

STATE OF IDAHO

DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATIONPermit No: 51-07368Exam Date: 4/27/18

1. Current Owner:

ACE BLACK RANCHES 28892 HOT SPRINGS RD BRUNEAU ID 83604-5007 (208) 845-2601

2. Accompanied by: Terry BlackPhone No: (208) 845-2601Address: 28892 Hot Springs Road, Bruneau, ID 83604Relationship to Permit Holder: Registered agent of Ace Black Ranches

3. SOURCE:

GROUND WATER

TRIBUTARY:

B. OVERLAP REVIEW (see attachment)

1. Other water rights with the same place of use: Domestic water right 51-10162 is the well that was originally used for domestic purposes for the houses; however, the property owner said the well was abandoned because the water quality was not satisfactory. The water right license will be appropriately conditioned to address this overlap. Bruneau Buckaroo Ditch Company water rights overlap with this water permit; however, the use of ditch water is for irrigation so overlap is not a concern.

2. Other water rights with the same point-of-diversion: Water diverted from this drain is also used for an unauthorized stockwater use. The permit holder is going to file a new permit to cover the stockwater use.

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER L3 (NW¼SW¼) Sec. 30, Twp 06S, Rge 06E, B.M. OWYHEE County

Method of Determination: Field exam, GPS, aerial imagery2. **PLACE OF USE: DOMESTIC**

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			N E	N W	S W	SE	N E	N W	S W	SE	N E	NW	SW	SE	NE	NW	S W	SE	
06S	06E	30										X	L 3	X L 4					

PLACE OF USE: STOCKWATER

Twp	Rge	Sec	NE				NW				SW				SE				Total s
			N E	N W	S W	SE	N E	N W	S W	SE	N E	NW	S W	S E	N E	N W	S W	SE	
06S	06E	30										X	L 3	X L 4					

Method of Determination: Field exam, aerial imagery

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.

X Indicate weir size/pipe as applicable.

X Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.

X Aerial Photo Attached (required for irrigation of 10+ acres).

X Photo of Diversion and System Attached

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
GPS Site Tag No. A0019151		½ HP		Aquaduty	5M41710K8-52

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
N/A						

2. Measurements: N/A (theoretical calculations used)

E. FLOW CALCULATIONS

1. Domestic Use

Method: Theoretical calculation for domestic use based on pump horsepower, pumping level and discharge pressure

	Calc #1	Calc #2	Calc #3
Pump Horsepower	0.5	0.5	0.5
Pumping Level (ft)	10	10	10
Discharge Pressure (psi)	40	50	60
Rate of Flow (cfs)	0.03	0.02	0.02

* Assumptions: 70% efficiency, no friction.

Flow is calculated above with the following equation:

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

2. Stockwater use = 450 range cattle/ horses = 0.12 cfs based on Application Processing Administrative Memorandum No. 3; however, theoretical calculations show that the well can only pump 0.03 cfs so the flow will be limited to this amount.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: N/A

2. Domestic: According to Application Processing Administrative Memorandum No. 22, 1.2 afa/ household is allowed when irrigation is included x 2 houses = 2.4 afa. However, because the permit is conditioned to allow a maximum of 13,000 gallons per day, a volume will not be included on the license for domestic use.

3. Stockwater: 450 range cattle/ horses = 6.7 afa based on Application Processing Administrative Memorandum No. 3; however, because the definition of domestic use includes stockwater, a volume will not be included on the license.

G. NARRATIVE/REMARKS/COMMENTS**History:**

The original application for permit was submitted to the Department for domestic and stockwater purposes in 1999. The source listed on the application was an unnamed drain tributary of Bruneau River. No action was completed on the application until 2014. At that time, the Department requested clarification of the source of water and an amended application for permit was submitted in March of 2017. The applicant amended the application to clarify *groundwater* as the source rather than an unnamed drain as originally submitted. The applicant explained that the property was historically saturated with groundwater and ditches were constructed to collect the water for the benefit of domestic and stockwater uses and to prevent damage to the property. The collection system for this permit includes a buried pipe with collection to the pump. Because the purpose of the amendment of application was to clarify the source and enlargements were not made, the priority date was not advanced. (See memorandum to the file dated March 22, 2017)

The permit was issued in June 2017. Beneficial uses authorized under the permit include domestic and stockwater.

