

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 43-13607

Exam Date: 9/22/2015

1. Current Owner: WADE ZOLLINGER
1994 S 100 E
OAKLEY ID 83346
(208)862-3402

And/Or

LINDA ZOLLINGER
1994 S 100 E
OAKLEY ID 83346
(208)862-3402

2. Accompanied by: Corey Skinner (IDWR Staff) & Linda Zollinger (telephone)
Relationship to Permit Holder: owner

3. SOURCE

SPRING

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 SYSTEM1. LOCATION OF POINT(S) OF DIVERSION:

SPRING

NW1/4SW1/4SW1/4

Sec. 22, Twp 16S, Rge 26E, B.M.

CASSIA County

Method of Determination: GPS point and aerial photography.

2.

PLACE OF USE: STOCKWATER

Twp	Rge	Sec	NE				NW				SW				SE				
			<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>Totals</u>
16S	26E	22										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

<u>Well or Diversion</u> <u>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</u> <u>Size</u>
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N/A

D. FLOW MEASUREMENTS

Not required for permits with irrigation of less than five (5) acres or permits with the total combined diversion rate for all the uses established in connection with the permit not exceeding twenty-four one hundredths (0.24) cubic feet per second per new Beneficial Use Examination Rules implemented 3/29/2012.

E. FLOW CALCULATIONS

_____ Additional Computation Sheets Attached

Hazen-Williams Formula

$$V = 1.318 \times C_h \times R^{0.63} \times S^{0.54}$$

V = Velocity (ft/s)

C_h = Hazen-Williams Friction Coefficient = 130 (for old/plastic pipe)

R = Hydraulic Radius = Cross Sectional Area / Wetted Perimeter = D/4 (for round pipes)

for 1" dia pipe D = 1" = 0.083 ft (a portion of the exposed pipeline was observed and pipe size was measured)

$$R = 0.083/4 = 0.0208$$

S = h/L = Slope of Energy Grade Line = 0.362 (obtained from approximate spring elevation of 5530 ft per quad map and approximate trough elevation of 5475 ft per quad map and estimated pipe length of 1520 ft measured via ARCMAP)

$$V = 1.318 \times 130 \times (0.0208)^{0.63} \times (0.362)^{0.54}$$

$$V = 2.49 \text{ ft / sec}$$

$$Q = VA \text{ where } A = \pi r^2 = \pi (0.5/12)^2 = 0.011 \text{ ft}^2 \text{ for 1 inch diameter pipe}$$

$$Q = (2.49 \text{ ft/ sec})(0.011 \text{ ft}^2) = 0.027 \text{ cfs}$$

Rate exceeds permitted amount of 0.01 cfs, therefore use permitted rate of 0.01 cfs

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:

Not required for 42-111 type domestic uses per new Beneficial Use Examination Rules implemented 3/29/2012. Stockwater use can be considered a "part a" domestic use (up to 13,000 gpd).

G. NARRATIVE/REMARKS/COMMENTS

Application for Permit 43-13607 was filed on November 10, 2008 for the diversion of 0.01 cfs from a spring for stockwater use south of Malta. Permit 43-13607 was approved on March 17, 2009 and Proof of Beneficial Use was filed on March 30, 2010.

The system consists of a spring that is delivered through a 1 inch pipeline to a stock trough. The overflow from the trough is returned to the channel to which the spring is tributary as seen in the attached pictures. (cat tails north of the stock trough) Using ARCMAP it is estimated that the pipeline is approximately 1520 feet long from the spring to the trough. An estimate of the system capacity using the Hazen-Williams Formula indicates that the system could divert twice the permitted rate of 0.01 cfs. **Recommend the permitted amount of 0.01 cfs for this license.**

A volume is not required for stockwater, domestic use according to the new beneficial use examination rules.

Note, the permit was issued with the place of use being described in the NESE of Section 21 (T16S, R26E). However, the trough is actually located within the NWSW of Section 22 (T16S, R26E). For this reason, a licensing amendment was solicited from the permit holder to correct the place of use. The signed licensing amendment and fee was recently received allowing for the licensing of 45-13607.

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>
STOCKWATER	01/01 to 12/31	0.010 CFS	N/A
<u>Totals:</u>		0.010 CFS	N/A

