

MEMO

TO: File 47-7578

FROM: CPalmer

DATE: 1/31/2012

RE: Licensing Review Memo

Point of Diversion: The point of diversion is a shared well and can divert up to 3000 gpm per the field examiner among 8 water rights. In my analysis I found a 9th water right that has recently been claimed in the SRBA. The nine water rights add up to ~600 gpm total. The well has plenty of capacity for all users.

Overlap Analysis of PD:

Kerpa Well #3

Basin	Sequence		Process	Basis	Draft	Priority Date	Diversion Rate	Source List
47	7174	A	Water Right	Decree	N	1/3/1973	0.340	GROUND WATER
47	7566		Water Right	Decree	N	10/19/1979	0.140	GROUND WATER
47	7574		Water Right	License	N	9/20/1979	0.400	GROUND WATER
47	7578		Water Right	License	Y	8/7/2012	0.090	GROUND WATER
47	16763		Water Right	Decree	N	1/3/1973	0.020	GROUND WATER
47	7567		AJRec	License		8/31/1979	0.030	GROUND WATER
47	7575		AJRec	License		9/10/1979	0.220	GROUND WATER
47	7115	B	Water Right	Decree	N	4/8/1971	0.100	GROUND WATER
47	10276		Water Right	Decreed	N	7/21/1974	0.040	GROUND WATER

A late claim was filed for
47-7574

Volume and Diversion Rate: Please see Michele Edle's memo.

Recreation: Recreation will be converted to recreation storage since the intentions were to install a pond pursuant to the application. An amendment is not necessary to change the nature in use since it was intended to be storage all along.

The field examiner makes the statement that once the pond is full, water can be discharged into Deep Creek. The system diagram is not clear as to how this would happen. Perhaps there is a drain on the most easterly side of the pond where a pipe carries the excess water under the driveway to Deep Creek. In any case, this permit is for storage water only.

The pond is 0.8 acre-feet in size and may lose up to 9.7 acre-feet per year due to seepage and evaporation (see attached spreadsheets). Volume for recreation storage is limited by the amount of water used for heating use (see Michele's memo). Therefore, I will use the available volume for any seepage and/or evaporative losses.

Conclusion

Recommended rate and volume:

Domestic—0.02 cfs and 1.2 af (department standard for in-house and irrigation of ½ acre)

Heating--0.09 cfs and 4.8 af

Recreation storage—4.8 afa, and diversion to storage—0.09 cfs (note that the heating volume and recreation storage volume are for the same water)

Total max diversion rate = 0.09 cfs & max diversion volume = 6.0 afa (4.8 + 1.2)

Ownership: The original owner, HH Thompson, has passed away and left the appurtenant land to son Russell Thompson. An ownership change has been submitted and will be processed at the time of licensing. Note that evidence of ownership includes a final will and testament of HH Thompson and a death certificate. Per records administrative memo #9, the evidence submitted will suffice to update ownership.

Amendment?: NO

FILE NUMBER 47-7578
REVIEWER J. Palmer
DATE 12/4/12

INPUTS

POND

SURFACE AREA (SQFT) ----- 10890

SEEPAGE RATE (FT/DAY) ----- 0.10

NOTES/SUGGESTED VALUES

SUGGESTED VALUES FOR DIFFERENT SOIL TYPES: CONVERT TO GPD 8146 GPD

0 = NATURALLY FILLED FROM GW, OR LINED

0.5 = CLAY SOILS

1.5 = LOAMS

3.0 = GRAVELS

- Pictures in the field exam show clay type soils.

FORMULAS

TOTAL Seepage Loss (AFA) ----- 9.1 AFA

FORMULA: $SA * SEEPAGE LOSS = POND SEEPAGE (CUFT/D)$

CONVERSION: 1 CUFT = 7.48 G

NOTE: ASSUMES CONTINUOUS REPLACEMENT RATE

TOTAL = FILL RATE + EVAP + SEEPAGE + FLOW THROUGH

ET_{Idaho} 2009: Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

Please send suggestions for improving this site to robison at kimberly dot uidaho dot edu Copyright 2010, University of Idaho.

Buhl (NWS --101217)

Statistics based on thirty

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	mm/day												mm		
Monthly ^c	0.32	0.20	1.03	2.15	2.65	3.67	4.39	3.79	2.85	1.81	0.37	0.32	681	0	681
15-Day Moving Average ^d	0.47	0.06	1.08	2.14	2.70	3.78	4.38	3.76	2.83	1.80	0.29	0.28	(681mm/25.4)/12 = 2.23 af x 0.25 = 0.4 af Rounded up $\rightarrow$ total		
7-Day Moving Average ^e	0.38	0.14	1.05	2.13	2.67	3.73	4.39	3.78	2.85	1.82	0.32	0.29			
3-Day Moving Average ^f	0.32	0.20	1.02	2.15	2.65	3.71	4.39	3.79	2.86	1.81	0.36	0.31			
Standard Deviation	mm/day												mm		
Monthly	1.04	0.64	1.06	0.72	1.52	0.79	0.67	0.69	0.67	0.82	0.68	1.15	98	0	98
15-Day Moving Average	1.04	0.89	0.99	1.00	1.42	0.94	0.57	0.66	0.88	0.80	0.84	0.96			
7-Day Moving Average	1.31	1.19	1.26	1.48	1.90	1.40	0.73	0.86	1.16	1.15	1.06	1.27			
3-Day Moving Average	1.66	1.59	1.72	2.05	2.67	1.89	0.98	1.17	1.56	1.55	1.37	1.69			
20% Exceedance	mm/day												mm		
Monthly	0.23	0.61	1.74	2.72	3.46	4.35	4.75	4.11	3.34	2.24	0.93	0.25	778	0	778
15-Day Moving Average	0.54	1.03	2.37	3.55	4.47	4.91	5.03	4.40	3.70	2.95	1.26	0.61			
7-Day Moving Average	0.88	1.58	2.65	4.11	5.15	5.45	5.29	4.73	4.05	3.40	1.65	0.78			
3-Day Moving Average	1.07	2.02	3.12	4.88	5.68	5.76	5.60	5.08	4.45	3.65	2.00	1.00			