

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
IN-OFFICE REVIEW/BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATIONPermit No: 86-12037

Exam Date: 5/13/2017

1. Does this qualify for an in-office field exam (IDAPA 035.02.r)? X Y N
- Irrigation of 5 acres or less
 - Storage of up to 14.6 AF for stockwater purposes only
 - Any use other than irrigation or storage, if the combined diversion rate is 0.24 cfs or less
 - Other < >

2. Current Owner: Name: French Cattle LLC
 Owner of Record Correct? X Y N
 Address of Record Correct? Y N
 If No: Address

Tax parcel data shows French Cattle LLC as the owners of the property.

3. Beneficial Use Fees have been paid: X Y N Receipt No: C0
4. **SOURCE** TRIBUTARY
 Ground water
 Method of Determination: GIS, and Tax Parcel Data
 Change in Source: Y X N

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NO Overlap

Water Right No.	Source	Purpose of Use	Basis
NONE			

Comments: Water right 86-10644 is in the same 40 acre tract, but it is for the property north of the highway.

2. Other water rights with the same point of diversion: NO Overlap

Water Right No.	Source	Purpose of Use	Basis

Comments: Water right 86-10644 is in the same 40 acre tract, but it is for the property north of the highway.

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Well	1		NW	NW	19	40N	1W	B.M.	LATAH
								B.M.	
								B.M.	

Method of Determination: GIS and Tax Lot Parcel.

Change in POD? X N Amendment Required? X N

2. **PLACE OF USE:** Use: Irrigation (acres), Domestic (D), and Stockwater (S)

TWP	RGE	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
40N	1W	19						1 AC D S											1 AC
		Lot #						1											
Total Acres =																			1 AC

Method of Determination: GIS and Tax Parcel Data

Change in POU? X N Amendment Required? X N

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

Indicate weir size/pipe as applicable.

 X 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	Unknown	1.5			

*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
NONE						

2. Measurements: No measurement is required for an in-house exam.

E. FLOW CALCULATIONS X Additional Computation Sheets Attached

Measured Method:

The application for permit states that the permit holder uses a 1.5 Hp pump in the well. I performed a theoretical calculation, and the most a 1.5 hp pump could produce in this area is 0.04 cfs. Therefore, the total flow will be limited to the 0.04 cfs. The diversion rates for the various uses will be split by out by various administrative memorandums.

Theoretical system capacity = 0.04 cfs

Administrative Memo #22 = 0.04 cfs for the in-house use.

Administrative Memo #17 = 0.03 cfs per acre for 1 acre = 0.03 cfs for irrigation.

Administrative Memo #3 = 0.02 cfs for up to 50 head of livestock

Permit allowed = 0.04 cfs for Domestic
 0.03 cfs for Irrigation
 0.02 cfs for Stockwater
 0.06 cfs Total

I am recommending the following:

0.04 cfs for Domestic
 0.03 cfs for Irrigation
0.02 cfs for Stockwater
 0.04 cfs Total

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{1 \times 3.0 = 3.0 \text{ af}}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \underline{0.03 \times 214 \times 1.9835 = 12.7}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \underline{3.0}$$

2. Volume Calculations for Other Uses:

There is no information to show what the actual water volume being used. Therefore, I am following the standards set forth in Processing Administrative Memorandum #22, which states that the permit should be limited to 0.06 af for in-house use. Processing Administrative Memorandum #3 allows up to 0.3 af for 19 head of livestock (0.0134 X 19 = 0.2546 af). These volumes match the volumes allowed by the permit.

