

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 57-7655

Exam Date: 8/1/2012

1. Current Owner: W WARREN GRETZ
And/Or
JANET A MUTCHLER
16184 N SOTO LAVE
TUCSON, AZ 85750
(208)834-2312

*15405 Bates Creek RD
Oreana ID 83658*

2. Accompanied by: not accompanied

Phone No: n/aAddress: n/a

Relationship to Permit Holder:

3. **SOURCE**

SPRING

TRIBUTARY

PICKETT 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 SW1/4SE1/4SE1/4 Sec. 21, Twp 04S, Rge 01W, B.M. OWYHEE County

SPRING SW1/4SE1/4SE1/4 Sec. 21, Twp 04S, Rge 01W, B.M. OWYHEE County

Method of Determination: GPS and Visual Inspection.

2.

PLACE OF USE:

IRRIGATION and IRRIGATION 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	
04S	01W	21																	9.9
																			9.9

Total Acres: 9.9

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

Well or Diversion**D. FLOW MEASUREMENTS**

1. None taken
2. Measurements:

E. FLOW CALCULATIONSMeasured Method: n/a9.9 (acres) X 0.02 = 0.2 cfs

Theoretical: 0.59 cfs

(see attached sheet)

Permit diversion rate: 0.6

Recommended diversion rate for irrigation 0.2**F. VOLUME CALCULATIONS**

1. Volume Calculations for Irrigation:

$$V_{I.R.} = 9.9 \text{ (Acres Irrigated)} \times 4.5 \text{ (Irrigation Requirement)} = 44.5 \text{ AF}$$

$$V_{D.R.} = [0.2 \text{ (cfs)}] \times 274 \text{ (Days in Irrigation season)} \times 1.9835 = 108 \text{ AFA}$$

$$V = \text{Smaller of } V_{I.R.} 44.5 \text{ and } V_{D.R.} 108 = \underline{44.5}$$

Irrigation Storage:

2 ponds with a combined area of 1.92 acres
 6 feet average depth X 1.92 acres = 11.52 AF

Evaporation Loss Calculation: 5.91 AFA

(see attached sheet)

Seepage Loss Calculation: no seepage loss.

11.52 (pond volume) + 5.91 (evaporation loss) + = 17.43 AF

Permit volume: 12 AFTotal recommended acre feet: 12Irrigation flow through: $44.5 - 12 = 32.5$ 2. Volume Calculations for Other Uses: n/a**G. NARRATIVE/REMARKS/COMMENTS**

Two ponds in T4S, R1W, Section 21, SESE provide irrigation for 9.9 acres in Owyhee county, along Pickett Creek. When the ponds were dug water seeped into them and they remain full year around. Previous owners irrigated using a 2 horsepower pump and an 8 inch gated pipe to irrigate the land on both sides of the creek.

A condition in the permit requires the right holder to install and maintain a measuring device and lockable controlling works. On December 4, 2012 Sandy Thiel had a phone conversation with Rohl Hipwell, the water master of 57B, Catherine Creek. Mr. Hipwell agreed to waive the requirement for a measuring device.

The place of use for this water right overlaps the nominal place of use for 57-46G and 57-46D. Previous owners Barbara Watkins and Warren Gretz both indicated that the land east was only irrigated with water from the ponds. The other water rights are used to irrigate the land to the west of the ponds.

Have conditions of permit approval been met? ____ Yes X No (see narrative above)

H. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	3/15 to 11/15	0.2 CFS	44.5 AF
IRRIGATION STORAGE	1/01 to 12/31		12.00 AF
IRRIGATION FROM STORAGE	3/15 to 11/15		12.00 AF
<u>Totals:</u>		0.2 CFS	

