

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

A. GENERAL INFORMATIONPermit No: 61-12304

Exam Date: 8/2/2017

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: Semone & Rob Irrevocable Living Trust
 Owner of Record Correct? X Y N
 Address of Record Correct? Y N
 If No: Address

Tax Parcel data shows Semone & Rob Irrevocable as the owners of the property.

3. Beneficial Use Fees have been paid: X Y N Receipt No: C103850

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
37-4112	Malad River	Irrigation	Decree
37-21595	Malad River	Irrigation	Decree
61-12302	Cold Springs Creek	Irrigation	License

Comments: Water right 61-12302 supplies the irrigation water for this trailer park, and it appears as though King Hill Irrigation District water rights 37-4112 and 37-21595 also overlaps the place of use. I was not able to determine from the records whether or not King Hill Irrigation District water was used on the property. The records do show they own 1 share of King Hill Irrigation District water. Water right 61-10583 is in the same 40 acre tract, but is for the property between the canal and the freeway north of this permit. Neither of these water rights should affect this permit, since they are both for irrigation use, and from surface water sources.

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

Water Right No.	Source	Purpose of Use	Basis

Comments: Water right 61-10583 is the only other point of diversion in this 40 acre tract, and is for the property north of the property described in this permit.

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

Source	Govt. Lot	1/4	1/4	1/4	Sec.	Twp.	Rge.		County
Well Diversion			SW	NE	31	5S	9E	B.M.	Elmore
								B.M.	
								B.M.	

Method of Determination: Well Driller's Report, GIS, and Tax Parcel Data.Change in POD? X N Amendment Required? X N **2. PLACE OF USE:** Use: Irrigation

TWP	RGE	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
5S	9E	31			D														
		Lot #																	
Total Acres =																			

Method of Determination: GIS and Tax Lot DataChange 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 Pump	Aermotor	Unknown	Unknown	Unknown	Unknown

*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 CALCULATIONSYES Additional Computation Sheets

Attached

Measured Method:

The permit holder stated in the application for permit that the pump he used was a 16 gpm Aermotor well pump. According to the information discovered on the internet, there are numerous varieties of 16 gpm pumps. I estimated the Total Dynamic Head (TDH) for this pump at approximately 195 feet based on the well driller's report and average pressures. At 195 feet of TDH the pump could be ¾ Hp, 1 Hp, and 1½ Hp pump if they stayed within normal efficiencies. The flow rates of these three pumps can range from 10 gpm (0.02 cfs) to 20 gpm (0.04 cfs), so the permitted flow rate of 0.04 cfs is possible with a 1½ Hp Aermotor 16 gpm pump. Processing Administrative Memorandum # 22 allows a diversion rate of up to 0.15 cfs for 13 homes.

Pump Curve = 0.04 cfs**Administrative Memorandum #22 = 0.15 cfs.****Permit allowed = 0.04 cfs**

I am recommending a diversion rate of 0.04 cfs, since that appears to be approximately what the pump in the well can produce and what the maximum amount that was allowed by the permit.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{\hspace{2cm}}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \underline{\hspace{2cm}}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \underline{\hspace{2cm}}$$

2. Volume Calculations for Other Uses:

This permit is for in-house use only and does not include yards or gardens. Processing Administrative Memorandum limits in-house use to 0.6 af per home, and the Field examiner's Handbook allows up to 150 gpm per day for luxury camps per camper. This trailer park has up to 13 hookups. Some of the hookups are year round and some are seasonal. I have calculated the annual volumes as follows:

Permanent Hookups = 7 trailers X 0.6 af = 4.2 af

Seasonal Hookups = (6 trailers X 150 gal/day X 365 days) / 325850 = 1.0 af

Total Allowable Volume = 4.2 af Permanent + 1.0 af Seasonal = 5.2 af.

A recommended flow rate of 5.2 af should be more than adequate for this trailer park, because I allowed for a year round use. Historic aerial photos of the trailer park do not show the park full every year, so I feel an annual volume of 5.2 af is more than adequate for this park.