Point of Diversion:

The point of diversion is located in the NWSW of Section 30 T6S, R6E in Owyhee County. According to available tax parcel data, Ace Black Ranches is the owner of the point of diversion. The collection system consists of buried pipe which collects groundwater. There is 10 feet of casing with a pump to pump water approximately 180 feet to the two houses. A GPS point was taken at the pump location.

Place of Use:

The place of use for domestic and stockwater is within the NWSW and SWSW of Sec 30, T6S, R6E. According to available tax parcel data, Ace Black Ranches is the owner of the place of use. The permitted place of use for the two houses (domestic) and stockwater was consistent with the described and visible place of use at the time of the field exam.

Diversion Rate:

A theoretical calculation was used for the domestic use based on pump horsepower, pumping level and discharge pressure. Household pressure tanks are typically set at 40-60 psi so three theoretical calculations were made using 40, 50 and 60 psi. The highest rate of flow possible with this pump based on these calculations is 0.03 cfs so the diversion rate on the license will be limited to this amount.

Application Processing Administrative Memorandum No. 3 was used to find the allowed flow rate for stockwater use. Based on 450 range cattle and horses, 0.12 cfs would be allowed however theoretical calculations show that the pump is only capable of pumping 0.03 cfs so the flow rate will be limited to this amount.

Diversion Volume:

Application Processing Administrative Memorandum No. 22. allows 1.2 afa per household when irrigation is included. There are two houses included for this domestic use so 2.4 afa would be the maximum allowed. However, the permit is conditioned to allow a maximum of 13,000 gallons and a volume is not required for domestic use so a volume will not be included on the license.

Taking into account that domestic use by definition includes stockwater, a volume will not be included on the license for stockwater. The 13,000 gallon per day limit should be sufficient to cover all uses under this license. Estimated volumes are as follows:

450 head of cattle x 12 gallons per day each	5,400 gpd stock
500 gallons per day estimated per household use x 2 houses	1,000 gpd domestic use
½ acre of yard combined between the two homes (12 gpm sprinklers running for two hours daily)	1,440 gpd irrigation
Total estimated daily usage	7,840 gpd
Remaining water from the 13,000 gpd limit	5,160 gpd

This shows that the current usage of the water should be covered by this license.

Overlap:

Place of use overlap exists with water permits 51-7318 and 51-10162 which are also owned by Ace Black Ranches. Permit 51-7318 is for irrigation so overlap with stockwater and domestic use is not a concern. Water right 51-10162 is for domestic purposes. The owner said this well was abandoned because the water was bad, thus the need for this new permit for domestic use. Bruneau Buckaroo Coop Ditch Company water rights also appear to overlap both water right places of use; however, these are irrigation rights so overlap with these permits is not a concern.

Ownership:

The owner of permit 51-7368 is Ace Black Ranches and reflects current ownership.

Conditions

Conditions 1 (X04), 2 (933), and 4 (121) will be retained for the license. Condition 6 (X02) will be removed for licensing as is standard. Due to the fact that domestic use under this water right is not a platted subdivision lot, condition #3 (070) will be changed to read, "The irrigation occurring under this domestic use shall not exceed ½ acre." Condition 5 (071) will be removed and the permit will be conditioned to limit the total use to 13,000 gpd to meet the definition of domestic use (N13).