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

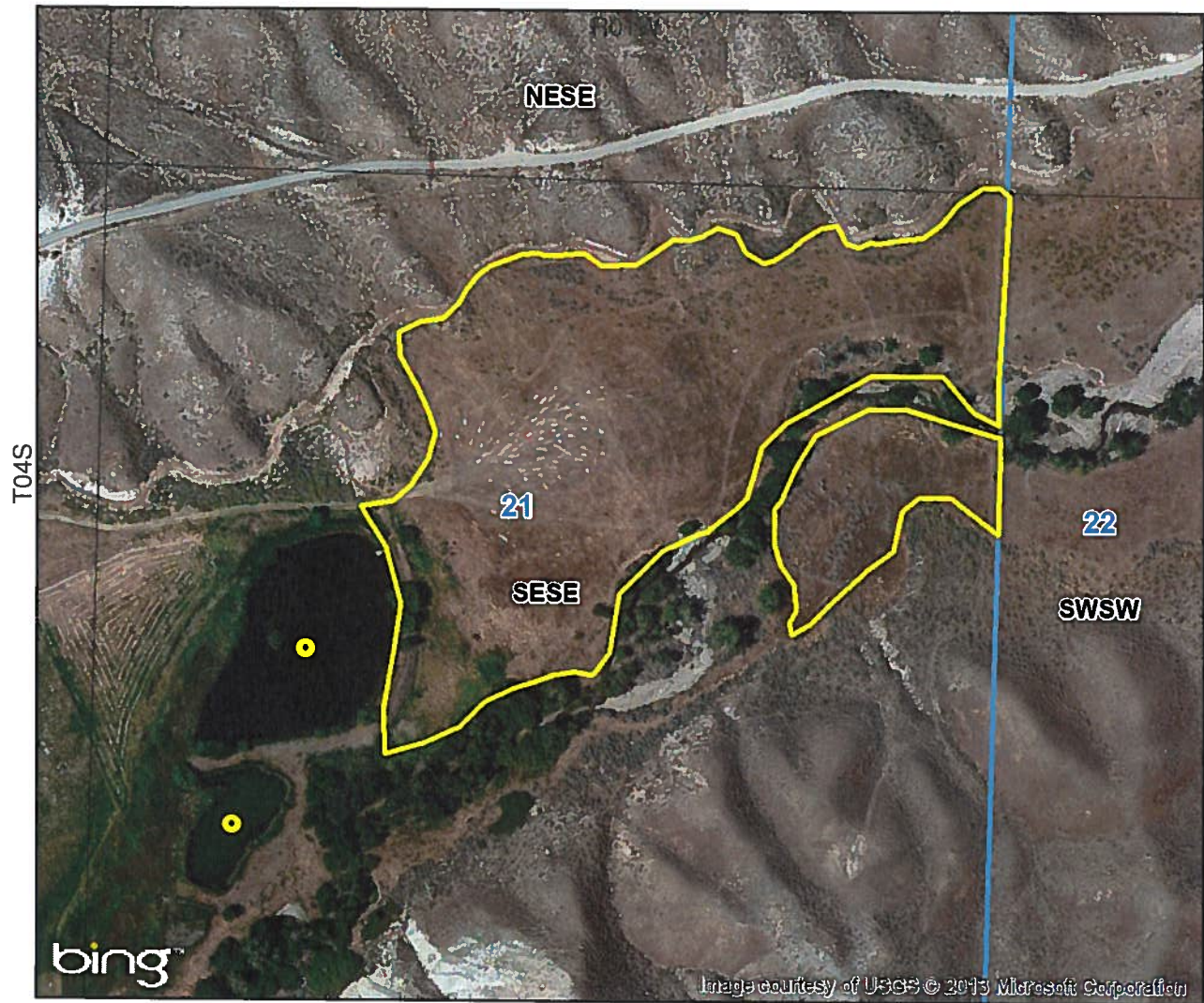
I. AUTHENTICATION

Field Examiner's Name Samuel B. (rd) Date 12/6/2012

Reviewer _____ Date _____

State of Idaho
Department of Water Resources
Water Right License
57-7655

This map depicts the IRRIGATION place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.



-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters



0 Miles
0.25

Water Distribution System Water Right 57-7655



Two ponds in T4S, R1W, Section 21, SESE provide irrigation for 9.9 acres in Owyhee county, along Pickett Creek. When the ponds were dug water seeped into them and they remain full year around. Previous owners irrigated using a 2 horsepower pump (location shown as a red dot) and an 8 inch gated pipe to irrigate the land shown in blue on both sides of the creek.

Memorandum:

Date: January 3, 2013

To: File 57-7655

From: Craig L. Saxton

RE: Place of Use

The development period for this right is from June 1998 through June of 2001. We don't have high resolution aerial photography for those years and the more recent aerial photography doesn't show clear signs of irrigation. However, the owners of the property during the authorized development period stated that the property was irrigated from the permitted source (see Memo in File examination report).