G. PURPOSE OF USEIrrigation Y N # Stock Domestic # of Homes 1

Other: < >

Change in Purpose of Use? Y N Method of Determination: Tax data, GIS, and Well Driller's Report.If Yes: From Use To Use Amount CFS AFA

H. NARRATIVE/REMARKS/COMMENTS

The application for permit associated with this permit was protested, and the applicant agreed to a diversion rate and volume limit in a settlement agreement. The Department placed the diversion rate and volume restrictions on the permit as agreed to in the settlement. The volume limitations reflected the Department standards, and the diversion rate was below what could be allowed by the Department. The application for permit supplies pump information that suggests that the diversion rate approved in the permit is more than the pump can reasonably divert. Therefore, I reduced the diversion rate to the amount a 1.5 Hp pump could divert under normal operating conditions. The volume allowed by the permit is less than the capacity of the pump system.

Determining the place of use for the irrigation use was a little difficult, since this area generally has high precipitation rate and the surrounding area needs very little irrigation to maintain a lush plant growth. However, the 2015 aerial imagery does show several areas around the home and outbuildings that are greener than the surrounding fields. There are a number of trees on the property, but street view photos from Google Maps suggest that the trees are not irrigated. Therefore, I believe that I have a good representation of the area being irrigated. There are what appears to be several greenhouses/barns in the middle of the property, but I didn't include them in the irrigation place of use. I was not able to confirm what type of buildings they were, so I did not include them within the borders of the irrigation shape file. However, the greenhouses/barns are included in the domestic and stockwater places of use.

Conditions 1 (046), 4 (X02), and 6 (004) will be removed at licensing. Condition 2 (132) will be carried forward to licensing. Condition 3 (R66) will be replaced with X31. Condition 5 will be changed to the Department's standard of condition 020 with the names added into the condition.

Have conditions of permit approval been met? X Yes No

I. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
Domestic	01/01 to 12/31	0.04 CFS	0.6 AF
Stockwater	01/01 to 12/31	0.02 CFS	0.3 AF
Irrigation	04/01 to 10/31	0.03 CFS	3.0 AF
<u>Totals:</u>		0.04 CFS	3.9 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 None