Have conditions of permit approval been met? X 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	0.03 CFS	N/A
DOMESTIC	01/01 to 12/31	0.03 CFS	N/A
<u>Totals:</u>		0.03 CFS	N/A

2. Recommended Amendments

 Change P.D. as reflected above Add P.D. as reflected above X None
 Change P.U. as reflected above Add P.U. as reflected above X None

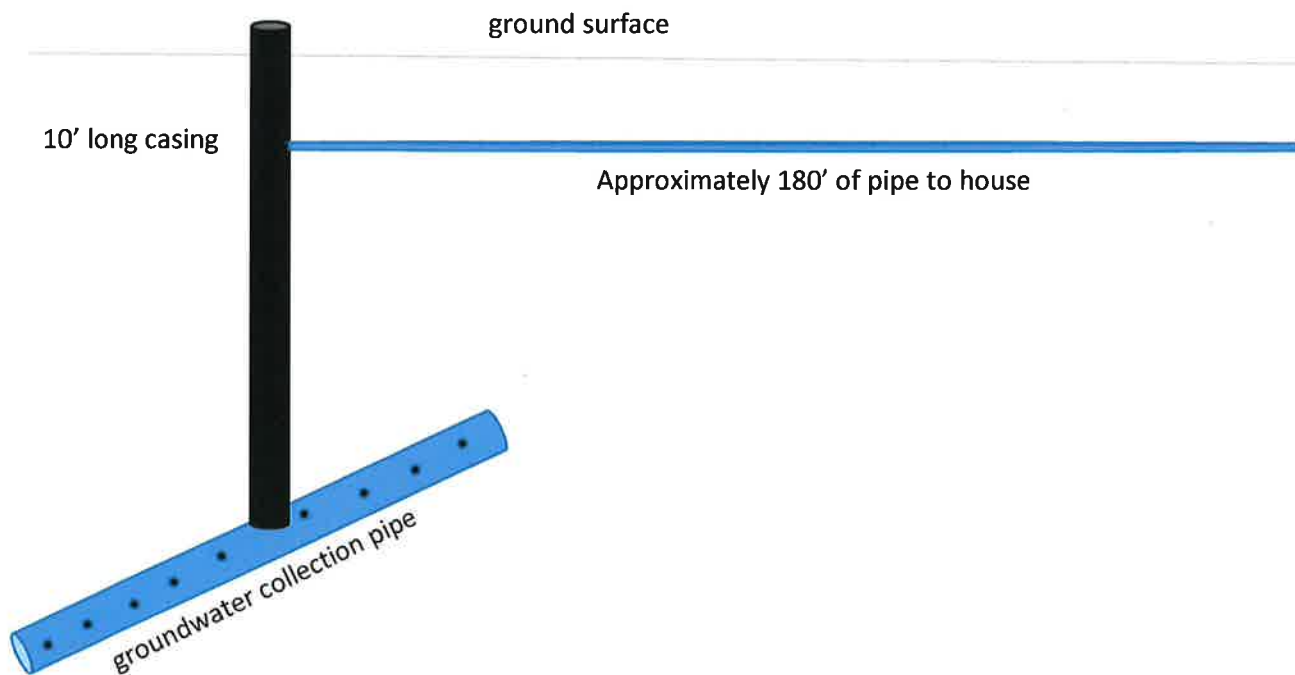
I. AUTHENTICATION - Rachael Smith, Water Resource Agent, Sr.

