

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 87-10048

Exam Date: 10/3/2012

1. Current Owner: SUSAN WILSON
2780 N MOUNTAIN VIEW RD
MOSCOW ID 83843
(208)882-8170
- And/Or
- SEAN WILSON
2780 N MOUNTAIN VIEW RD
MOSCOW ID 83843
(208)882-8170
2. Accompanied by: Not accompanied by anyone; field examiner was the only one on the premises during the field examination.

3. SOURCE

SPRING

TRIBUTARY

PARADISE CREEK

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:

SPRING SW1/4NW1/4SE1/4 Sec. 33, Twp 40N, Rge 05W, B.M. LATAH County

Method of Determination: GPS Garmin Map 76S; ArcMap Bing Maps Aerial Imagery

2.

PLACE OF USE: FIRE PROTECTION STORAGE and RECREATION STORAGE

Twp Rge Sec	NE				NW				SW				SE				Totals
40N 05W 33	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
														X			

Method of Determination: GPS Garmin Map 76S; ArcMap Bing Maps Aerial Imagery

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>
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The system consists of a spring located in the bottom of the pond (almost in the center of the pond), which runs year-round, in addition to a supplemental water source (rain-fall run-off, usually during the months of November thru June).

D. FLOW MEASUREMENTS

The permit is not for diversion rate, but instead only for Fire Protection Storage and Recreation Storage annual volume. At the time of the field examination, there was no overflow, so rate of the spring was not measured. The supplemental source (rainfall run-off) was not active either, so this source was not measured either.

E VOLUME CALCULATIONS

1. Volume Calculations for Storage:

The size of the pond was determined using ArcMap = 0.3 acres X 9 ft average depth = 2.7 af

ET Idaho 2012 & Precipitation Loss Calculation = 1.2 af

2.7 af + 1.2 af = 3.9 af

RECOMMEND:

Fire Protection Storage 3.9 af

Recreation Storage 3.9 af

Total Annual Volume: 3.9 af

F. NARRATIVE/REMARKS/COMMENTS

The POD is located in the bottom of the pond, about 20 ft from the dock toward the center of the pond. The pond ranges from 12 ft deep in the center, with an average of 9 ft deep. The pond is not lined, but beneath the bottom of the pond is a natural Kaolin clay layer. The spring runs year round, and there is a supplemental source (rainfall run-off that enters the pond on the west side, with the overflow being located in the northwest corner of the pond). There is a drainage pipe that runs under the road where the overflow is located. The level of the pond starts to drop usually in July (at the time of the field examination the water level was down about 1 1/2 ft - 2 ft). There is an electric pump that is housed right next to the dock, that can be turned on in the event of a fire. Recreation Storage consists of swimming, boating, and fishing. The pond is used for other things out of the control of Mr. Wilson, which IDFG fought on the application for permit (bass, bluegill, trout, turtles, ducks, teal, geese, heron, kingfishers, snails, raccoons, muskrats, otters, numerous birds), and for this reason, Wildlife Storage was removed from the application for permit and approved permit. Mr. Wilson said they purchased the property in 4/2006, and there have been no changes made to the pond since then. Their well is used only for domestic internal/external use, and not for supplying any water to the pond.

Have conditions of permit approval been met? ☒ Yes ☐ No

G. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
FIRE PROTECTION STORAGE	01/01 to 12/31		3.90 AF
RECREATION STORAGE	01/01 to 12/31		3.90 AF
Totals:			3.90 AF

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None

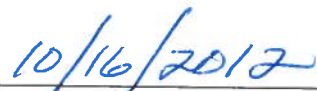
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

H. AUTHENTICATION

Field Examiner's Name



Date





How
electr
pump

PDC
spring

POL
pond

supple
water
from
run-o



87-10048 Wilson

S. Hemerikay



over-flow

10/03/2012



board walk

10/03/2012

87-10048 Wilson

S. Hemenway



Electric Pump, in the event of Fire Protection.

87-10048 Wilson

S. Hemenway



Barn

house

POU pond

electric pump
(fire protection)

POD spring

supplemental
water (run-off)

9' average depth
w/ bottom Kaolin clay

overflow
elevated
board-walk

NESW

NWSE

Precipitation Loss Calculation

Date: October 16, 2012
Prepared by: Sandy Hemenway
Water Right No: 87-10048

P = Precipitation
ET = Evapotranspiration
 P_d = Precipitation deficit
 $P_d = P - ET$

P_d

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

P_d = convert to AFA: (mm/yr) / (convert to feet) x # acres =
1240 / 304.8 x 0.3
(From ET Idaho)

$P_d = 1.2$ AFA

* Use the Precipitation Deficit for 'P' value

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.

