

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 15-7258

Exam Date: 06/02/2015

1. Current Owner: RICHARD V & DIANE R ALLEN LIVING TRUST
4 N MAIN
MALAD ID 83252
(208) 766 2461
2. Accompanied by: Brett
Relationship to Permit Holder: Friend, well driller
Phone Number: 208 760 9209

3. SOURCE**TRIBUTARY**

GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: The license-holder uses Deep Creek and Devil's Creek shares to cover the entire ~55 acre field upon which this right is contiguous. At licensing, the entire POU was covered by the Malad Valley Irrigation Company large POU.

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

NW1/4SW1/4

Sec. 9, Twp 14S, Rge 36E, B.M.

ONEIDA County

Method of Determination: GPS and ArcMap

2.

PLACE OF USE: IRRIGATION

Tw	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
14S	36E	9																	10.0
																			10.0

Total Acres: 10

STOCKWATER same as IRRIGATION

Method of Determination: Conversation with appropriator and ArcMap

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

4. Well Information

Submerged 7.5 hp pump.

D. FLOW MEASUREMENTS

5. Measurements: No suitable measurement point for a flow meter. Instead, a pvc pipe was hooked into one of the system's risers. I used a stopwatch to see how long it took to fill a five gallon bucket. I filled the bucket five times. The times-to-fill in seconds were: 4.7, 3.5, 4.1, 4.2, and 3.5, yielding a 4 second average, and ultimately a 0.17 cfs flow rate.

A theoretical pump test was performed and included in this field exam, confirming 0.17 cfs is an accurate rate for a 7.5 hp motor pumping from 260 feet (found in the well driller's log).

E. FLOW CALCULATIONS

5 gallons in 4 seconds = 1.25 gallon/second * 60 seconds/minute = 75 gallons/minute / 448.83 gallons/minute/cfs = 0.17 cfs.

F. VOLUME CALCULATIONS**1. Volume Calculations for Irrigation:**

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 10 \text{ acres} \times 3.5 \text{ AFA} = 35 \text{ AF}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.17 \times 214 \times 1.9835 = 72.16$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 35 \text{ AF}$$

2. Volume Calculations for Other Uses:

$$200 \text{ beef cattle} \times 12 \text{ gallons/day/cow} \times 365 \text{ days/year} = 2.69 \text{ AF/Year}$$

G. NARRATIVE/REMARKS/COMMENTS

The original intent of the permit was to establish irrigation, a home, and a pond, on 10 - 12 acres of an 80 acre parcel, then subdivide those 10 - 12 acres from the larger 80 acre parcel. 10 acres of irrigation were established, but neither the house nor the pond were built. The 10 acres of irrigation established under the permit were, at the time of licensing, part of a larger ~55 acre field, which in turn was part of an 80 acre lot.

The system is one well with a 7.5 hp pump, and two mainlines. One mainline leads to a drip system which waters trees serving as a windbreak in the NW corner of the POU. The other mainline is for agricultural purposes and has five risers. During the initial development period, handlines were hooked to the risers. At the time of licensing, the wheel line that waters the ~55 acre field could hook into the risers, and the use of handlines had been discontinued.

200 cattle water out of troughs on the land in the fall. The permit originally specified 6 horses, 3 cattle, 4 sheep, and 50 chickens, and the proof of beneficial use confirmed that mix. The appropriator told me over the phone, however, that in reality 200 cattle have always watered from troughs connected to the well.

