

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-32982

Exam Date: 7/1/2014

1. Current Owner: ROBERT RASMUSSEN
18999 S CLOVERDALE RD
KUNA ID 83634
(208)362-9748
2. Accompanied by: Russ Evans
Phone No: 208-861-6219
Address:
Relationship to Permit Holder: New land owner

3. SOURCE

GROUND WATER

TRIBUTARY**B. OVERLAP REVIEW**

1. Other water rights with the same place of use: City of Kuna has Municipal water rights that are not pertinent to the land.
2. Other water rights with the same point of diversion: None.

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

GROUND WATER SE1/4SE1/4 Sec. 9, Twp 01N, Rge 01E, B.M. ADA County

Method of Determination: Well house is visible in satellite imagery. I was able to reference PLSS data accurately with its location.

2.

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			<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>	
01N	01E	9																7.6	7.6

Total Acres: 7.6

Method of Determination: Able to outline property irrigation boundary with satellite and on-site photos.

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 or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Well Tag – D0038104	Franklin Electric	15	Unk	Unk	Unk

*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

2. Measurements: Irrigation pipes too small to measure flow rate with polysonic units. No measurement taken. Refer to theoretical.

E. FLOW CALCULATIONS

 X Additional Computation Sheets Attached

Measured Method:

See theoretical flow calculation sheet attached.

$Q = [8.8 * 0.70 * 15] / [250 * 2.31 * \text{psi}]$ An average of different pressures expected on the system calculate a diversion rate of 0.25 cfs

$[21 \text{ sprinklers} * 4.5 \text{ gpm}] / [60 \text{spm} * 7.48 \text{ gpcf}] = 0.21 \text{ cfs}$

Measurement = 0.25 cfs

Permit allowed = 0.18 cfs

License recommend for 0.15 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$V_{I.R.} = (\text{Acres Irrigated}) * (\text{Irrigation Requirement}) = 7.6 * 4.5 = 34.2 \text{ af}$

$V_{D.R.} = [\text{Diversion Rate (cfs)}] * (\text{Days in Irrigation season}) * 1.9835 = 0.15 * 260 * 1.9835 = 77.4 \text{ af}$

$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 34.2 \text{ af}$

2. Volume Calculations for Other Uses:

None.

G. NARRATIVE/REMARKS/COMMENTS

Permit 63-32982 authorizes the diversion of 0.18 cfs from groundwater for irrigation purposes. The field exam was conducted by Water Resource Agent Patrick Kelly on July 1, 2014. I met with Russ Evans who is the current property owner and he escorted me around the property.

Robert Rasmussen is the permit owner and previous owner of the property. He submitted the application for permit Feb. 20, 2008. Tara Tervort is the current property owner and submitted the Proof of Beneficial Use on Feb. 25, 2014. Russ Evans was the person to contact for a field exam. Taxlot data verified current ownership and property information

Overlap review search did not show any overlap with another water right. City of Kuna ground water POU extends over the property but is not pertinent to this water right. No other systems are connected to the well or POD.

The well on the property is located west of the home where a shed has been constructed. There is a 15 hp pump installed on the system. Well driller log information was used to calculate a pumping level. A static water level of 210 ft with significant drawdown expected I used a pumping level of 250 ft in the theoretical calculation. The psi gauge installed on the system showed a psi of greater than 100. This is assumed to be a non functioning gauge since this would create leaks and breakage of the system. 40 to 60 psi is a reasonable range for this type of system and I used this in my theoretical. Average flow rate from the theoretical calculations were 0.25 cfs. Mr. Evans believed the sprinklers to be rated at 4.5 gallons per minute. With 21 sprinklers installed on the system, this amounts to 94.5 gallons per minute, which translates to 0.21 cfs. The permit authorized the diversion of 0.18 cfs and both of these estimates seem reasonable.

The permit authorizes the irrigation of 9.0 acres. During my field exam, I found sprinkler lines spread across the entire property. Some areas were more clearly irrigated than others. The ground as you enter the property had been cleared and a sprinkler line was strung all the way to Cloverdale Rd. However, as you can see in the photos, it was not obvious that this portion of the property was irrigated by the time Beneficial Use was submitted. Aerial photography of the land did not provide a clear history of irrigation either. It is my belief based on aerial photography, that Mr. Evans cleared the ground in the fall of 2013, and at the start of the 2014 irrigation season he was working with bare ground. From what I was able to document, I am confident that 7.6 acres of land is being irrigated. After consulting with superiors in the Department, the decision was made to move forward with regions we most comfortably felt had been irrigated prior to beneficial use. The property owner will have to either provide more evidence that the land east near Cloverdale Road was being irrigated prior to Proof of Beneficial Use, or file for a second water right to cover the remaining 1.4 acres.