Moscow - Univ of Idaho (NWS -- 106152)

Statistics based on thirty year normal spans 1978 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.

Alfalfa Reference Evapotranspiration ETr															
	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	0.38	0.96	2.22	3.77	5.00	6.10	7.40	6.75	4.50	2.43	0.76	0.31	0	1240	1240
15-Day Moving Average ^d	0.37	0.92	2.24	3.77	5.06	6.09	7.46	6.73	4.42	2.41	0.73	0.31			
7-Day Moving Average ^e	0.38	0.94	2.22	3.77	5.04	6.10	7.45	6.76	4.46	2.43	0.74	0.31			
3-Day Moving Average ^f	0.38	0.95	2.22	3.77	5.01	6.10	7.41	6.76	4.50	2.43	0.75	0.31			
Standard Deviation ^k	mm/day												mm		
Monthly ^c	0.09	0.21	0.53	0.39	0.71	0.53	1.00	0.66	0.56	0.44	0.15	0.09	0	66	66
15-Day Moving Average ^d	0.11	0.24	0.48	0.56	0.71	0.69	0.85	0.73	0.73	0.49	0.22	0.10			
7-Day Moving Average ^e	0.15	0.34	0.61	0.81	0.99	1.02	1.01	0.97	0.92	0.70	0.30	0.15			
3-Day Moving Average ^f	0.22	0.43	0.77	1.06	1.28	1.32	1.26	1.21	1.14	0.85	0.37	0.22			
20% Exceedance ^l	mm/day												mm		
Monthly ^c	0.43	1.14	2.58	4.07	5.41	6.61	7.95	7.18	4.92	2.64	0.91	0.36	0	1304	1304
15-Day Moving Average ^d	0.55	1.35	3.00	4.74	6.41	7.30	8.78	7.79	5.64	3.29	1.20	0.46			
7-Day Moving Average ^e	0.69	1.71	3.64	5.44	7.16	7.88	9.12	8.41	6.25	3.87	1.52	0.63			
3-Day Moving Average ^f	0.98	1.90	4.24	6.13	7.87	8.74	9.62	8.99	6.77	4.42	1.82	0.92			
80% Exceedance ^m	mm/day												mm		

Monthly ^c	0.33	0.77	1.94	3.42	4.45	5.53	6.74	6.23	3.87	2.14	0.59	0.26	0	1179	1179
15-Day Moving Average ^d	0.22	0.60	1.55	2.91	3.86	4.91	6.06	5.41	3.31	1.51	0.43	0.16			
7-Day Moving Average ^e	0.10	0.44	1.25	2.46	3.36	4.12	5.33	4.86	2.68	1.29	0.33	0.01			
3-Day Moving Average ^f	0.01	0.26	0.99	1.95	2.63	3.14	4.39	3.61	2.25	1.07	0.20	0.13			
Ave Highest ET_r	mm/day												--		
15-Day Moving Average ^g	0.49	1.15	2.66	4.34	5.70	6.73	8.02	7.38	5.02	2.97	0.99	0.40			
7-Day Moving Average ^h	0.62	1.39	3.07	4.98	6.42	7.41	8.51	8.00	5.66	3.46	1.19	0.54			
3-Day Moving Average ⁱ	0.84	1.63	3.69	5.73	7.15	8.13	9.10	8.63	6.32	3.86	1.46	0.76			
Ave Lowest ET_r	mm/day												--		
15-Day Moving Average ^g	0.27	0.76	1.85	3.20	4.42	5.44	6.83	6.07	3.88	1.92	0.54	0.22			
7-Day Moving Average ^h	0.17	0.57	1.50	2.73	3.73	4.66	6.25	5.47	3.38	1.57	0.43	0.11			
3-Day Moving Average ⁱ	0.03	0.42	1.20	2.24	2.96	3.80	5.31	4.58	2.74	1.26	0.29	0.04			
Special normal distribution parameters for monthly, seasonal, and annual intervals															
Skew ^m	0.03	1.31	0.18	0.36	0.09	0.12	0.11	-0.16	0.32	0.13	0.06	0.12	0.00	-0.40	-0.40
Kurtosis ^o	0.73	4.79	0.80	3.37	0.69	2.24	0.78	0.68	2.45	0.71	2.44	0.82	0.00	2.60	2.60

^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 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.

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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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