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>
IRRIGATION	04/01 to 10/31	0.170 CFS	35.00 AF
STOCKWATER	01/01 to 12/31	0.020 CFS	2.70 AF
<u>Totals:</u>		0.170 CFS	37.70 AF

2. Recommended Amendments

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

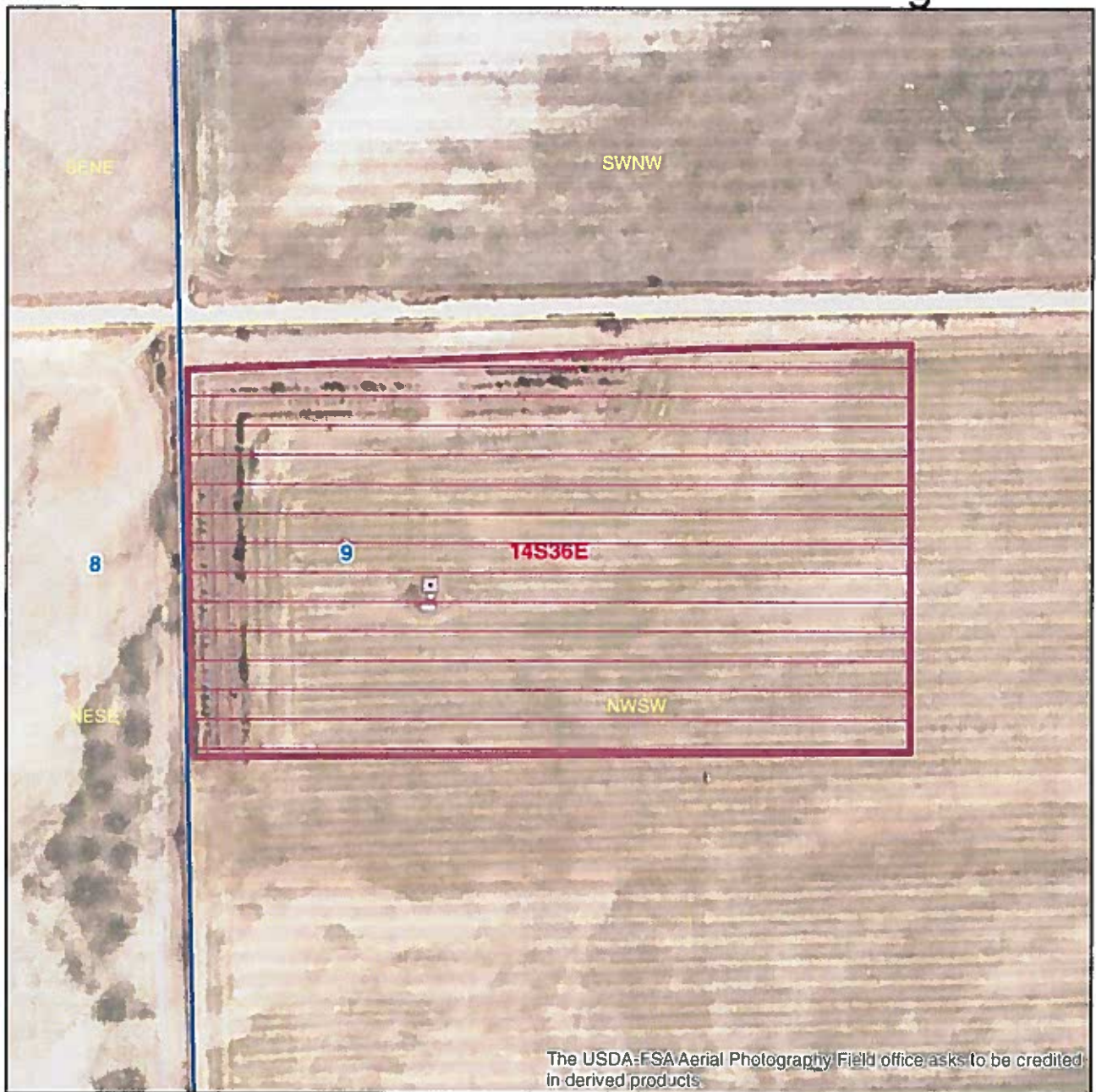
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. AUTHENTICATION