G. PURPOSE OF USE

Irrigation Y N # Stock Domestic # of Homes 13

Other: < >

Change in Purpose of Use? Y N

Method of Determination: Tax parcel data, Application for Permit, and GIS.

If Yes: From Use To Use Amount CFS AFA

H. NARRATIVE/REMARKS/COMMENTS

The application for permit for this right states that the domestic use consists of a trailer park for 13 sites (hookups), with 7 of those hookups as permanent sites, and 6 of those sites as seasonal. Review of all the aerial photos available to the Department confirms that there are 7 trailers that appear to be there on a regular basis, and up to 11 to 12 trailers periodically over the years. It is difficult to tell exact use from aerial photos, but I could easily confirm a minimum of 12 trailers at the location in 2015 Google imagery with ample room for more trailers.

The application for permit states the pump is an Aermotor 16 gpm pump. When I looked up the pumps to get an estimated flow rate, I found a variety of sizes of 16 gpm pumps with various horsepower. I calculated an estimated total dynamic head and stayed inside the most economical range, and found that only 1 pump could provide the amount of water requested in the permit. However, this pump could easily supply the 0.04 cfs requested in the permit.

I used Department standards to calculate the annual volume. I could not find any official study done on the difference between the daily water needs when comparing a permanent home to seasonal or RV camping, but the information suggests that the much smaller fixtures and water heaters limits the water use for seasonal or RV type system to approximately 17% of a full time home. Therefore, the volumes I calculated seem to mirror those estimates.

Based on the volume calculations, the 7 permanent trailers have the ability to divert and average of 3,750 gallons of water per day to meet the annual volume allowance $[(4.2 \text{ af} \times 325850) / 365 \text{ days} = 3,749.5 \text{ gal}]$. According to the order forming Water District 161, the only water rights excluded from Water District 161 are domestic water rights defined by Idaho Code §§ 42-111 and 42-1401A. Idaho Code § 42-111 limits water diverted for trailer parks to 2,500 gallons per day. This permit would divert well over 2500 gpm per day, so it will need conditions showing it is included in Water District 161.

Conditions 1 (933) and 3 (WB5) should be carried forward to licensing. Condition 2 (046) should be removed at licensing. This permit does not meet the criteria described in Idaho Code § 42-111, so it should not be considered a de minimis use. This use is for in-house use only, so it should be considered a non-consumptive water right. Condition 935 should have been included at permitting, so it will need to be added at licensing. Condition R05 should be added to the license, since this diversion is within the borders of Water District 161.

Have conditions of permit approval been met? ☒ 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	5.2 AF
<u>Totals:</u>		0.04 CFS	5.2 AF

Please Note: This is a surface water right, so no volume will be included on the water right license.

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 – WATER RIGHT ANALYST 3

Field Examiner's Name  Date 8-2-17

Reviewer _____ Date _____

Permit 61-12304 Field Exam
Map

The yellow border is the place of
use and the yellow dot is the
point of diversion.