Conditions on the permit allow 0.02 cfs per acre to be irrigated. With 7.6 acres being irrigated, a diversion rate of 0.15 cfs seems reasonable for license. There is no evidence to suggest further limits be placed on the property for licensing.

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	03/01 to 11/15	0.15 CFS	
<u>Totals:</u>		0.15 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 Patricia Wally Date 8-14-2014

Reviewer _____ Date _____

State of Idaho
Department of Water Resources
Field Exam Map
63-32982

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 0.05 0.1 0.2 Miles





Google earth

June 6, 2014

feet
meters





Google earth

October 2013 Image

feet
meters



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 63-32982
 Reviewer: Patrick Kelly
 Date of Review: 7/1/2014

P/D No.:	Senerio 1	Senerio 2	Senerio 3
PUMP HORSEPOWER	15	15	15
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	250	250	250
DISCHARGE PRESSURE	40	50	60
RATE OF FLOW (cfs)	0.27	0.25	0.24 0.25

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.
 No Friction

Examiners Notes:

Pump is 15 hp. Information provided on site. Pumping level was taken from well drillers report. Pumping level was assumed given where the static water level and well screening were indicated on the well drillers report. PSI gauge on site indicated that the pressure on system was greater than 100. I believe this to be incorrect and it was not functioning. I used a range of psi for irrigation purposes that could be expected for the system. All of the flow rates calculated exceed the permitted diversion rate of 0.18 cfs.

