

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 75-14301

Exam Date: 6/26/2012

1. Current Owner: ROD E ARBON
42 S 1050 WEST
BLACKFOOT ID 83221
(208)684-5526

2. Accompanied by: None

Phone No:

Address:

Relationship to Permit Holder:

3. SOURCE

NORTH FORK SALMON RIVER

TRIBUTARY

SALMON RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 75-4138D (Irrigation)
2. Other water rights with the same point of diversion: 13 Individual water rights

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

NORTH FORK SALMON RIVER SW1/4NW1/4 Sec. 33, Twp 25N, Rge 21E, B.M.

LEMHI County

Method of Determination: GPS (-113.992883, 45.4539)

2.

PLACE OF USE:

AESTHETIC 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	
25N	21E	33										X							

PLACE OF USE:

AESTHETIC

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
25N	21E	33										X							

PLACE OF USE:

DIVERSION TO 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	
25N	21E	33										X							

Method of Determination:

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.

<u>Well or Diversion ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Pump Serial No. or Discharge Size</u>
A0014990					

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

<u>Measurement Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
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2. Measurements:

E. FLOW CALCULATIONS☐ Additional Computation Sheets Attached

Measured Method:

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: See attached Pond Calculation sheet

G. NARRATIVE/REMARKS/COMMENTSHave 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>
AESTHETIC STORAGE	01/01 to 12/31		0.40 AF
DIVERSION TO STORAGE	01/01 to 12/31	0.160 CFS	
	<u>Totals:</u>	0.160 CFS	0.40 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

Field Examiner's Name Kerrie Mathews Date 6.26.12

Reviewer _____ Date _____

PRECIPITATION DEFICIT CALCULATIONS FOR PONDS

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL EVAP IN AF
mm/Day *	0	0.1	0.99	1.83	2.64	3.55	3.14	1.72	0.71	0	0	0	
mm/Month	0	2.8	30.69	54.9	81.8	106.5	97.3	53.32	21.3	0	0	0	
ft/Month	0	0.0092	0.101	0.1801	0.27	0.349	0.32	0.175	0.07	0	0	0	
Surface Area in Acres	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
acre-feet	0	0.0018	0.02	0.036	0.05	0.07	0.06	0.035	0.01	0	0	0	0.29

* Based on precipitation deficits provided by University of Idaho, <http://data.kimberly.uidaho.edu/ETIdaho/>

POND SIZE:	WIDTH X LENGTH	SQ FT	ACRES
			0.2

mm to ft 0.0032808

JAN	FEB	MAR	APR
31	28	31	30
MAY	JUN	JUL	AUG
31	30	31	31
SEPT	OCT	NOV	DEC
30	31	31	31

Crop type = Grass Pasture

CIR in AF/ACRE 0.42

If applicable, acres need to dry up for evaporation

0.70

Pond size in acres 0.2

Average depth in ft 3.5

Average depth=Surface area x max depth x .04

AF needed to Fill 0.7

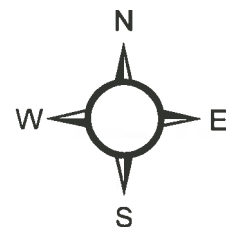
TOTAL AF FOR POND 1.0

Data entry in green



Rod E Arbon - 75-14301 - Field Inspection June 26, 2012

- Pond
- Taxlots
- Sections
- QQ



0 0.02 0.04 0.08 Miles

Field Inspection – 75-14301 – June 26, 2012



Fish screen upstream of pond



Pond



Pond



Outlet

ET_{Idaho} 2012 -- Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

Please send suggestions for improving this site to robison at kimberly dot uidaho dot edu Copyright 2012, University of Idaho.

