

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-33702

Exam Date: 1/11/2018

1. Current Owner:
VALLEY AGRONOMICS LLC 20870 VAN SLYKE RD GREENLEAF ID 83626 (208) 436-0141
2. Accompanied by: JASON CRANE
Phone No: (208) 431-4717
Address: 20870 VAN SLYKE RD GREENLEAF ID 83626
Relationship to Permit Holder: MANAGER
3. **SOURCE:**
GROUND WATER

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

GROUND WATER NW¼NW¼ Sec. 20, Twp 04N, Rge 04W, B.M. CANYON County

Method of Determination: Obtained GPS during field exam and used aerial imagery.

2.

PLACE OF USE: FIRE PROTECTION FROM STORAGE and FIRE PROTECTION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
04N	04W	20					X	X											

PLACE OF USE: FIRE PROTECTION STORAGE, DOMESTIC, and COMMERCIAL

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
04N	04W	20						X											

Method of Determination: Obtained GPS during field exam and used 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 1:24,000 or greater.

XX Aerial Photo Attached (required for irrigation of 10+ acres).X Photo of Diversion and System Attached

4.

Well Tag No.	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
D0064103	Unknown	15	Unknown	Unknown	Unknown

*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: Two flow measurements were taken by time filling a water tank for three minutes and weighing the tank before and after each fill.

E. FLOW CALCULATIONS X Additional Computation Sheets Attached

Measured Method: Test 1 – 120.7 gpm or ~0.27 cfs; Test 2 – 122.3 gpm or ~0.27 cfs

F. VOLUME CALCULATIONS1. Volume Calculations for **Commercial**:
 $V_{IR} = 1,800,000 \text{ gallons per year use (per records received from Valley Agronomics)} = 5.5 \text{ AF}$
 $V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in season}) \times 1.9835 = 0.27 \text{ cfs} \times 365 \text{ days} \times 1.9835 = 195 \text{ AF}$
 $V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 5.5 \text{ AF}$
2. Volume Calculations for **Domestic**:
 $V_{IR} = 45 \text{ employees} \times 50 \text{ gallons per day} \times 261 \text{ working days a year} = 1.8 \text{ AF}$
 $V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in season}) \times 1.9835 = 0.02 \text{ cfs} \times 365 \text{ days} \times 1.9835 = 14.5 \text{ AF}$
 $V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 1.8 \text{ AF}$
3. Volume Calculations for **Fire Protection**

Not necessary per IDAPA 37.03.02.035.01jiv.

4. Volume Calculations for **Fire Protection Storage and Fire Protection from Storage**:
 $V_{IR} = \text{Pond capacity} + \text{evaporation} = 1.4 \text{ AF} + 0.6 \text{ AF} = 2.0 \text{ AF}$
 $V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in season}) \times 1.9835 = 0.27 \text{ cfs} \times 365 \text{ days} \times 1.9835 = 195 \text{ AF}$
 $V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 2.0 \text{ AF}$
G. NARRATIVE/REMARKS/COMMENTS**System Description:**

A 6" well was initially drilled, but later unused when the 10" well was constructed. Water is diverted from the well to the various buildings, storage pond, and water tank (30,000 gal.) via a 15 Hp pump rated at 120 gpm. There are three hose bibs and two wash out areas included in the commercial use. A 2" galvanized pipe fills the pond as necessary.

Conditions:

Conditions 26A, and 004 were removed and not forwarded to licensing. Condition 121 was updated to 103 and forwarded to licensing. Condition 01M was forwarded to licensing. Condition 220, 219, and 218 were added to outline pond use restrictions and specs. Explanatory condition of fire protection storage does not include 30,000 gallon because inline system is greater than 24 hour rule, so not storing water. Permit condition 220 outlined 0.20 acres. During the field exam 0.23 acres was measured, but only 0.20 acres is recommended to licensing. Both round to 0.20 acres per Department significant figure standards; no enlargement of permit in development period.