PHOTOGRAPHER PATRICK K. LY
DATE OF PHOTOS 7/2/2014

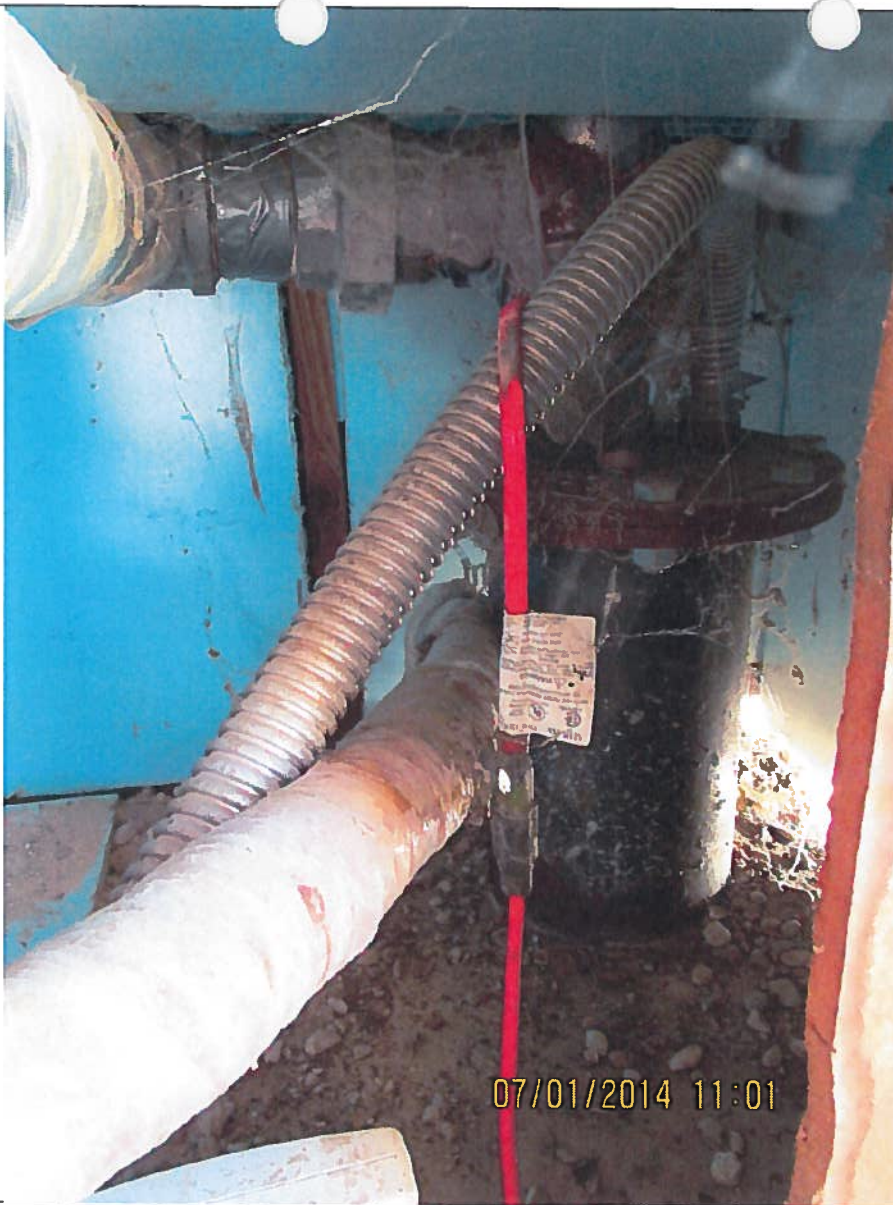
FILE NUMBER 63-12443



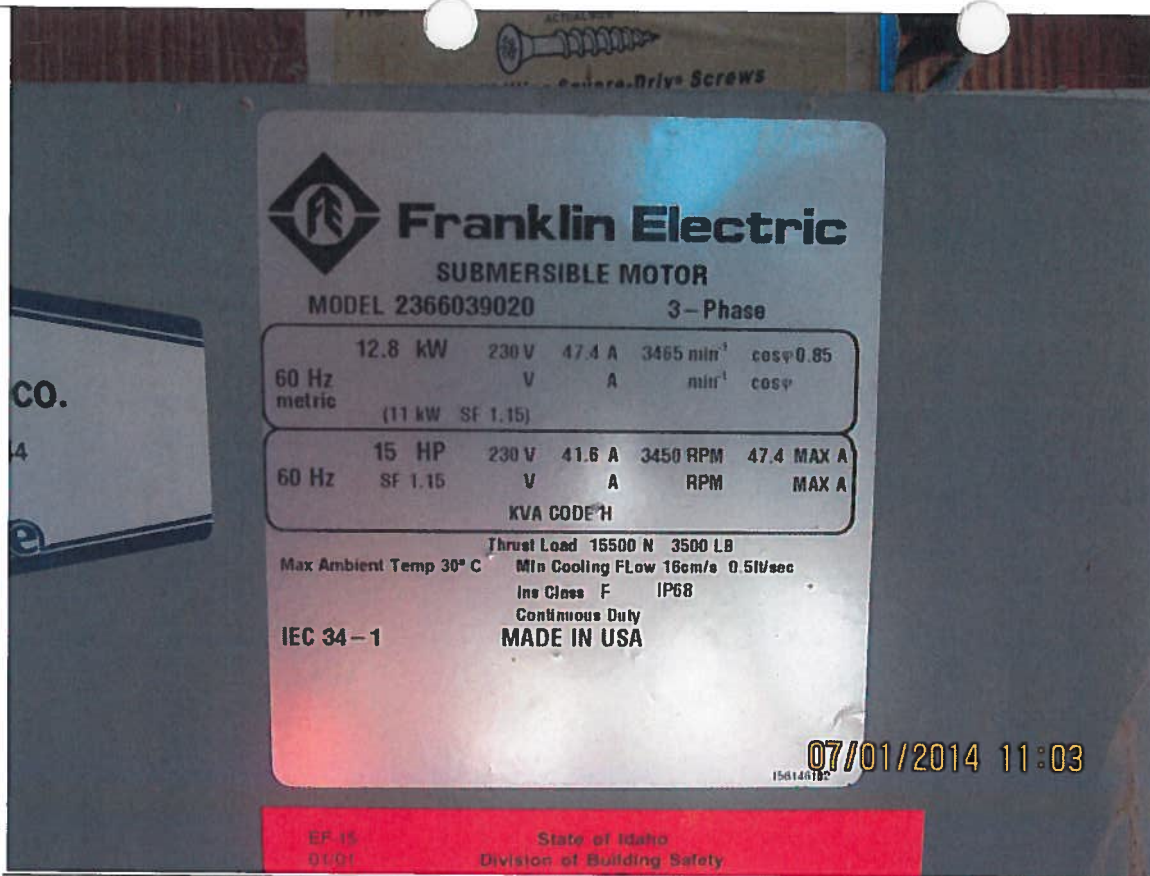
Point of
Diversion:
Well house
located on east
side of property.



