

MEMORANDUM

TO: Files 95-11037 and 95-11136

FROM: Daniel Nelson – Staff Hydrologist

DATE: October 1, 2014

SUBJECT: Field Exam Requirements.

There are two properties that are right next to one another in the NWNE quarter of Section 27, Township 52 North, Range 4 West. One of the properties is owned by W. Jeanie Peery, and the other is owned by Deanna and Stephen Hughes. Both properties have two water rights attached to each of the properties. These water rights are as follows:

Peery:

Permit -	95-11037 -	for 0.15 cfs for irrigation of 5 acres and 0.02 cfs for stockwater for a total diversion rate of 0.15 cfs.
Recommendation -	95-13413 -	for 0.04 cfs for domestic and 0.02 cfs stockwater for a total diversion rate of 0.06 cfs.

Hughes:

Permit -	95-11136 -	for 0.15 cfs for irrigation of 5 acres and 0.02 cfs for stockwater for a total diversion rate of 0.15 cfs.
Recommendation -	⁻¹³⁴⁷⁸ 95- ~~11136~~ -	for 0.04 cfs for domestic

CS 03-11-2016

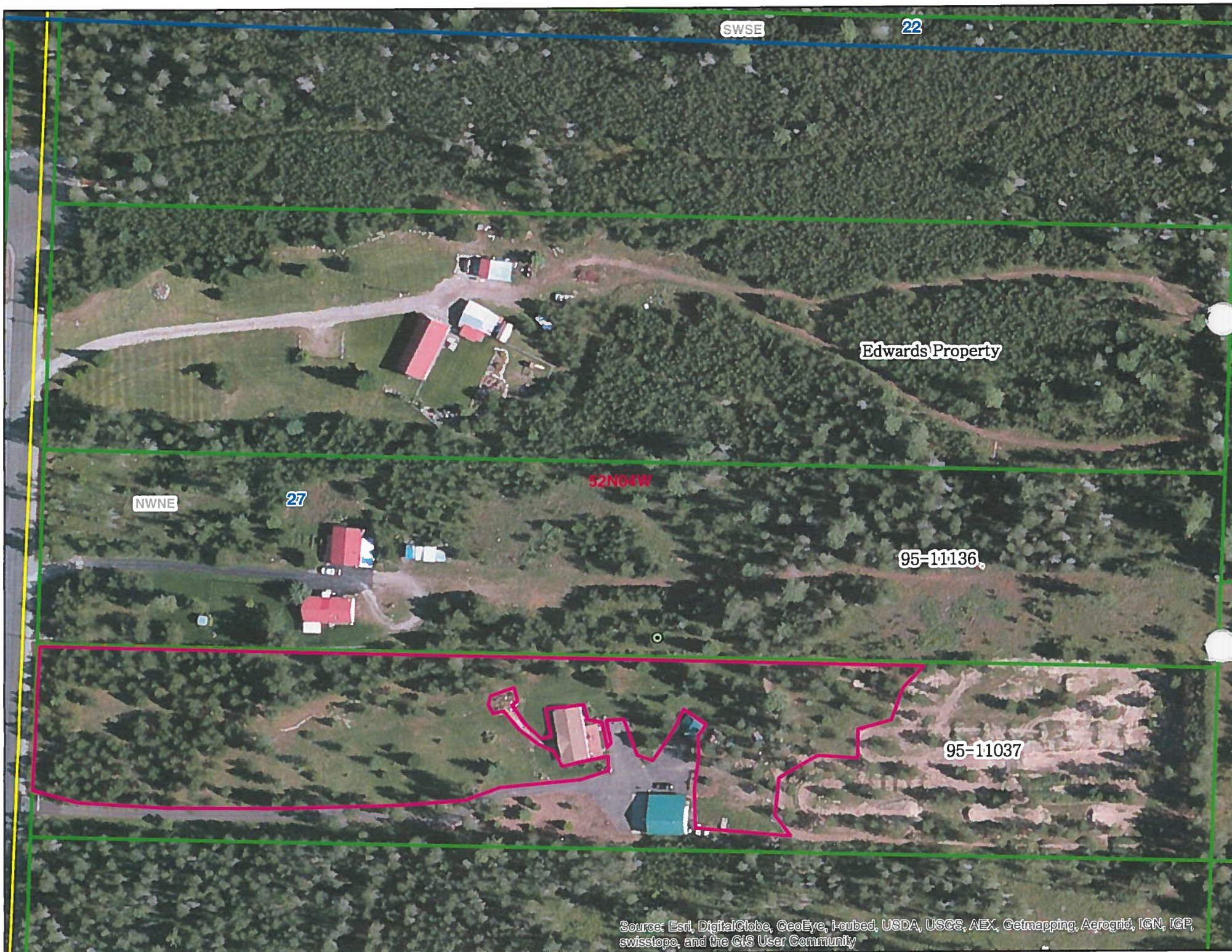
When all of these rights are added together the total combined diversion rate would be 0.40 cfs.

