Rex Barrie <Waterdistrict63@qwestoffice.net>
Sent: Monday, November 12, 2018 7:02 AM
To: Terry Scanlan <TScanlan@spfwater.com>
Cc: 'Miller, Nick' <Nick.Miller@idwr.idaho.gov>; Doug Bates <Doug@clearwateranalytics.com>
Subject: RE: Waiver for Condition 18C

Terry,

After our meeting on Friday, I would waive the out flow measurement requirement at this time. However, I would like to have the option to require measurement at a later date if needed.

As to the headgate and measurement device off the Dixie Drain. The headgate needs to be placed near the POD and the weir should be located close to the headgate for regulation purposes.

Since you will need to contact City of Boise about installing the items. I will allow you a two month extension for the installation.

Thank you taking the time to go over this with me.

Rex R. Barrie
Boise River Watermaster

From: Terry Scanlan [<mailto:TScanlan@spfwater.com>]
Sent: Monday, November 05, 2018 9:31 AM
To: Rex Barrie
Cc: '2088666032@vzwpix.com'; John Hauck (johnhauck@cableone.net); Doug Bates; aaron.skinner@idwr.idaho.gov
Subject: RE: Waiver for Condition 18C

Hi Rex.

I'm following up on the email below. Let us know if you need any additional information to make a decision on this waiver request. Thanks.

Terry

From: Terry Scanlan
Sent: Thursday, October 11, 2018 3:51 PM
To: 'Rex Barrie' <Waterdistrict63@qwestoffice.net>
Cc: '2088666032@vzwpx.com' <2088666032@vzwpx.com>; John Hauck (johnhauck@cableone.net) <johnhauck@cableone.net>; 'Doug Bates' <Doug@clearwateranalytics.com>
Subject: RE: Waiver for Condition 18C

Rex –

See the email below regarding waiving of condition 18C for water right permit 63-32177. Aaron Skinner from IDWR recently conducted a beneficial use field exam for this permit.

Permit 63-32177 authorizes storage of up to 5 acre feet in a reservoir area of no more than 2.5 surface acres by checking up the flow in an unnamed slough (located south of the Andrews Ditch) that discharges to the north side of the Boise River a few hundred feet above the Highway 95 bridge. I have attached the water right backfile. There are no users on the unnamed slough downstream of this check structure. The slough discharges to the River within this property. I have attached the permit backfile for more information.

We would hope to avoid measurement devices (1) because of the cost to install and maintain the devices, and (2) because the data would not provide a benefit to anyone. In the unlikely event of a delivery call on the Boise River downstream from Highway 95, the boards could be pulled to drain the water that is checked up by this junior priority right.

Let us know if you can provide Aaron with the waiver or if you have any questions. Thanks.

Terry

From: Doug Bates <Doug@clearwateranalytics.com>
Sent: Thursday, October 11, 2018 1:57 PM
To: Terry Scanlan <TScanlan@spfwater.com>
Cc: '2088666032@vzwpx.com' <2088666032@vzwpx.com>; John Hauck (johnhauck@cableone.net) <johnhauck@cableone.net>
Subject: FW: Waiver for Condition 18C

Terry,
**Can you help us with this
db**

From: Skinner, Aaron <Aaron.Skinner@idwr.idaho.gov>
Sent: Thursday, October 11, 2018 12:51 PM
To: Doug Bates <Doug@clearwateranalytics.com>
Subject: Waiver for Condition 18C

Hi Doug,

Clarification was received regarding condition 18C and feel the easiest route for you is to seek a waiver/modification for condition 18C. The waiver form is attached. Below I have included the condition and the watermaster's contact information for your convenience.

Condition 18C

Prior to diversion of water under its right, the right holder shall provide a means acceptable to the department to measure the amount of water entering the reservoir and the amount of water released from the reservoir.