Plumbing from
well to POU.



POD: well tag
#D0038104



Pump tag ID



psi gauge reads a high pressure. Assumed to be broken.



Spigot connected to the system.



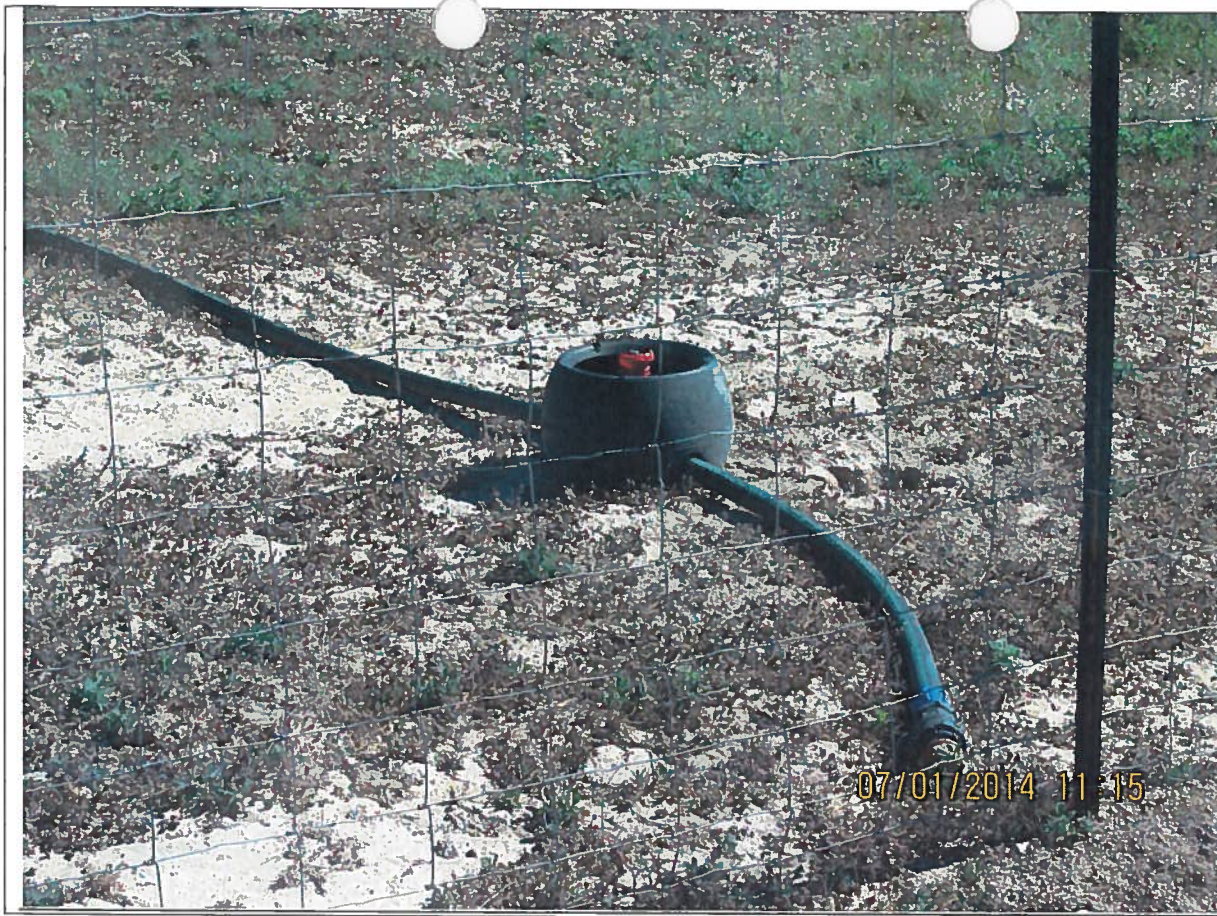
1 of 5 sprinkler lines used on the property.



Property owner irrigates ground for horses.



POU includes driveway run on south end of property. (Hard to tell on satellite imagery.)



1 of 21 sprinkler
pods.