Field Examiner's Name  Date 5/22/18

Reviewer  Date 5-22-18

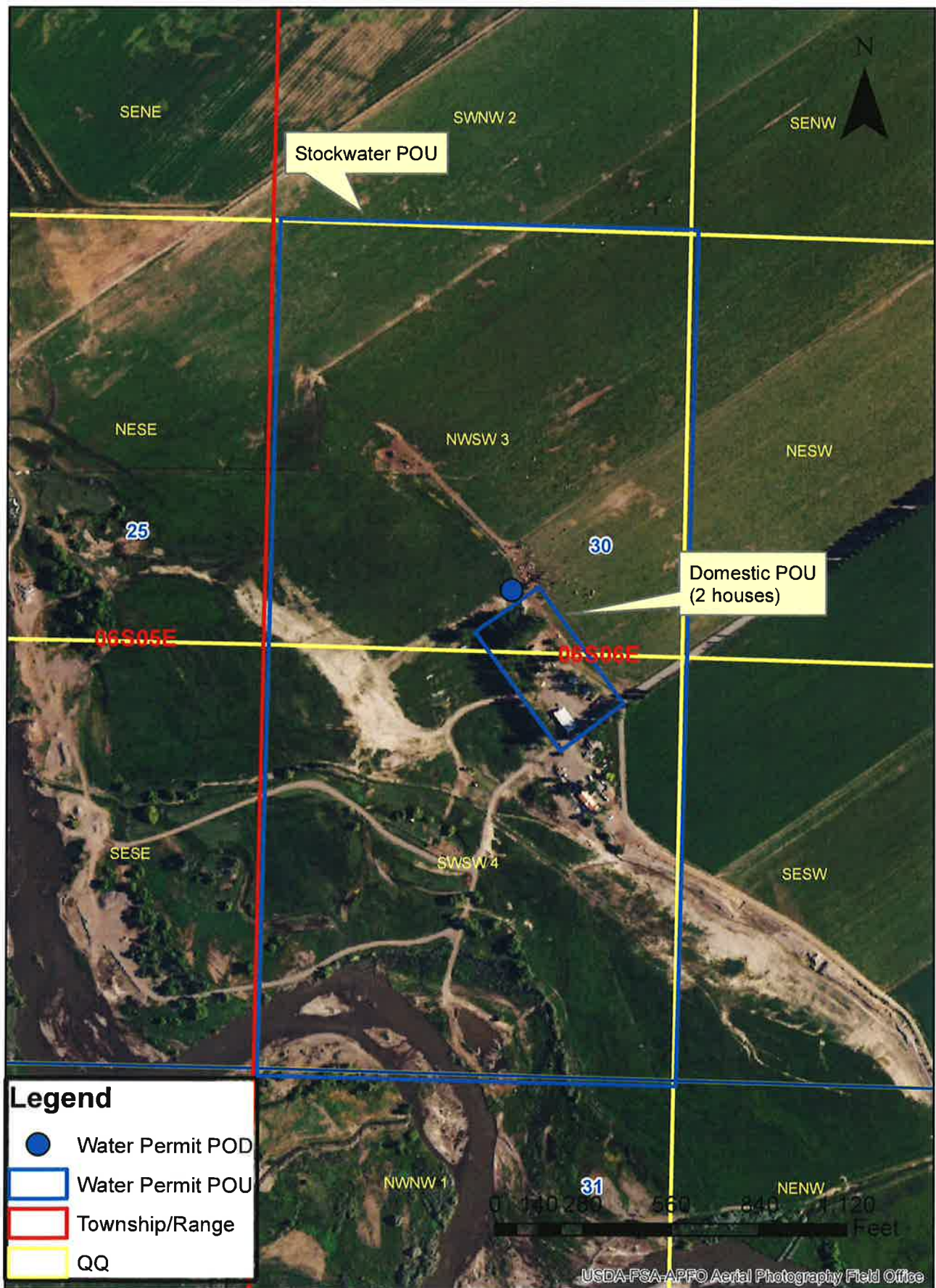
System Diagram

Permit 51-7368
Field Exam Completed 4/27/18
IDWR Field Examiner: Rachael Smith



Groundwater is collected through perforated pipe with 10 feet of casing to the collection pipe. The water is pumped approximately 180 feet to the house and then beyond to the second house to the south.

Water Right 51-7368 Field Exam



Ace Black Ranches

Water Right 51-7368

Field exam completed April 27, 2018



Collection pipe and casing for pump



Stockwater use



Domestic use



Domestic use



GPS Site ID No. at casing for pump
Site ID No. A0019151