Other: < >

J. AUTHENTICATION – DANIEL A. NELSON – Analyst 3

Field Examiner's Name

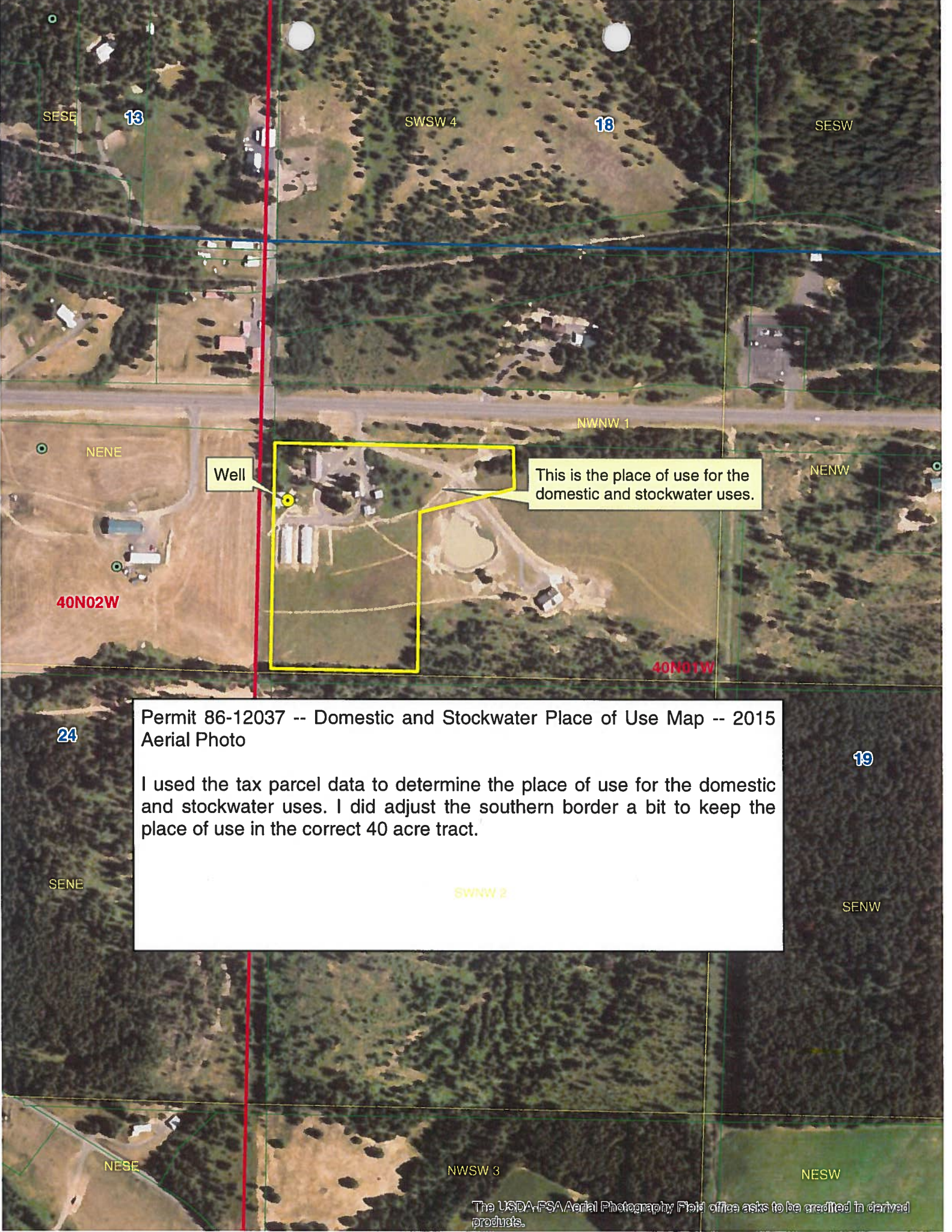


Date

5-3-17

Reviewer

Date

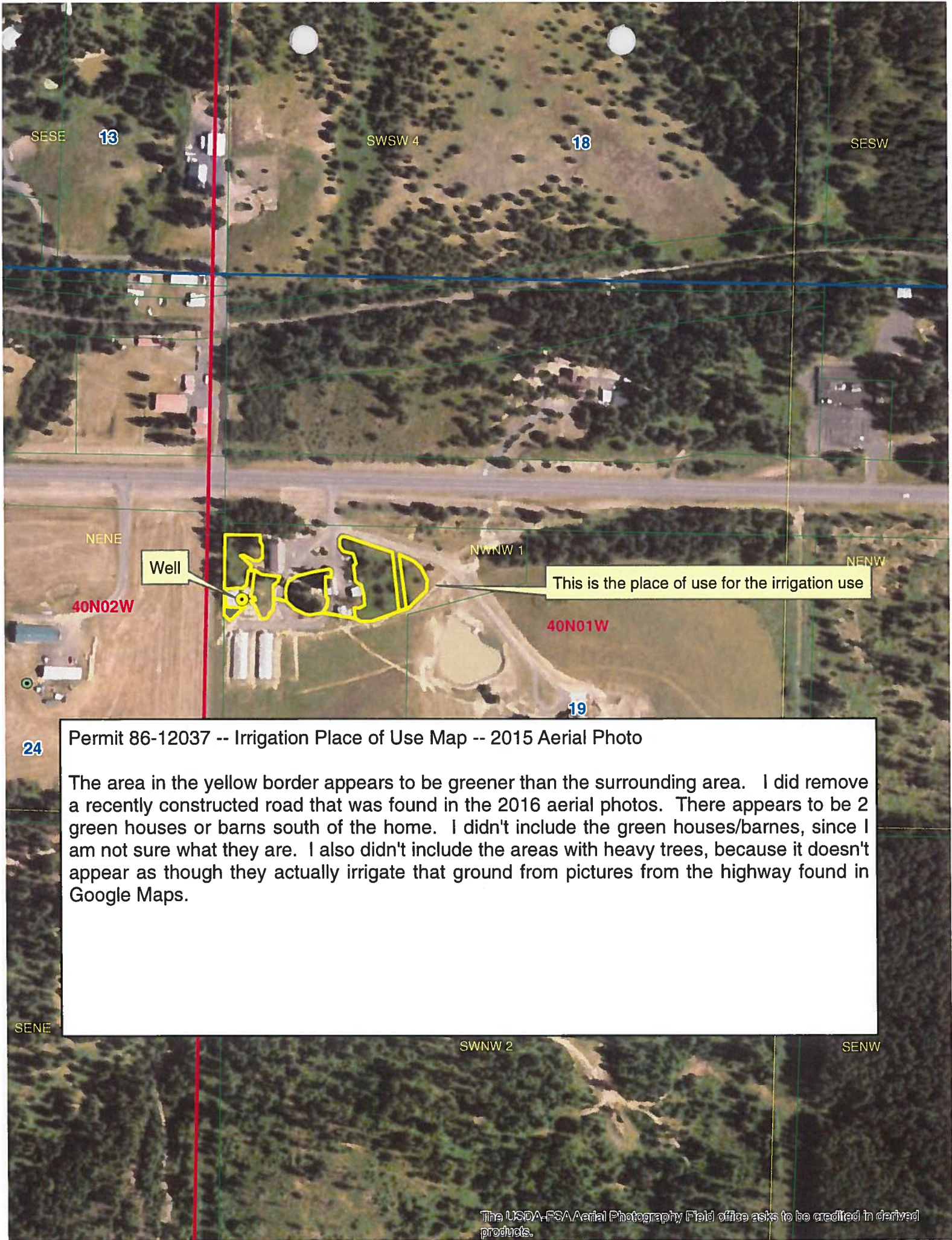


Well

This is the place of use for the domestic and stockwater uses.

Permit 86-12037 -- Domestic and Stockwater Place of Use Map -- 2015 Aerial Photo

I used the tax parcel data to determine the place of use for the domestic and stockwater uses. I did adjust the southern border a bit to keep the place of use in the correct 40 acre tract.



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Permit 86-12037 -- Irrigation Place of Use Map -- 2015 Aerial Photo

The area in the yellow border appears to be greener than the surrounding area. I did remove a recently constructed road that was found in the 2016 aerial photos. There appears to be 2 green houses or barns south of the home. I didn't include the green houses/barns, since I am not sure what they are. I also didn't include the areas with heavy trees, because it doesn't appear as though they actually irrigate that ground from pictures from the highway found in Google Maps.

Permit 96-12037 – 2016 Google Earth Imagery.