Process	Basin Sequence	Draft	Owner	Source	POD/ POU	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	Total Acres
Water Right	63-11970	N	CITY OF KUNA	GROUND WATER	POU	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0
Water Right	63-12001	N	SCHMECKPEPER, BRANDON	GROUND WATER	POD													X				0
Water Right	63-12001	N	SCHMECKPEPER, BRANDON	GROUND WATER	POU													7.6				7.6
Water Right	63-12394	N	CITY OF KUNA	GROUND WATER	POU	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0
Water Right	63-12552	N	CITY OF KUNA	GROUND WATER	POU	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0
Water Right	63-2966	N	TOLEDO, JOHN B; TOLEDO, MARIA R	GROUND WATER	POD					X												0
Water Right	63-2966	N	TOLEDO, JOHN B; TOLEDO, MARIA R	GROUND WATER	POU					39.0	39.0											78
Water Right	63-31481	N	CITY OF KUNA	GROUND WATER	POU	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0
Water Permit	63-31741	N	CITY OF KUNA	GROUND WATER	POU	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0
Water Right	63-3219A	N	TOLEDO, JOHN B; TOLEDO, MARIA R	GROUND WATER	POD					X												0
Water Right	63-3219A	N	TOLEDO, JOHN B; TOLEDO, MARIA R	GROUND WATER	POU					39.0	39.0											78
Water Right	63-3266	N	CITY OF KUNA	GROUND WATER	POU	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0
Water Permit	63-32982	N	RASMUSSEN, ROBERT	GROUND WATER	POD																X	0
Water Permit	63-32982	N	RASMUSSEN, ROBERT	GROUND WATER	POU																9.0	9
Water Right	63-32982	Y	RASMUSSEN, ROBERT	GROUND WATER	POD																X	0
Water Right	63-32982	Y	RASMUSSEN, ROBERT	GROUND WATER	POU																9.0	9
Water Permit	63-33235	N	BROWN, DAVE; BROWN, JUDY	GROUND WATER	POD													X				0
Water Permit	63-33235	N	BROWN, DAVE; BROWN, JUDY	GROUND WATER	POU													10.0				10
Water Permit	63-33235	N	BROWN, DAVE; BROWN, JUDY	GROUND WATER	POU													X				0
Water Permit	63-33237	N	TIPPETTS, FRANCINE; TIPPETTS, WILLIAM	GROUND WATER	POD													X				0
Water Permit	63-33237	N	TIPPETTS, FRANCINE; TIPPETTS, WILLIAM	GROUND WATER	POU													11.0				11
Water Permit	63-33237	N	TIPPETTS, FRANCINE; TIPPETTS, WILLIAM	GROUND WATER	POU													X				0
Water Right	63-3337D	N	TOLEDO, JOHN B; TOLEDO, MARIA R	GROUND WATER	POD					X												0
Water Right	63-3337D	N	TOLEDO, JOHN B; TOLEDO, MARIA R	GROUND WATER	POU					39.0	39.0											78
Water Right	63-33818	N	TOLEDO, JOHN B; TOLEDO, MARIA R	GROUND WATER	POD					X												0
Water Right	63-33818	N	TOLEDO, JOHN B; TOLEDO, MARIA R	GROUND WATER	POU	38.0	39.0	40.0	39.0													156
Water Right	63-33820	N	TOLEDO, JOHN B; TOLEDO, MARIA R	GROUND WATER	POD					X												0
Water Right	63-33820	N	TOLEDO, JOHN B; TOLEDO, MARIA R	GROUND WATER	POU	38.0	39.0	40.0	39.0													156
Water Right	63-33822	N	TOLEDO, JOHN B; TOLEDO, MARIA R	GROUND WATER	POD					X												0
Water Right	63-33824	N	TOLEDO, JOHN B; TOLEDO, MARIA R	GROUND WATER	POD					X												0
Water Right	63-33824	N	TOLEDO, JOHN B; TOLEDO, MARIA R	GROUND WATER	POU	38.0	39.0	40.0	39.0													156
Water Right	63-33826	N	TOLEDO, JOHN B; TOLEDO, MARIA R	GROUND WATER	POD					X												0
Water Right	63-33828	N	TOLEDO, JOHN B; TOLEDO, MARIA R	GROUND WATER	POD					X												0
Water Right	63-33830	N	TOLEDO, JOHN B; TOLEDO, MARIA R	GROUND WATER	POD					X												0
Water Right	63-33830	N	TOLEDO, JOHN B; TOLEDO, MARIA R	GROUND WATER	POU	38.0	39.0	40.0	39.0													156
Water Right	63-8215	N	CITY OF KUNA	GROUND WATER	POU	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0