SENW

NENW

NWNE

NEN

SWNE

SENE

31

05S09E

NESW

NWSE 2

NESE

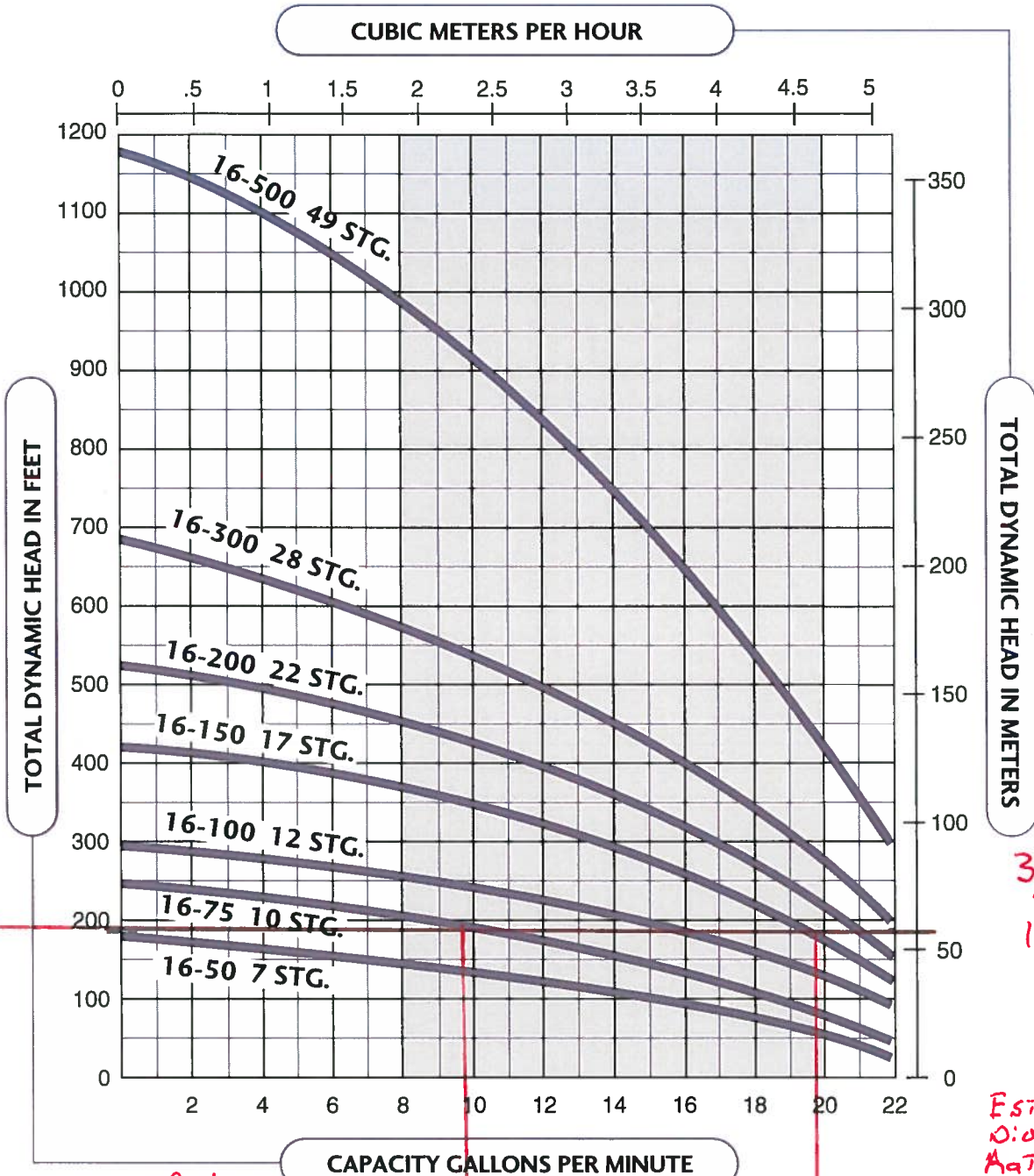
4" SUBMERSIBLE PUMPS – 5, 8, 12, 16, 20, 22 AND 25 GPM

AERMOTOR®

A+ SUPER SUB series – stainless steel

16 GPM pump performance

4" submersible pumps



196 FT

3/4 hp to
1.5 hp
pump.

Estimated
Discharge
Rate =

10 gpm - 20 gpm
Depending on
actual pump
size.

LIFT =

117' well depth

- 41' static

2 (76' diff)

+ 38'

+ 41' static

79' Est. PWT

PSI =

50 PSI x 2.31 = 116'

79' PWT + 116' AG

= 195' TDH

10 gpm

0.2 CFS

20 gpm

0.04 CFS

Recommend - 0.04 CFS.