Potential modification of Condition 18C

Upon specific notification by the Department, the right holder shall provide a means acceptable to the department to measure the amount of water entering the reservoir and the amount of water released from the reservoir.

Watermaster

Rex Barrie

(208) 908-5480

WATERDISTRICT63@QWESTOFFICE.NET

The intent of 18C is to provide a way for the watermaster to quantify and regulate how much water is being stored in-slough. Currently, control is accomplished by adjusting the check boards where the slough is dammed. This may be sufficient, but the watermaster needs to approve the structure.

Please reach out to Rex for guidance. If a waiver is obtained, please have Rex email me the completed form. If Rex does not agree to waive/modify the condition, please comply with the condition as Rex recommends. Don't hesitate to contact me for help or if you have questions.

Best,

Aaron Skinner

Idaho Department of Water Resources

Water Resource Agent, Sr.

(208) 334-2190

aaron.skinner@idwr.idaho.gov



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

September 20, 2018

COPY

DOUG BATES
THE DRAKE, LLC
777 W MAIN ST STE 900
BOISE ID 83702

RE: Scheduling Field Exam for Water Right Permit No. 63-32176 and 63-32177

Dear Mr. Bates:

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

The above-referenced permit authorizes use of **0.15 cfs** from a **POND** for **IRRIGATION** use and **13.8 AF** of **WILDLIFE STORAGE** from an **UNNAMED SLOUGH** a tributary of the **BOISE RIVER**. I have enclosed a water permit report and map depicting the permit place of use and point of diversion for your reference.

The current water right permit owner of record is John Hauck. We have been unable to contact Mr. Hauck to schedule a field examination on behalf of the permit owners. Canyon County tax lot information indicates you may own the place of use property associated with this permit. A water right permit is personal property of the permit owner. It remains personal property unless it is assigned to a new owner. I have enclosed the Information for New Landowner handout for your reference.

If a beneficial use of water under the permit was not developed or if developed, but subsequently abandoned, a license cannot be issued. The permit will become void if beneficial use under the permit was not developed or was developed, but is now abandoned.

Please contact me within the next thirty (30) days to either schedule an examination or notify the department a beneficial use was not developed or was abandoned. If you do not respond to this letter by October 22, 2018, the department will void the permit. I appreciate your attention in this matter and I look forward to hearing from you.

Sincerely,

Aaron Skinner
Water Resource Agent, Sr.

Enclosure(s): Water Permit Report and Map
Information for New Landowner

IDAHO DEPARTMENT OF WATER RESOURCES
WESTERN REGION
2735 Airport Way
Boise, Idaho 83705-5082
RETURN SERVICE REQUESTED

RECEIVED
SEP 19 2018

WATER RESOURCES
WESTERN REGION

Associated to letter dated August 14, 2018
↳ new letter sent to property owner on September 20, 2018.

PRESORTED
FIRST CLASS



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0000359173 AUG 14 2018

0000359173

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BC: 83705508235 *2689-88358-17-21



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

August 14, 2018

RECEIVED

SEP 19 2018

WATER RESOURCES
WESTERN REGION

JOHN HAUCK
PO BOX 2137
MC CALL, ID 83638

RE: Scheduling Field Exam for Water Right Permit No. 63-32176 and 63-32177

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 permits authorize **0.15 cfs** from a **POND** for **IRRIGATION** use and **13.8 AF** of **WILDLIFE STORAGE** from an **UNNAMED SLOUGH** a tributary of the **BOISE RIVER**. **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).

Please contact me within the next thirty (30) days at (208) 334-2190 to either schedule an examination or submit a relinquishment form. If the Department does not received a response by September 14, 2018, your permit will become void. Thank you for your attention to this matter.

Sincerely,

Aaron Skinner
Water Resource Agent, Sr.
Idaho Department of Water Resources
Phone: (208) 334-2190
Email: aaron.skinner@idwr.idaho.gov

Enclosures: Relinquishment of Permit form
Water Permit Report and Map