The above image shows the most recent view of the property. As you can see, they have included a road/driveway through a portion of the property that that was removed in the irrigation map. The street view from Google Maps below shows that area around the trees doesn't appear to be irrigated, but the area by the house does appear to be irrigated and maintained.



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 94-7560
 Reviewer: Dan Nelson
 Date of Review: 12/5/2016

P/D No.:

PUMP HORSEPOWER
 BOOSTER HORSEPOWER

PUMPING LEVEL

DISCHARGE PRESSURE

RATE OF FLOW (cfs)

Scenario 1
1.5
0
140
40
0.04
18

Scenario 2
1.5
0
140
50
0.04
16

Scenario 2
1.5
0
140
60
0.03
15

Average
 0.04
 17.04

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:

The neighbor to the west drilled a well in 2013 that has a static water level of 130 feet, and the neighbor to the east drilled a well in 1992 with a 146 ft static water level. I used the static water level of the most recently drilled (2013) well that was closest to the property. I assumed a minimum drawdown of 10 feet, so I used a pumping water level of 140 feet. I used the standard 40 to 60 pressures. The application for permit states that the owner uses a 1.5 Hp pump. Using these assumptions, I would limit the diversion rate to 0.04 cfs. The pump would need to use a pressure of less than 30 psi to provide more than 0.04 cfs at the pumping level found in the neighbor's well.