Have conditions of permit approval been met? X Yes No

H. RECOMMENDATIONS**1. Recommended Amounts**

BENEFICIAL USE	PERIOD OF USE	DIVERSION RATE	ANNUAL VOLUME
FIRE PROTECTION FROM STORAGE	01/01 to 12/31		2.0 AF
DOMESTIC	01/01 to 12/31	0.02 CFS	1.8 AF
DIVERSION TO STORAGE	01/01 to 12/31	0.27 CFS	
FIRE PROTECTION	01/01 to 12/31	0.27 CFS	
FIRE PROTECTION STORAGE	01/01 to 12/31		2.0 AF
COMMERCIAL	01/01 to 12/31	0.27 CFS	5.5 AF
<u>Totals:</u>		0.27 CFS	

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 AJL Date 8/14/2018

Reviewer _____ Date _____

State of Idaho
Department of Water Resources
System Diagram
Water Permit No. 65-23465



Legend

- Point of Diversion
- Wash Area
- Hose Bib
- Tank Fill Location
- Main Supply Line

0 0.03 0.06 0.12 Miles



State of Idaho
Department of Water Resources
Place of Use and Point of Diversion
Water Permit No. 65-23465



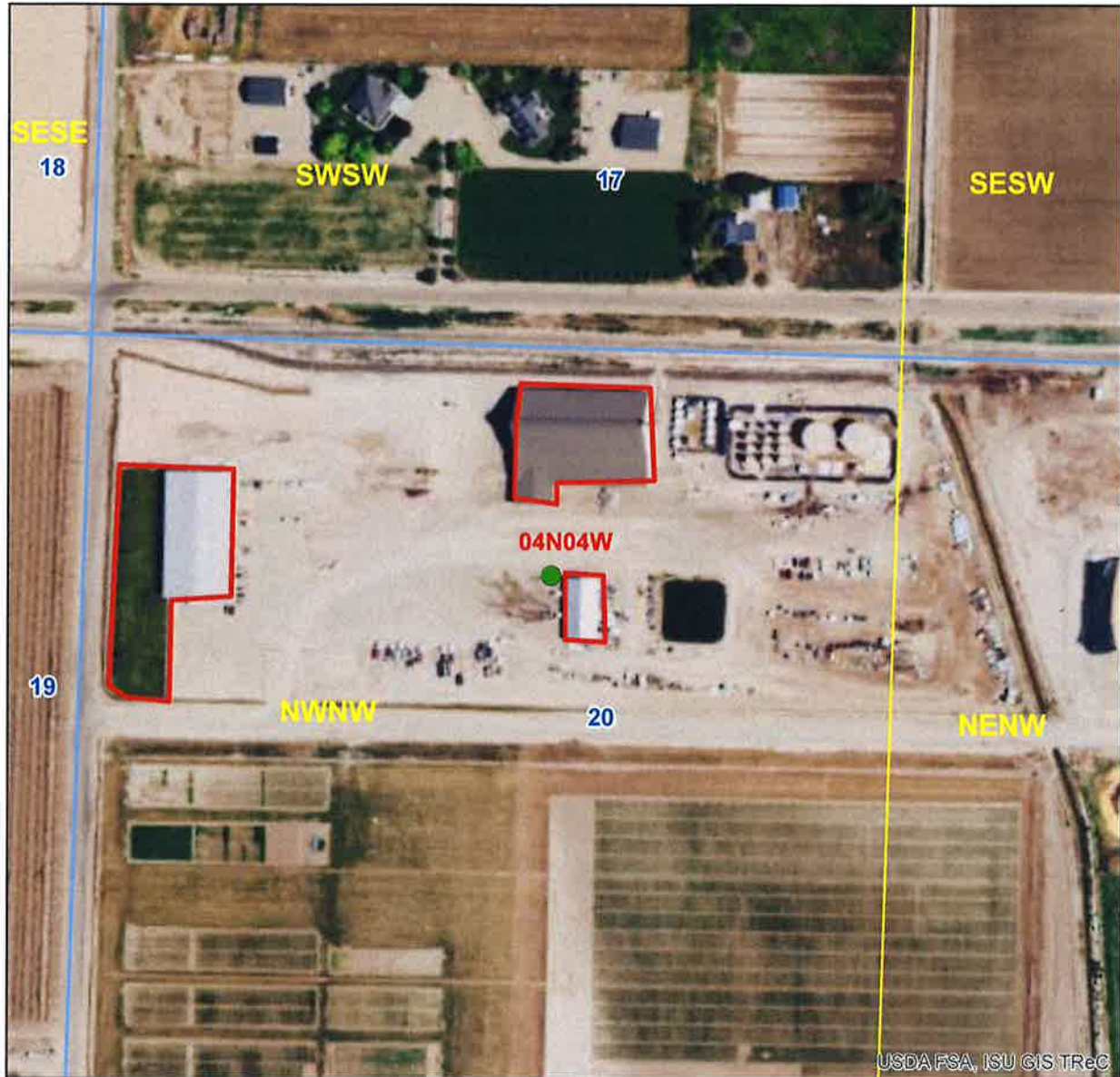
0 0.0325 0.065 0.13 Miles

Legend

- Point of Diversion
- Commercial
- Fire Protection
- Fire Protection Storage



State of Idaho
Department of Water Resources
Place of Use and Point of Diversion
Water Permit No. 65-23465



0 0.0325 0.065 0.13 Miles

Legend

● Point of Diversion

□ Domestic



①

Valley Agronomics
20870 Van Slyke Road
Greenleaf, ID 83626
(208) 453-5960

Time In: 05/15/2018 9:13 AM
Time out: 05/15/2018 9:24 AM
Ticket: 65373
Truck # : 10-3
Customer Name: Water

Item Name: Weigh
Car Number:
Class:
Grade:
Test:
% Dockage:
Harvest Year:
% Moisture:
% Protien:

Gross : 13920 lbs.
Tare : 10900 lbs.
Net : 3020 lbs.
Net Tons : 1.51

Thank You

- 1 gallon of water = 8.34 lbs.
- 3 minute timed fill.

$$\textcircled{1} \quad \frac{3020 \text{ lbs.}}{8.34 \text{ lbs.}} \Rightarrow \frac{362.11 \text{ gallons}}{3 \text{ minutes}} =$$