1998 LandSat shown in Figure 1 below, shows signs that the POU was irrigated at that time.

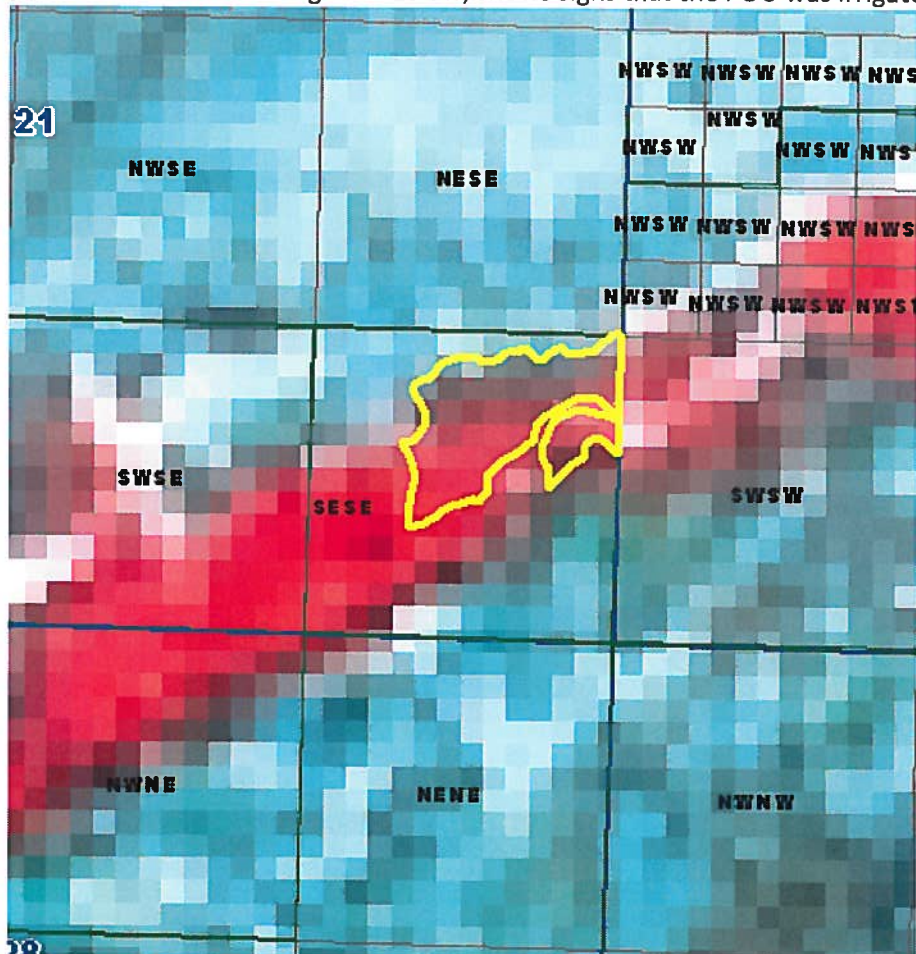
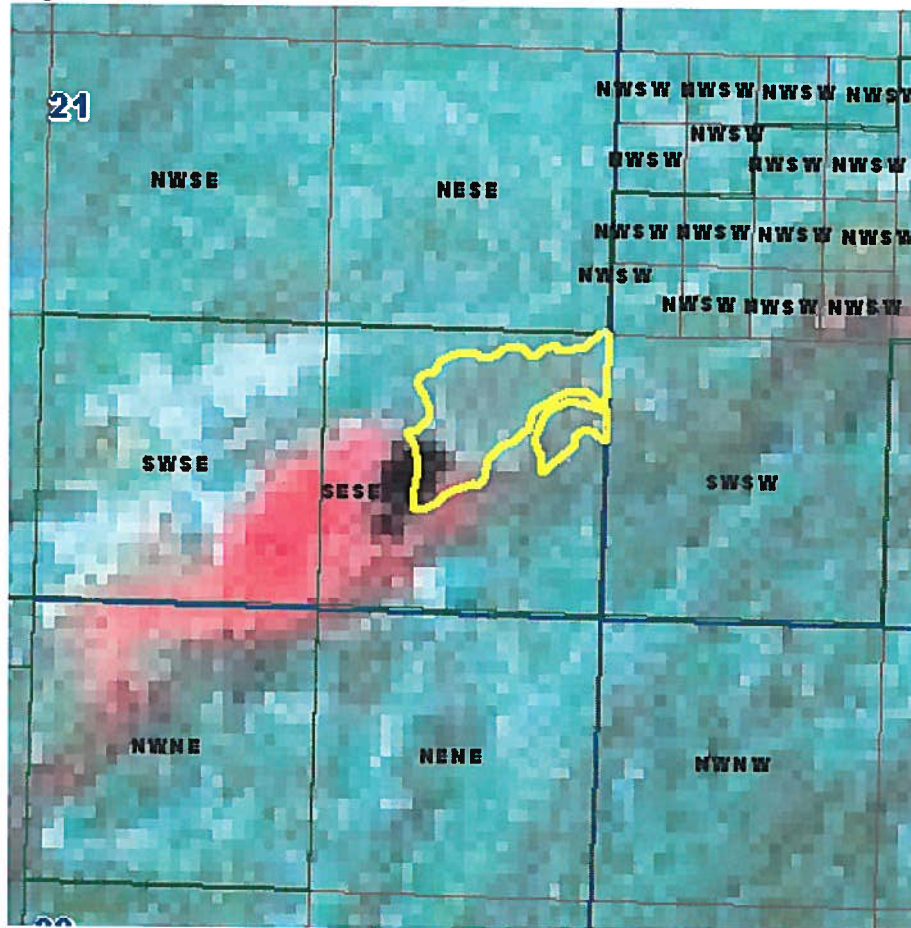


