

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 72-16686

Exam Date: 9/11/2012

1. Current Owner: PATRICIA W CHALLIS
CHALLIS CREEK RANCH
PO BOX 1220
CHALLIS ID 83226-1220
(208)879-4617

And/Or

JOHN R CHALLIS
CHALLIS CREEK RANCH
PO BOX 1220
CHALLIS ID 83226-1220
(208) 879-4617

2. Accompanied by: Jeff Cooper (IDWR) and spoke with Jack Challis (permit holder) upon entering property

3. SOURCE

GROUND WATER
UNNAMED STREAM

TRIBUTARY

SINKS

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	SE1/4NE1/4	Sec. 3,	Twp 14N,	Rge 18E, B.M.
CUSTER County				
UNNAMED STREAM	SE1/4NE1/4	Sec. 3,	Twp 14N,	Rge 18E, B.M.
CUSTER County				

Method of Determination: Aerial photography and GIS

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	
14N	18E	3				X													

PLACE OF USE: RECREATION 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	
14N	18E	3				X													

Method of Determination: Aerial photography and GIS

D. **FLOW MEASUREMENTS** N/A water right is for on-stream storage

E. **FLOW CALCULATIONS** N/A water right is for on-stream storage

F. **VOLUME CALCULATIONS**

1. Volume Calculations for Irrigation: N/A

2. Volume Calculations for Other Uses: Pond surface area measured using GIS and aerial photography at 0.24 acres. Pond was estimated to have an average depth of approximately 3.0 feet based on field observation. Total estimated pond volume would be 0.72 ac-ft (0.24 ac x 3.0 ft). University of Idaho Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho data indicates that open water-shallow systems (ponds, streams) in the Challis area have an annual precipitation deficit value of 570 mm or 1.87 ac-ft. The 0.24 acre pond area would require approximately 0.45 ac-ft per year to keep the pond full due to evaporative losses after annual average precipitation is accounted for. Summing the estimated storage volume of 0.72 ac-ft and the estimated evaporative losses of 0.45 ac-ft yields a total of 1.17 ac-ft. Therefore it appears that the permitted volume of 1.0 ac-ft can be recommended for licensing.

G. **NARRATIVE/REMARKS/COMMENTS**

Application for Permit 72-16686 was filed on September 22, 2005 for 1.0 ac-ft of storage from groundwater and a spring for a pond located near Challis Creek. Permit 72-16686 was issued on August 14, 2007 for 1.0 ac-ft of storage from a groundwater source and an unnamed stream. Proof of Beneficial Use was filed September 17, 2007. On September 11, 2012, while in the area, Jeff Cooper and I conducted the licensing exam for permit 72-16686. Upon arriving at the site, Jeff and I visited with Jack Challis, the permit holder, indicating that we would be conducting the licensing exam. After receiving directions from Mr. Challis, Jeff and I proceeded to the pond site. Jeff and I observed a small pond (measured at 0.24 acres using GIS and aerial photography). The pond impounded water via an earth embankment with a hydraulic height of approximately 4.0 feet that is constructed across an unnamed stream. The pond is also excavated into the shallow groundwater in the Challis Creek valley. A one foot diameter overflow pipe is utilized to regulate the reservoir level. It was estimated that the average depth of the pond was no more than 3.0 feet. An estimate of the total storage volume and an allowance for evaporative losses from the pond (see above) indicated that the permitted amount of 1.0 acre-feet can be licensed.

Have 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	N/A	1.00 AF
RECREATION STORAGE	01/01 to 12/31	N/A	1.00 AF
<u>Totals:</u>			1.00 AF