120.7 gpm or ~0.27 cfs

②

Valley Agronomics
20870 Van Slyke Road
Greenleaf, ID 83626
(208) 453-5960

Time In: 05/15/2018 9:25 AM
Time out: 05/15/2018 9:35 AM
Ticket: 65374
Truck # : 10-3
Customer Name: water

Item Name: Weigh
Car Number:
Class:
Grade:
Test:
% Dockage:
Harvest Year:
% Moisture:
% Protien:

Gross : 16980 lbs.
Tare : 13920 lbs.
Net : 3060 lbs.
Net Tons : 1.53

Thank You

$$\textcircled{2} \quad \frac{3060 \text{ lbs.}}{8.34 \text{ lbs.}} \Rightarrow \frac{366.9 \text{ gallons}}{3 \text{ minutes}} =$$

122.3 gpm or ~0.27 cfs

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	63-33702
REVIEWER	Aaron Skinner
DATE	8/1/2018

User Input
Calculated value
Formula Explanations

INPUTS

Pond Surface Area (AC.)	0.23	AC.
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Pond Surface Area (SQ. FT.)	10019	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	Lined	
Suggested Seepage Rate (FT./DAY)	0.0000	FT./DAY

Formula: (Surface Area X Seepage Rate) X 7.48 = Gallons Per Day Loss
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Convert to GPD	0	GPD
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Total Seepage Loss (AFA)	0.0	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	63-33702
REVIEWER	Aaron Skinner
DATE	8/1/2018

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: Caldwell (NWS -- 101380)

Month	mm/day ¹	Days per month	mm/Month
Jan	0.00	31	0.00
Feb	0.18	28	5.04
March	1.22	31	37.82
April	2.51	30	75.30
May	3.74	31	115.94
June	4.22	30	126.60
July	5.01	31	155.31
August	4.27	31	132.37
September	3.06	30	91.80
October	1.89	31	58.59
November	0.00	30	0.00
December	0.00	31	0.00

Total mm/year = 798.77

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.