Salmon (NWS -- 108076)

Statistics based on thirty year normal spans 1979 to 2010 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
Mean ^j	mm/day												mm	
Monthly ^c	0.34	0.10	0.99	1.83	2.08	2.64	3.55	3.14	1.72	0.71	0.21	0.45	483	0
15-Day Moving Average ^d	0.34	0.02	1.02	1.83	2.10	2.57	3.62	3.14	1.72	0.74	0.20	0.40		
7-Day Moving Average ^e	0.34	0.05	0.99	1.82	2.06	2.60	3.59	3.14	1.69	0.73	0.23	0.42		
3-Day Moving Average ^f	0.34	0.09	0.98	1.83	2.07	2.62	3.56	3.15	1.71	0.71	0.23	0.44		
Standard Deviation ^k	mm/day												mm	
Monthly ^c	0.39	0.34	0.48	0.61	1.23	1.02	1.12	0.95	0.72	0.75	0.44	0.56	76	0
15-Day Moving Average ^d	0.43	0.46	0.44	0.82	1.28	1.26	1.06	0.92	1.02	0.66	0.56	0.45		
7-Day Moving Average ^e	0.65	0.61	0.65	1.14	1.76	1.74	1.40	1.19	1.37	1.00	0.80	0.65		
3-Day Moving Average ^f	0.90	0.81	0.98	1.64	2.34	2.37	2.05	1.62	1.87	1.41	1.15	0.97		
20% Exceedance ^l	mm/day												mm	
Monthly ^c	0.07	0.37	1.33	2.31	2.86	3.63	4.21	3.66	2.28	1.14	0.15	0.06	540	0
15-Day Moving Average ^d	0.15	0.48	1.78	2.95	3.88	4.40	4.70	4.17	2.87	1.65	0.44	0.11		
7-Day Moving Average ^e	0.23	0.70	2.12	3.52	4.44	4.84	4.97	4.44	3.10	2.02	0.69	0.18		
3-Day Moving	0.29	0.93	2.64	4.10	4.85	5.20	5.31	4.79	3.48	2.10	0.79	0.26		

Average ^f															
80% Exceedance^m	mm/day												mm		
Monthly ^c	0.66	0.11	0.69	1.43	1.35	1.46	2.64	2.57	1.18	0.06	0.63	0.91	424	0	424
15-Day Moving Average ^d	1.17	0.39	0.38	0.62	-0.23	0.50	2.00	1.38	0.00	0.32	1.24	1.32			
7-Day Moving Average ^e	2.09	0.87	-0.33	0.65	-2.36	1.14	0.23	-0.03	1.99	1.60	2.03	2.41			
3-Day Moving Average ^f	3.99	2.22	-1.71	3.00	-4.80	5.21	4.44	-2.62	6.38	4.33	4.65	4.40			
Ave Highest P_{def}	mm/day												--		
15-Day Moving Average ^g	0.07	0.33	1.39	2.48	3.13	3.49	4.29	3.79	2.36	1.28	0.26	0.05			
7-Day Moving Average ^h	0.18	0.61	1.80	3.24	3.96	4.43	4.78	4.21	2.78	1.66	0.45	0.15			
3-Day Moving Average ⁱ	0.26	0.81	2.25	3.73	4.52	4.95	5.08	4.54	3.22	1.91	0.66	0.22			
Ave Lowest P_{def}	mm/day												--		
15-Day Moving Average ^g	0.69	0.19	0.65	1.21	1.13	1.72	2.90	2.46	0.99	0.20	0.59	0.76			
7-Day Moving Average ^h	1.27	0.60	0.07	0.26	-0.39	0.29	1.86	1.66	0.19	0.62	1.18	1.35			
3-Day Moving Average ⁱ	2.43	1.38	-1.01	1.49	-2.85	2.15	0.94	-0.27	2.57	2.14	2.57	2.41			
Special normal distribution parameters for monthly, seasonal, and annual intervals															
Skew ^m	0.06	1.98	0.09	0.02	-0.17	0.36	0.16	-0.32	0.73	0.20	0.81	0.19	-0.54	0.00	-0.54
Kurtosis ^o	0.53	9.18	0.61	3.54	0.75	2.25	0.58	0.79	3.54	0.70	2.86	0.56	2.82	0.00	2.82

^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

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FEB 12 2014

^h Mean of the highest/lowest 7-day period average in month

ⁱ 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](#) or [Richard G. Allen](#), University of Idaho, Kimberly Research and Extension Center, 3793 North 3600 East, Kimberly, ID 83341. Telephone (208)-423-6610



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