2. **Recommended Amendments**

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

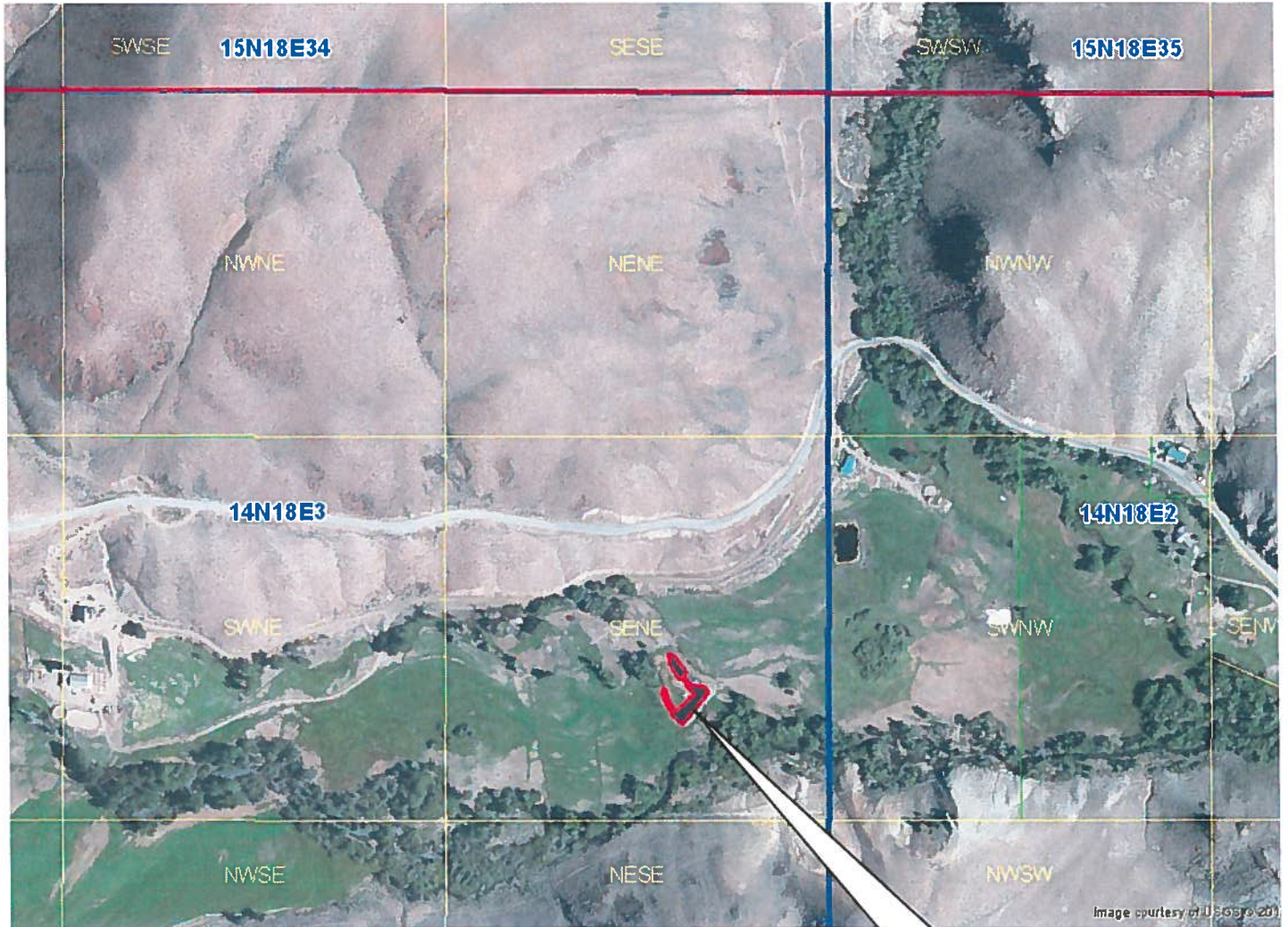
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. **AUTHENTICATION**

Field Examiner's Name  Date 1/2/2013

Reviewer  Date 1/9/13

72-16686 Field Exam Map



Point of Diversion
(excavated pond
intercepting high water
table and embankment
across unnamed stream) &
Place of Use (pond with
0.24 acre surface area)

72-16686 Field Exam Photos



ABOVE: View of pond from Challis Creek Road

BELOW: View looking along the embankment that helps to impound the water in the pond. Jeff is standing on a one foot diameter overflow pipe. Note that the hydraulic height of the embankment is approximately four feet and the estimated average depth of the pond is three feet.



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

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

Challis (NWS -- 101663)

Statistics based on thirty year normal spans 1959 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
Mean ^j	mm/day												mm	
Monthly ^c	0.11	0.34	0.97	1.92	2.29	3.05	3.88	3.41	2.03	1.21	0.01	0.17	570	0
15-Day Moving Average ^d	0.15	0.31	1.00	1.93	2.22	3.11	3.99	3.33	1.92	1.25	0.01	0.16	570 ^{mm} = 1.87 AFA	
7-Day Moving Average ^e	0.14	0.32	0.99	1.89	2.27	3.07	3.92	3.36	1.97	1.23	0.02	0.16		
3-Day Moving Average ^f	0.12	0.34	0.97	1.91	2.27	3.04	3.89	3.40	2.01	1.21	0.00	0.17		
Standard Deviation ^k	mm/day												mm	
Monthly ^c	0.51	0.23	0.58	0.59	1.20	0.87	1.23	1.09	0.87	0.53	0.47	0.48	82	0
15-Day Moving Average ^d	0.52	0.33	0.49	0.76	1.09	1.12	1.08	0.99	1.22	0.45	0.55	0.42		
7-Day Moving Average ^e	0.69	0.48	0.65	1.05	1.47	1.74	1.49	1.30	1.57	0.72	0.74	0.60		
3-Day Moving Average ^f	0.92	0.66	1.00	1.43	2.08	2.37	1.98	1.64	2.07	1.05	0.98	0.87		
20% Exceedance ^l	mm/day												mm	
Monthly ^c	0.18	0.53	1.37	2.49	2.86	3.79	4.42	3.88	2.63	1.47	0.33	0.08	649	0
15-Day Moving Average ^d	0.32	0.77	1.69	2.80	3.56	4.63	4.85	4.37	2.97	1.88	0.68	0.27		
7-Day Moving Average ^e	0.47	1.04	2.02	3.26	4.36	5.03	5.15	4.58	3.48	2.36	0.83	0.41		
3-Day Moving Average ^f	0.55	1.20	2.44	3.85	4.78	5.52	5.40	4.80	3.70	2.61	0.98	0.48		