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

$$\left(\frac{798.77}{304.8} \right) \times 0.23 = 0.6 \text{ AFA}$$

ETIdaho 2012 -- Evapotranspiration and Consumptive Irrigation Water Requirements for IdahoPlease send suggestions for improving this site to robison at kimberly dot uidaho dot edu Copyright 2012, University of Idaho.**Caldwell (NWS -- 101380)**

Statistics based on thirty year normal spans 1961 to 1996 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 ^c	-0.83	0.18	1.22	2.51	3.74	4.22	5.01	4.27	3.06	1.89	-0.12	-0.78	753	0	753		
15-Day Moving Average ^d	-0.88	-0.03	1.14	2.54	3.85	4.28	5.06	4.17	2.93	1.89	-0.07	-0.72					
7-Day Moving Average ^e	-0.86	0.10	1.19	2.51	3.78	4.22	5.06	4.25	2.98	1.89	-0.12	-0.76					
3-Day Moving Average ^f	-0.83	0.17	1.22	2.52	3.75	4.21	5.03	4.28	3.03	1.89	-0.11	-0.77					
Standard Deviation ^k	mm/day												mm				
Monthly ^g	1.13	0.81	1.37	0.92	1.15	0.78	1.01	1.22	0.87	0.93	0.79	1.24	113	0	113		
15-Day Moving Average ^d	1.13	1.09	1.27	1.07	1.20	1.05	0.72	1.17	1.21	0.92	0.91	1.04					
7-Day Moving Average ^e	1.53	1.44	1.54	1.58	1.64	1.68	0.85	1.39	1.56	1.29	1.30	1.36					
3-Day Moving Average ^f	2.08	1.83	2.04	2.23	2.19	2.30	1.19	1.67	1.90	1.70	1.77	1.87					
20% Exceedance ^l	mm/day												mm				
Monthly ^c	-0.26	0.78	1.95	3.18	4.25	5.17	5.49	4.95	3.76	2.44	0.50	-0.19	850	0	850		
15-Day Moving Average ^d	0.39	1.26	2.79	3.94	5.49	5.66	5.77	5.35	4.37	3.14	1.19	0.50					
7-Day Moving Average ^e	0.67	1.99	3.41	4.83	6.18	6.28	6.14	5.82	4.88	3.76	1.68	0.72					
3-Day Moving Average ^f	0.86	2.37	4.18	5.46	6.72	6.90	6.49	6.07	5.22	3.97	2.01	0.99					
80% Exceedance ^m	mm/day												mm				
Monthly ^h	-1.30	-0.53	0.47	1.56	3.01	3.54	4.55	3.71	2.41	1.34	-0.83	-1.43	652	0	652		
15-Day Moving Average ^d	-2.47	-1.53	-0.71	0.72	2.09	2.26	3.72	2.51	1.29	0.56	-1.75	-2.42					
7-Day Moving Average ^e	-4.65	-3.10	-2.43	-1.68	0.22	-0.04	3.08	0.81	-0.60	-1.11	-3.13	-3.96					
3-Day Moving Average ^f	-8.21	-5.59	-4.85	-4.91	-3.10	-3.71	1.29	-1.11	-3.98	-4.17	-5.71	-7.94					
Ave Highest P _{def}	mm/day												--				
15-Day Moving Average ^d	0.21	0.77	2.07	3.41	4.71	5.19	5.40	4.79	3.74	2.61	0.65	0.22					
7-Day Moving Average ^e	0.48	1.50	2.77	4.30	5.44	5.91	5.77	5.35	4.41	3.27	1.18	0.47					
3-Day Moving Average ^f	0.70	1.91	3.48	5.04	6.23	6.57	6.19	5.70	4.90	3.64	1.65	0.74					
Ave Lowest P _{def}	mm/day												--				
15-Day Moving Average ^d	-1.64	-0.50	0.41	1.66	2.86	3.32	4.52	3.59	2.21	1.17	-0.78	-1.52					
7-Day Moving Average ^e	-3.07	-1.61	-0.67	0.32	1.34	1.62	3.92	2.68	1.11	0.13	-1.90	-2.59					
3-Day Moving Average ^f	-5.54	-3.31	-2.66	-2.09	-1.05	-0.86	2.46	1.22	-0.66	-1.60	-3.80	-4.95					
Special normal distribution parameters for monthly, seasonal, and annual intervals																	
Skew ⁿ	-0.34	-0.50	-0.28	0.01	-0.26	-0.09	-0.67	-0.38	-0.83	0.15	0.28	-0.20	-0.41	0.00	-0.41		
Kurtosis ^o	1.02	3.18	0.90	3.14	0.93	2.06	2.13	1.06	3.20	0.66	2.35	0.83	2.77	0.00	2.77		