Field Examiner's Name Cooper Fritz Date 12/18/2015

Reviewer _____ Date _____

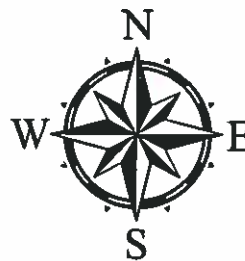
15-7258 POD and POU at Licensing



2013 Imagery

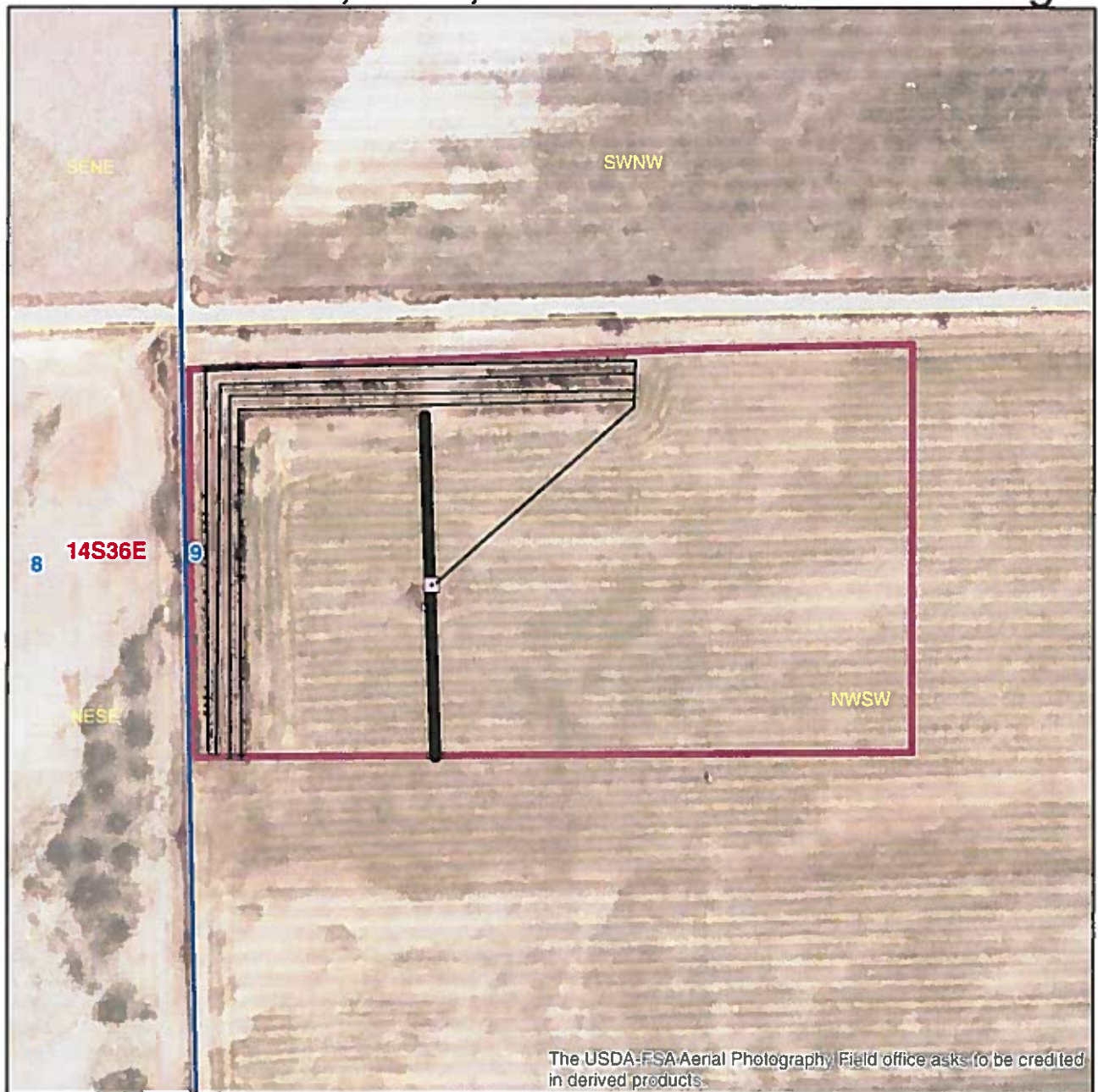
Legend

-  Water Right POD
-  Water Right POU
-  Township/Range
-  Sections
-  QQ



0 0.03 0.06 0.12 Miles

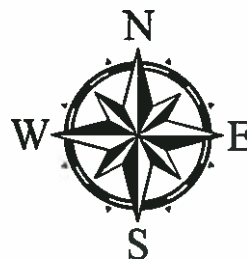
15-7258 POD, POU, and Mainlines at Licensing