The water right files suggest that all of these water rights are diverted from the same well. This well was drilled under well drilling permit 96-N-018-000. The well log for this permit shows a static water level of 265 feet, with water first being encountered at 285 feet. Using this data, and the 5 Hp pump that the water right permits say is used in the well, the estimated capacity of this well is 0.08 cfs. If there is only one well with a 5 Hp pump, then the well cannot provide the 0.40 cfs needed for these four water rights, and combined conditions would be needed.

Another issue is that these two properties seem to be on the same water distribution system. Each water right permit could be done as an in-house permit if they were separate systems, however, if there is actually one system, the combination of the two water rights would require an on sight field exam be performed according to the beneficial use rules. Since there is confusion on whether or not this is two separate systems or one system, it is in the best interest of the Department to perform an on sight field exam for these two water rights.

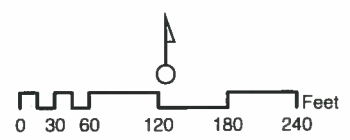
With the confusion over the capacity of the well and the possible number of systems supplying these water rights, a field exam needs to be done. Proof of Beneficial use for permit 95-11136 has not been submitted yet, so permit 95-11037 should be placed on hold until proof is received for 95-11136 so both permits can be licensed at the same time. Once proof of beneficial use has been received, a field exam can be done to determine what is actually happening at this location.

Maps, theoretical calculations, well log, and a place of use report has been attached to this memo for your consideration.



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

95-11037



D. Favreau 09/26/14

NENW

27 52N04W

NWNE

NENE

SENW

Based on imagery ~3 Ac in.

SWNE

SENE

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 95-11037
 Reviewer: D. Favreau
 Date of Review: 9/26/2014

P/D No.:	Senerio 1	Senerio 2	Senerio 3
PUMP HORSEPOWER	5	5	5
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	275	275	275
DISCHARGE PRESSURE	40	50	60
RATE OF FLOW (cfs)	0.08 38	0.08 35	0.07 33
			0.08 35.48

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 horspower was supplied by the owner on permit app. The pressure was estimated by using the standard for pressure tank turn on and shut off of 40 to 60 psi. The lift was estimated using the well log static - 265 + 10.

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 95-11037
 Reviewer: D. Favreau
 Date of Review: 9/26/2014

P/D No.:	Senerio 1	Senerio 2	Senerio 3
PUMP HORSEPOWER	5	5	5
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	295	295	295
DISCHARGE PRESSURE	40	50	60
RATE OF FLOW (cfs)	0.08 36	0.08 34	0.07 32
			0.08 33.74

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 horsepower was supplied by the owner on permit app. The pressure was estimated by using the standard for pressure tank turn on and shut off of 40 to 60 psi. The lift was estimated using the well log - water between 285 and 299 - well placed at least 10 ft below high water.

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#362

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IDAHO DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

Use Typewriter or Ballpoint Pen

Office Use Only			
Inspected by			
Twp	Rge	Sec	
1/4	1/4	1/4	
Lat:	:	Long:	:

1. DRILLING PERMIT NO. 95-96-N-018-000

Other IDWR No

STATE COPY

2. OWNER

Name HANSEN, ARTHUR

Address RT 2 BOX 118

City HARRISON State ID Zip 83833

3. LOCATION OF WELL by legal description

sketch map location must agree with written location

N			
		X	
S			

Twp 52 North or South
Rge 04 East or West
E Sec 27 1/4 NW 1/4 NE 1/4

Gov't Lot County KOOTENAI
Lat: : : Long: : :
Address of Well Site WILKINSON RD
City

(Give at least name of road + Distance to Road or Landmark)

Lt. Bk. Sub. Name

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/FILTER PACK			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	
BENTONITE	0	80	6 SACKS	Powder/ 3 crumbl

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 299Was drive shoe seal tested? ☐ Y ☐ N How?

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6	+2	299	250	steel	☒	☐	☒	☐

Length of Headpipe Length of Tailpipe

9. PERFORATIONS/SCREENS

☒ Perforations Method Open Bottom

☐ Screens Screen Type

From	To	Slot Size	Number	Diameter	Material	Casing	Liner

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

265 ft. below ground Artesian pressure lb

Depth flow encountered ft. Describe access port or control devices:

NW NE 27 52N 4W

11. WELL TESTS:

Yield gal./min.	Drawdown	Pumping Level	Time
30			1 HR

Water Temp. Bottom Hole Temp

Water Quality test or comments:

Depth first Water encountered

12. LITHOLOGIC LOG:(Describe repairs or abandonment)

				Water	
Bore Diam	From	To	Remarks: Lithology, Water Quality, Temperature	Y	N
8	0	2	Topsoil, Brown Soft	☐	☒
8	2	5	Cobbles Clays Brown	☐	☒
8	5	8	Boulder	☐	☒
8	8	19	Cobbles Clays Brown	☐	☒
8	19	36	Sands Clays Gravels	☐	☒
8	36	38	Boulder	☐	☒
8	38	60	Sands Gravels	☐	☒
8	60	63	Boulder	☐	☒
8	63	180	Gravels Fine Sands Tanish	☐	☒
8	180	240	Sands Fine Gravels	☐	☒
8	240	265	Fine Sand Brown	☐	☒
8	265	285	Fine Gravels 3/8 Minis	☐	☒
8	285	299	Coarse Gravels " to 1 1/2	☒	☐
	0	0	(208)772-4004	☐	☐
	0	0	Note: 1x6" Bolt on Cap	☐	☐
	0	0	Sand, Gravel, Boulders	☐	☐

Completed Depth 299' (Measurable)
Date: Started 03/18/96 Completed 03/19/96

13. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name H2O WellService, Inc. Firm No. 448

Firm Official *John Wheeler* Date 3-21-96
and

Supervisor or Operator Date

(Sign Once if Firm Official and Operator)

[illegible]

[illegible]

Adjudication Recommendation	95-13764		MYERS, SCOTT A	GROUND WATER	POD					X							0
Adjudication Recommendation	95-13764		MYERS, SCOTT A	GROUND WATER	POU					X							0
Water Right	95-7006	N	WILKINSON, RALPH N	GROUND WATER	POD							X					0
Water Right	95-7006	N	WILKINSON, RALPH N	GROUND WATER	POU	X		X	X	X		X	X	X	X	X	0
Adjudication Recommendation	95-7006		PANHANDLE VILLAGE WATER SYSTEM	GROUND WATER	POD	X						X					0
Adjudication Recommendation	95-7006		PANHANDLE VILLAGE WATER SYSTEM	GROUND WATER	POU	X		X	X	X		X	X	X	X	X	0
Water Right	95-7013	N	WILKINSON, RALPH N	GROUND WATER	POD	X											0
Water Right	95-7013	N	WILKINSON, RALPH N	GROUND WATER	POU	X		X	X	X		X	X	X	X	X	0
Adjudication Recommendation	95-7013		PANHANDLE VILLAGE WATER SYSTEM	GROUND WATER	POD	X						X					0
Adjudication Recommendation	95-7013		PANHANDLE VILLAGE WATER SYSTEM	GROUND WATER	POU	X		X	X	X		X	X	X	X	X	0
Water Right	95-7138	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU			X	X								0
Water Right	95-7422	N	WALTON, CHARLES A	GROUND WATER	POD						X						0
Water Right	95-7422	N	WALTON, CHARLES A	GROUND WATER	POU						X						0
Adjudication Recommendation	95-7422		EVENSON, DOUG; EVENSON, LORI	GROUND WATER	POD						X						0
Adjudication Recommendation	95-7422		EVENSON, DOUG; EVENSON, LORI	GROUND WATER	POU						X						0
Water Right	95-7529	N	BURLINGAME, ROBERT L; BURLINGAME, ROSEMARY	GROUND WATER	POD		X										0
Water Right	95-7529	N	BURLINGAME, ROBERT L; BURLINGAME, ROSEMARY	GROUND WATER	POU		8.0										8
Water Right	95-7713	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU			X	X								0
Water Right	95-7716	N	CALAPP, FLORA; CALAPP, QUENTIN L	GROUND WATER	POD							X					0
Water Right	95-7716	N	CALAPP, FLORA; CALAPP, QUENTIN L	GROUND WATER	POU							X					0
Water Right	95-7827	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU			X	X								0

Water Right	95-8177	N	CALAPP, FLORA; CALAPP, QUENTIN L	GROUND WATER	POD				X		0
Water Right	95-8177	N	CALAPP, FLORA; CALAPP, QUENTIN L	GROUND WATER	POU				2.0		2
Water Right	95-8244	N	C H & S WATER SYSTEM	GROUND WATER	POD					X	0
Water Right	95-8244	N	C H & S WATER SYSTEM	GROUND WATER	POU			X		X	0
Adjudication Recommendation	95-8244		C H & S WATER SYSTEM	GROUND WATER	POD					X	0
Adjudication Recommendation	95-8244		C H & S WATER SYSTEM	GROUND WATER	POU			X		X	0
Water Right	95-8522	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU		X	X			0
Water Right	95-8615	N	BORLEY, WALTER G	GROUND WATER	POD		X				0
Water Right	95-8615	N	BORLEY, WALTER G	GROUND WATER	POU		X				0
Water Right	95-8639	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU		X	X			0
Water Right	95-8686	N	CHILDERS, BILL E	GROUND WATER	POD					X	0
Water Right	95-8686	N	CHILDERS, BILL E	GROUND WATER	POU					X	0
Water Permit	95-9129	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU		X	X			0
Water Right	95-9199	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU		X	X			0
Water Right	95-9217	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU		X	X			0
Water Permit	95-9244	N	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU		X	X			0
Water Right	95-9244	Y	NORTH KOOTENAI WATER DISTRICT	GROUND WATER	POU		X	X			0