^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.^c 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.^k This value represents the *standard deviation* for the parameter for the month over the 'normal' period.^l 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.^m 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 an 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

Total Storage Calculations

FILE NUMBER	63-33702
REVIEWER	Aaron Skinner
DATE	8/1/2018

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.)	0.23	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	6	"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)	1.38	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)	0.0	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.6	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	2.0	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)	0.27	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)	5.01	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)	0.00	"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)	0.00	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	3	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	38	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.

Overlap Analysis for Permit No. 63-33702 POD

Process	BasinSequence	Draft	Owner	Source	Use	NENE	NWNE	SWNE	SENE	NENW	NNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	TotalAcres
04N04W20																						
Water Right	63-10503	N	GREENLEAF FARMS INC; RODCO INC	GROUND WATER																		
Water Right	63-10543	N	GREENLEAF FARMS INC; RODCO INC	GROUND WATER																		
Water Right	63-21756	N	GROSS, C DOUGLAS; GROSS, CHARLES	GROUND WATER																		
Water Right	63-23986	N	YEKEL, DAVE; YEKEL, FLORENCE	GROUND WATER																		
Water Right	63-28068	N	HARRIS, CHESTER	GROUND WATER																		
Water Right	63-28291	N	VANDERBEEK, JAMES BLAUVELT	GROUND WATER																		
Water Right	63-33702	Y	VALLEY AGRONOMICS LLC	GROUND WATER																		
Water Right	63-9127	N	BINFORD, HOWARD; CLOUD, DELMAR	GROUND WATER																		

Overlap Analysis for Permit No. 63-33702 POU

Process	BasinSequence	Draft	Owner	Source	Use	NENE	NWNE	SWNE	SENE	NENW	NNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	TotalAcres
04N04W20																						
Water Right	63-10503	N	GREENLEAF FARMS INC; RODCO INC	GROUND WATER	IRRIGATION																	22
Water Right	63-10543	N	GREENLEAF FARMS INC; RODCO INC	GROUND WATER	IRRIGATION																	30
Water Right	63-136	N	BARKER ROSHOLT & SIMPSON LLP; BOISE PROJECT BOARD	BOISE RIVER	IRRIGATION																	
Water Right	63-137B	N	BARKER ROSHOLT & SIMPSON LLP; BOISE PROJECT BOARD	BOISE RIVER	IRRIGATION																	
Water Right	63-200A	N	BARKER ROSHOLT & SIMPSON LLP; BOISE PROJECT BOARD	BOISE RIVER	IRRIGATION																	
Water Right	63-2106	N	UNITED STATES OF AMERICA ACTING THROUGH FIVEMILE CREEK	FIVEMILE CREEK	IRRIGATION																	
Water Right	63-21756	N	GROSS, C DOUGLAS; GROSS, CHARLES	GROUND WATER	DOMESTIC																	
Water Right	63-233K	N	AMERICAN DITCH CO; BARKER ROSHOLT & SIMPSON LLP; BOISE RIVER	BOISE RIVER	IRRIGATION																	
Water Right	63-2388A	N	UNITED STATES OF AMERICA ACTING THROUGH	BOISE RIVER	IRRIGATION																	
Water Right	63-2392F	N	BOISE PROJECT BOARD OF CONTROL	WASTE WATER	IRRIGATION																	
Water Right	63-23986	N	YEKEL, DAVE; YEKEL, FLORENCE	GROUND WATER	DOMESTIC																	
Water Right	63-251A	N	UNITED STATES OF AMERICA ACTING THROUGH	BOISE RIVER	IRRIGATION																	
Water Right	63-28068	N	HARRIS, CHESTER	GROUND WATER	DOMESTIC																	
Water Right	63-28068	N	HARRIS, CHESTER	GROUND WATER	STOCKWATER																	
Water Right	63-28291	N	VANDERBEEK, JAMES BLAUVELT	GROUND WATER	DOMESTIC																	
Water Right	63-301A	N	UNITED STATES OF AMERICA ACTING THROUGH	BOISE RIVER	IRRIGATION																	
Water Right	63-302A	N	UNITED STATES OF AMERICA ACTING THROUGH	BOISE RIVER	IRRIGATION																	
Water Right	63-33251	N	BOISE PROJECT BOARD OF CONTROL	INDIAN CREEK	IRRIGATION																	
Water Right	63-33259	N	BOISE PROJECT BOARD OF CONTROL	TENMILE CREEK	IRRIGATION																	
Water Right	63-33702	Y	VALLEY AGRONOMICS LLC	GROUND WATER	COMMERCIAL																	
Water Right	63-33702	Y	VALLEY AGRONOMICS LLC	GROUND WATER	DOMESTIC																	
Water Right	63-33702	Y	VALLEY AGRONOMICS LLC	GROUND WATER	FIRE PROTECTION																	
Water Right	63-33702	Y	VALLEY AGRONOMICS LLC	GROUND WATER	FIRE PROTECTION FROM STORAGE																	
Water Right	63-33702	Y	VALLEY AGRONOMICS LLC	GROUND WATER	FIRE PROTECTION STORAGE																	
Water Right	63-378A	N	UNITED STATES OF AMERICA ACTING THROUGH	BOISE RIVER	IRRIGATION																	
Water Right	63-9127	N	BINFORD, HOWARD; CLOUD, DELMAR	GROUND WATER	INDUSTRIAL																	