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

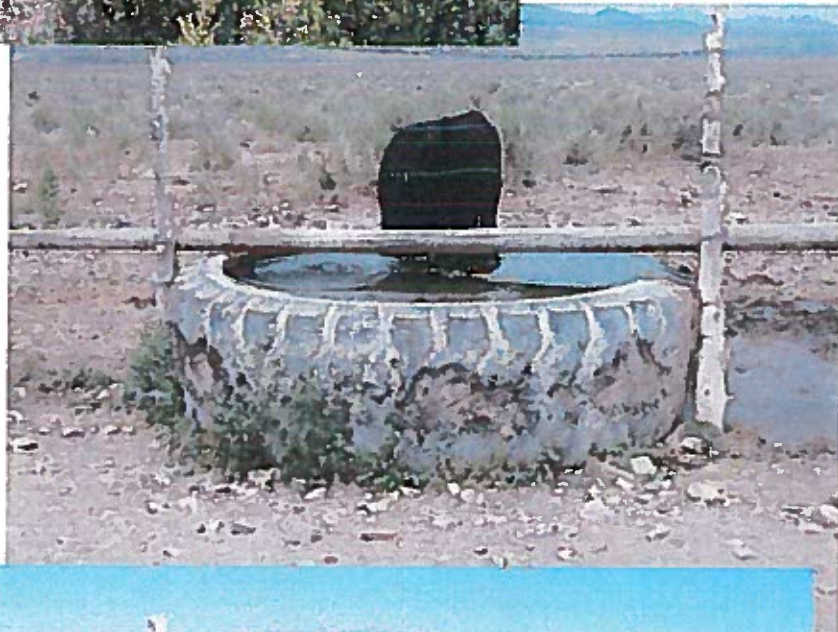
Reviewer

Date

[Signature: Dana Reeder] 12/9/15
[Signature: Andrew Menzies] 12/22/15



Developed Spring



Evidence of stock and the overflow.
(looking north)



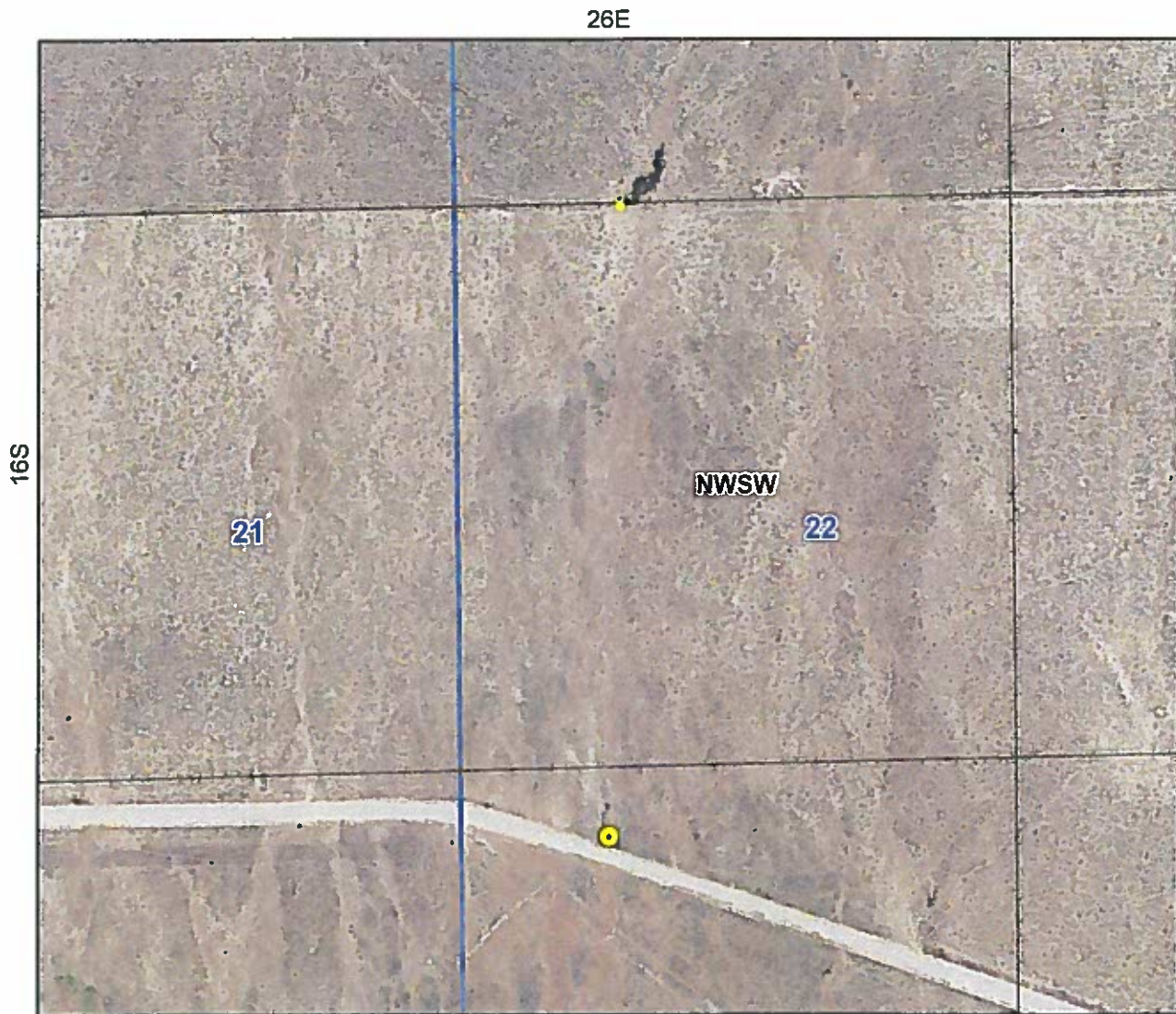
Cat tails north of stock trough

Overflow returned to channel

State of Idaho
Department of Water Resources

Attachment to Water Right License 43-13607

This map depicts the STOCKWATER 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

0 0.05 0.1 0.2 Miles