2013 Imagery

Legend

-  Water Right POD
-  Drip System
-  Irrigation Mainline
-  Water Right POU
-  Township/Range
-  Sections
-  QQ



0 0.03 0.06 0.12 Miles





THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 15-7258
Examiner: Cooper Fritz
Date of Field Exam: 6/2/2015

Option 1

P/D No.:

PUMP HORSEPOWER	7.5
BOOSTER HORSEPOWER	0
PUMPING LEVEL	260
DISCHARGE PRESSURE	0
FRICITION	0
RATE OF FLOW (cfs)	0.18
(gpm)	79.8

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:

Pumping was taken from well log. Hp was found during site visit. A PSI of zero was used because the system wasn't pressurized.

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only			
Well ID No. _____			
Inspected by _____			
Twp _____	Rge _____	Sec _____	
1/4 _____	1/4 _____	1/4 _____	
Lat: _____	: _____	Long: _____	: _____

1. WELL TAG NO. D 0032848
 DRILLING PERMIT NO. _____
 Water Right or Injection Well No. _____

2. OWNER:
 Name Richard + Luan Allen Living Trust
 Address 1 N Main St
 City Molokai State Id Zip 83252

3. LOCATION OF WELL by legal description:
 You must provide address or Lot, Blk, Sub. or Directions to well.
 Twp. 14 North ☐ or South ☒
 Rge. 26 East ☒ or West ☐
 Sec. 4 NW 1/4 SW 1/4 SE 1/4
 Gov't Lot _____
 Lat: _____ Long: _____
 Address of Well Site 1060 500 N
 City Molokai

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☒ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD:
☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

Seal Material	From	To	Weight / Volume	Seal Placement Method
Bentonite	0	20	20 bags	Gravel bore

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 380'
 Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
10" H	360	200		Steel	☒	☐	☒	☐
10"	360	380	331	Steel	☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____
 Packer ☐ Y ☐ N Type _____

9. PERFORATIONS/SCREENS PACKER TYPE

Perforation Method Machine & Trench
 Screen Type & Method of Installation _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
280	360	1/16"	1250	10"	Steel	☐	☐
360	380	1/4"	60	10"	Steel	☐	☐

10. FILTER PACK

Filter Material	From	To	Weight / Volume	Placement Method

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

260 ft. below ground Artesian pressure _____ lb.
 Depth flow encountered _____ ft. Describe access port or control devices: _____

12. WELL TESTS:

☐ Pump	☐ Bailor	☐ Air	☐ Flowing Artesian
Yield gal./min. <u>500</u>	Drawdown	Pumping Level	Time
Water Temp. <u>60°</u>	Bottom hole temp. <u>60°</u>		
Water Quality test or comments: <u>good</u>			

13. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water	Y	N
14"	0	20	Brown clay			X
10"	20	35	Brown clay			X
10"	35	60	Sand & Gravel		X	
10"	60	70	Brown clay			X
10"	70	100	Sand & Gravel & Brown clay			X
10"	100	140	Gray clay			X
10"	140	160	Cobbles			X
10"	160	175	Brown clay			X
10"	175	275	Gravel & Cobbles & Brown clay			X
10"	275	280	Brown clay			X
10"	280	285	Gravel		X	
10"	285	290	Brown clay			X
10"	290	330	Gravel		X	
10"	330	380	Gravel & Brown clay		X	

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
 Company Name Mohitani Well Drilling Firm No. 542
 Principal Driller Michael Z... Date 6-21-04
 and Driller or Operator II Alfred T... Date 6-21-04
 Operator I _____ Date _____