No Overlap; different use and source.



10" well 232'
deep with a 15
Hp pump.



Well Tag No.
D0064103



Fire Protection
Storage Pond.
Pond capacity is
1.4 AF with
calculated evap
of 0.6 AF.



2" galvanized
pipe fills the
pond as
necessary from
the well.



Wash station and
hose bib.



Weigh station
that has a wash
station and hose
bib.



Building that has
a breakroom in
the top floor.



Breakroom



Bathroom
downstairs of the
breakroom.



Shop. The well is
close to the
yellow painted
concrete barriers.



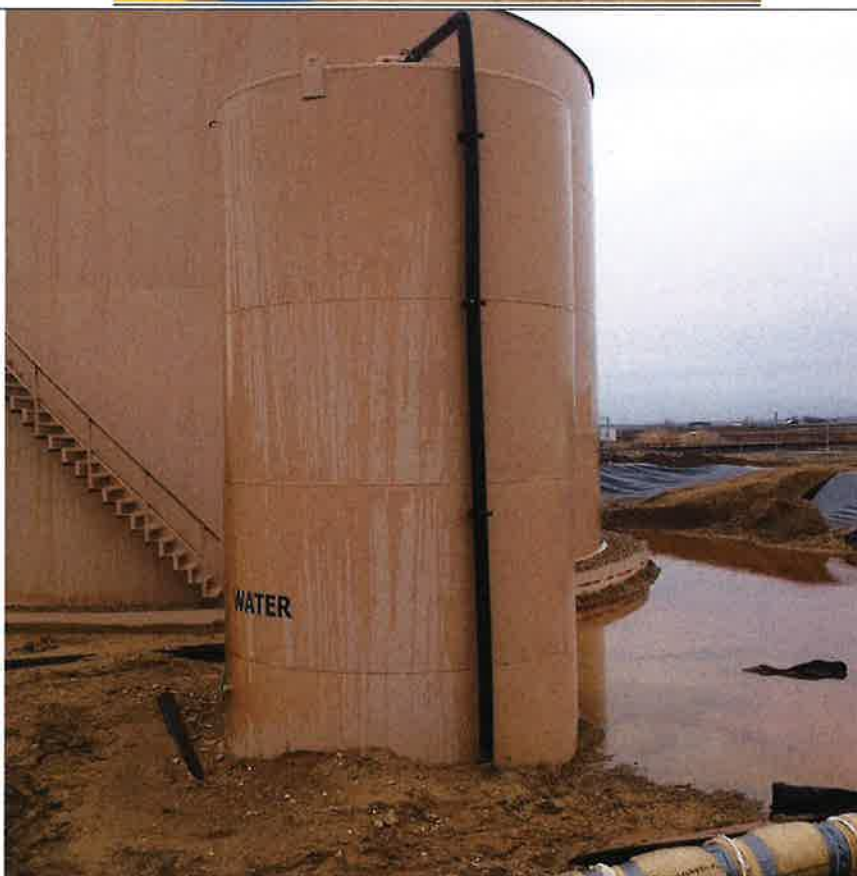
Hose bib outside the shop.