Figure 1

File: p42r30_I5_19980628_b432.sid

This would indicate that the signs of irrigation seen in the 1998 LandSat imagery does reflect active irrigation.



File: p41r30_17_20010723_b432ps.sid

Based on this imagery, the statement from the previous property owner, and evidence of irrigation pipe found during the onsite examination, it is reasonable to support that 9.9 acres of irrigation was developed during the authorized development period.

57-7655

Places of Use



RECEIVED
AUG 21 2012
DEPT. OF WATER RESOURCES

APR 11 2012
DENVER

57-7655

POINT OF DIVERSION



RECEIVED
AUG 21 2012
DEPARTMENT OF
WATER RESOURCES

SCANNED
AUG 21 2012

Picket Creek



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 57-7655

Examiner: Sandra Thiel

Date of Field Exam: 8/1/2012

P/D No.:	Option 1	OPTION 2	OPTION 3	
PUMP HORSEPOWER	2	2	2	
BOOSTER HORSEPOWER	0	0	0	
PUMPING LEVEL	10	5	0	
DISCHARGE PRESSURE	15	10	5	
FRICTION	0			
RATE OF FLOW (cfs)	0.28	0.44	1.07	AVE
(gpm)	123.8	196.8	478.8	0.59

The above calculates the formula =

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Assumptions: %70 efficiency.

Examiners Notes:

No pump on site. This is estimated information based on phone conversations with the previous owner, the water master and the field exam.

Evaporation Loss Calculation

Date: December 5, 2012
Prepared by: Sandra Beer Thiel
Water Right No: 57-7655

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 =
939 / 304.8 x 1.92 =
(From ET Idaho)

P_d = 5.91 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.

Grand View (AgriMet -- GDVI)

Statistics based on thirty year normal spans 1994 to 2011 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)															
Potential Evapotranspiration (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	0.56	1.08	2.12	2.84	3.67	4.52	5.21	4.41	3.09	1.82	0.92	0.52	939	0	939
15-Day Moving Average ^d	0.53	1.07	2.15	2.83	3.69	4.54	5.28	4.45	3.06	1.82	0.93	0.51			
7-Day Moving Average ^e	0.54	1.07	2.12	2.83	3.68	4.52	5.26	4.42	3.08	1.82	0.92	0.50			
3-Day Moving Average ^f	0.55	1.07	2.12	2.84	3.67	4.52	5.22	4.41	3.09	1.82	0.92	0.51			
Standard Deviation ^k	mm/day												mm		
Monthly ^c	0.17	0.13	0.44	0.34	0.82	0.55	0.62	0.61	0.36	0.46	0.23	0.17	70	0	70
15-Day Moving Average ^d	0.17	0.21	0.41	0.42	0.78	0.66	0.53	0.53	0.43	0.39	0.30	0.17			
7-Day Moving Average ^e	0.23	0.30	0.55	0.59	0.92	0.83	0.61	0.62	0.55	0.49	0.36	0.24			
3-Day Moving Average ^f	0.30	0.39	0.68	0.77	1.05	1.00	0.75	0.72	0.66	0.60	0.44	0.34			
20% Exceedance ^l	mm/day												mm		
Monthly ^c	0.65	1.16	2.38	3.08	4.15	4.93	5.57	4.64	3.29	1.93	1.05	0.56	1000	0	1000
15-Day Moving Average ^d	0.86	1.42	3.02	3.50	4.66	5.53	5.99	5.09	3.72	2.37	1.26	0.73			
7-Day Moving Average ^e	1.11	1.71	3.37	4.07	5.08	5.73	6.36	5.33	4.06	2.66	1.63	1.05			
3-Day Moving Average ^f	1.35	2.06	3.76	4.58	5.60	6.14	6.80	5.71	4.59	3.08	2.16	1.69			