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

[illegible]

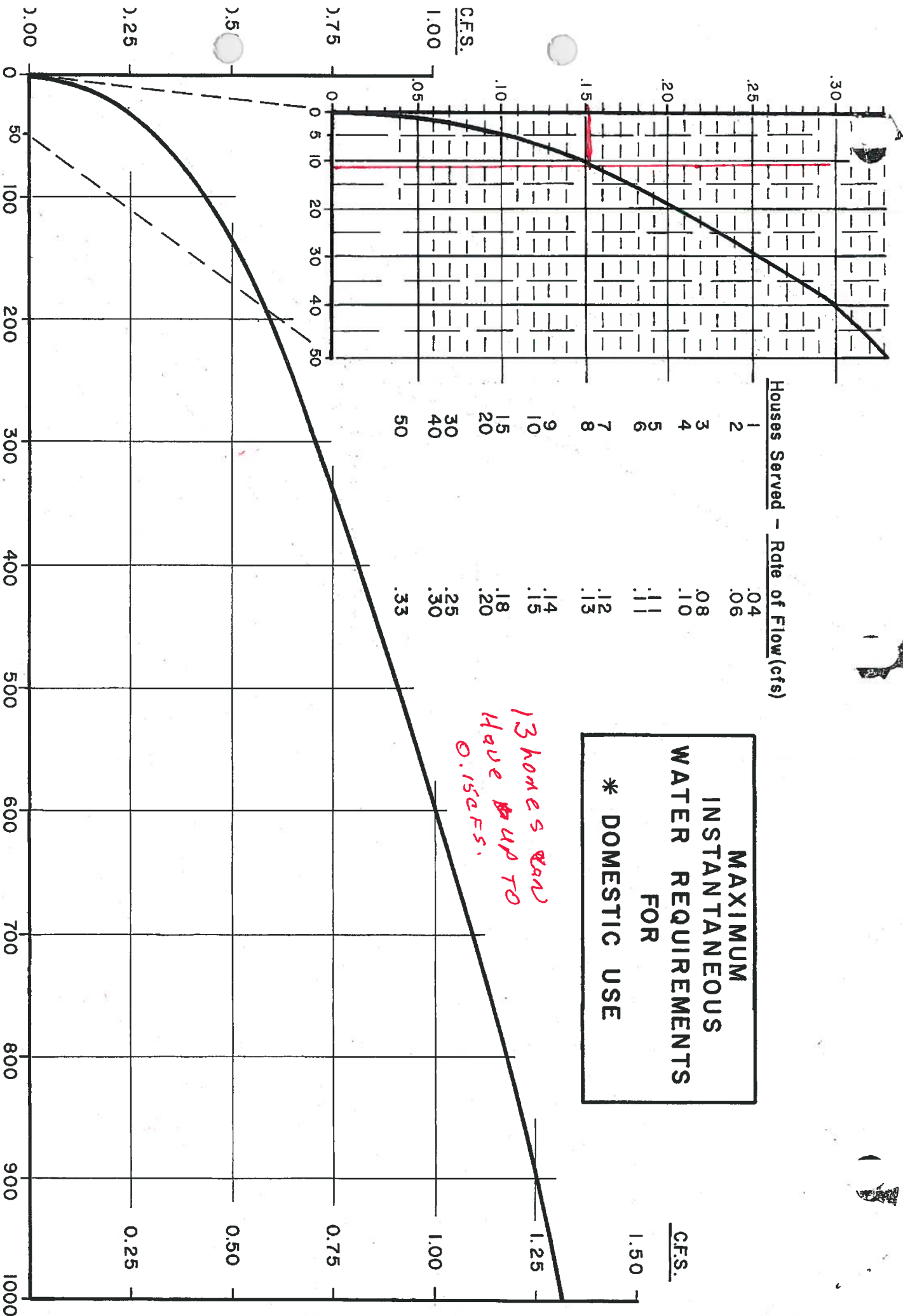


FIG. 1.