Bathroom in the shop area.



Hand washing station in the shop.



30,000 gallon tank.



Main water line that surfaces around the weigh station and feeds the 30,000 gallon tank and fill area.



Location where all the trucks fill up at and where the flow test was done. The black hose to the right connects to the valve and truck.

IDAHO DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

1. WELL TAG NO. D D0064103Drilling Permit No. 916400-867626Water right or injection well # 63-33702**2. OWNER:**Name Valley Agronomics LLC.Address 20870 Van Slyke Rd.City Greenleaf State Idaho Zip 83626**3. WELL LOCATION:**Twp. 4 North ☒ or South ☐ Rge. 4 East ☐ or West ☒Sec. 20 1/4 NW 1/4 NW 1/4Gov't Lot _____ County CanyonLat. 43 40.512'N (Deg. and Decimal minutes)Long. 116 50.981'W (Deg. and Decimal minutes)Address of Well Site SameCity Greenleaf

(Give at least name of road + Distance to Road or Landmark)

Lot _____ Blk. _____ Sub. Name _____

4. USE:☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☒ Other Commercial**5. TYPE OF WORK:**☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other _____**6. DRILL METHOD:**☒ Air Rotary ☐ Mud Rotary ☒ Cable ☐ Other _____**7. SEALING PROCEDURES:**

Seal material	From (ft)	To (ft)	Quantity (lbs or ft ³)	Placement method/procedure
3/8 Bentonite	0	22	650 lbs.	14" Overbore
Bentonite Grout	22	100	2000 lbs.	14" Overbore Pumped

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/Schedule	Material	Casing Liner	Threaded	Welded
10"	2.5	165	.250	Steel	☒	☐	☒
6"	149	164	.250	Steel	☐	☒	☒
6"	185	212	.250	Steel	☐	☒	☒
6"	227	232	.250	Steel	☐	☒	☒

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 163'**9. PERFORATIONS/SCREENS:**Perforations ☐ Y ☒ N Method _____Manufactured screen ☒ Y ☐ N Type JohnsonMethod of installation Pullback/ Artificial Sandpack

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
164	174	.020	10'	6"	Stainless	304
180	185	.020	5'	6"	Stainless	304
212	227	.020	15'	6"	Stainless	304

Length of Headpipe 15.0 Length of Tailpipe 5.1Packer ☒ Y ☐ N Type 10"x6"x 6' Long Slip Packer**10. FILTER PACK:**

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft ³)	Placement method
10/20 Silica	150	232	15,650 lbs.	Pour

11. FLOWING ARTESIAN:Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:Depth first water encountered (ft) _____ Static water level (ft) 10'

Water temp. (°F) _____ Bottom hole temp. (°F) _____

Describe access port _____

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
115'	140 GPM	5 HRS.

Test method:

Pump	Bailer	Air	Flowing artesian
☒	☐	☐	☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water	
				Y	N
16"	0	2	Road Mix		X
	2	6	Hard Pan		X
14"	6	20	Sandy Brown Clay		X
	20	34	Gravel	X	
	34	50	Brown Clay		X
	50	85	Blue Clay		X
10"	85	101	Blue Clay w/ Sand	X	
	101	115	Blue Sand w/ Clay	X	
	115	150	Blue Clay		X
	150	158	Sandy Blue Clay		X
	158	161	Sand w/ Clay	X	
	161	166	Blue Clay		X
	166	172	Blue Fine Sand	X	
	172	181	Blue Clay		X
	181	185	Blue Fine Sand	X	
	185	214	Sandy Blue Clay		X
	214	226	Fine Blue Sand	X	
	226	232	Blue Sandy Clay		X

RECEIVED

MAR 08 2013

WATER RESOURCES
WESTERN REGIONCompleted Depth (Measurable): 232'Date Started: Dec 6, 2012Date Completed: Feb 16, 2013**14. DRILLER'S CERTIFICATION:**

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Dennis Phipps Well Drilling Inc. Co. No. 332*Principal Driller [Signature] Date Feb 16, 2013*Driller [Signature] Date Feb 16, 2013*Operator II [Signature] Date Feb 16, 2013

Operator I _____ Date _____

* Signature of Principal Driller and rig operator are required.

Skinner, Aaron

From: Jason Crane <Jason.Crane@ValleyAg.com>
Sent: Monday, August 13, 2018 4:12 PM
To: Skinner, Aaron; Tony Martinez
Cc: Jason Crane
Subject: RE: Water Right Exam Information

Aaron,

I pulled a report of water used in our mixes and it came out to over 900,000 gallons. Tony and I are guesstimating that we probably use that much more water in rinsing, washing out, pressure washing, watering the grass, and keeping the fire pond full. Our best guess would be approximately 1,800,000 gallons a year used. If you have any questions or follow-up let me know

Thanks,

Jason

From: Skinner, Aaron [mailto:Aaron.Skinner@idwr.idaho.gov]
Sent: Monday, August 13, 2018 11:24 AM
To: Jason Crane <Jason.Crane@ValleyAg.com>; Tony Martinez <Tony.Martinez@ValleyWideCoop.com>
Subject: RE: Water Right Exam Information

No worries, Jason. You are a busy guy. Thanks for the information thus far and will look for the rest in the next few days.

Thank you,

Aaron

From: Jason Crane [mailto:Jason.Crane@ValleyAg.com]
Sent: Monday, August 13, 2018 11:10 AM
To: Skinner, Aaron <Aaron.Skinner@idwr.idaho.gov>; Tony Martinez <Tony.Martinez@ValleyWideCoop.com>
Cc: Jason Crane <Jason.Crane@ValleyAg.com>
Subject: RE: Water Right Exam Information

Aaron,

Sorry for not getting back to you. I will get with Tony and either he or I will get you the information. There is about 45 employees here on site. And the 6" well is not used at all.

Jason

From: Skinner, Aaron [mailto:Aaron.Skinner@idwr.idaho.gov]
Sent: Monday, August 13, 2018 10:48 AM
To: Tony Martinez <Tony.Martinez@ValleyWideCoop.com>
Cc: Jason Crane <Jason.Crane@ValleyAg.com>
Subject: Water Right Exam Information

Hi Tony,

I sent Jason email on the 1st and haven't heard anything back yet. I imagine it's a busy season for you guys, but wanted to reach out and see if someone could get me information so I can button up my recommendations for the field exam we did earlier this spring. Each use requires a yearly volume limit that theoretically matches actual yearly use. Below is what I need to calculate the limits. Any help is appreciated.

- Any type of record that show how many times you fill a water truck a year (guestimation is fine).
 - At minimum, I can estimate knowing your hours of operation and how many times a day a truck fills; I will also need to know the water tank size on the trucks if we go this route.
- There are two wells – 10" and a 6"
 - The 10" is used for all the uses correct? If so, what is the 6" well used for?
- Maximum employees that use bathroom/breakroom facilities.

Please let me know if you have any questions. I am more than willing to run back out to you guys if necessary.

Thank you,

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

December 27, 2017

COPY

VALLEY AGRONOMICS LLC
20870 VAN SLYKE RD
GREENLEAF, ID 83626

RE: Scheduling Field Exam for Water Right Permit No. 63-33702

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 **0.70 cfs of GROUND WATER for COMMERCIAL, DOMESTIC FIRE PROTECTION, FIRE PROTECTION STORAGE, FIRE PROTECTION FROM STORAGE, and DIVERSION TO STORAGE** 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).

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 January 29, 2018, your permit will become void. Thank you for your attention to this matter.

Sincerely,

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

Enclosures: Relinquishment of Permit form
Water Permit Report and Place of Use Maps