

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 37-20746

Exam Date: 4/18/2012

1. Current Owner: RICHARD STARK
PO BOX 958
BELLEVUE ID 83313
(208)578-2169
2. Accompanied by: E.J. Harpham Email: ejharpham@sitestar.net or ej@idahomud.com
Phone No: (208)578-2169
Address: 109 Lewalt Rd, (PO Box 958), Bellevue, ID 83313
Relationship to Permit Holder: Richard Stark's wife, and current owner.

3. SOURCE TRIBUTARY
GROUND WATER
UNNAMED STREAM
SINKS

B. OVERLAP REVIEW

1. Other water rights with the same place of use: None. (Other water rights found in this same QQ were for irrigation, different sources, and different owners).
2. Other water rights with the same point of diversion: None (They did not file on their Domestic internal/external use from this same well).

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

UNNAMED STREAM	SW1/4NE1/4	Sec. 28,	Twp 01N,	Rge 18E, B.M.	BLAINE County
GROUND WATER	SW1/4NE1/4	Sec. 28,	Twp 01N,	Rge 18E, B.M.	BLAINE County

Method of Determination: Garmin Map 76S, Bing Maps, and ArcMap 2006 – 2011.

2.

PLACE OF USE: DIVERSION TO STORAGE

Twp	Rge	Sec	NE				NW				SW				SE				
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	Totals
01N	18E	28			X														

PLACE OF USE: FIRE PROTECTION STORAGE

Twp	Rge	Sec	NE				NW				SW				SE				
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	Totals
01N	18E	28			X														

Method of Determination: Garmin Map 76S, Bing Maps, and ArcMap 2006 – 2011.

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.

<u>Well or Diversion</u>		<u>Motor Make</u>		<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Pump Serial No. or Discharge Size</u>
<u>ID No.*</u>							
A0016956		Goulds		2 Hp	18E20412 submersible		1 1/4 inch

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1. Measurements:

Using IDWR Standard for Domestic use psi (20 psi), since the source is the same well.

Theoretical:

$$(8.8 \times 2 \text{ Hp} \times 0.7 \text{ eff}) / [219 \text{ ft. lift} + (20 \text{ psi} \times 2.31)] = 0.04 \text{ cfs}$$

Well Driller's Report:

$$20 \text{ gpm} \times 0.00223 = 0.04 \text{ cfs}$$

Pipe Conversion Calculation:

1 1/4 inch discharge converts to buried 2 inch PVC schedule 40 pipe (no open discharge found to measure directly off of the well; larger size pipe possibly used for additional storage). $Q = 5 \times 3.1416 \times [(diameter/12)/2]^2 \times \text{velocity}$
 2 inch = 0.11 cfs maximum capacity

Physical Measurement (collected from open ditch that recirculating pump discharges into, from groundwater source; at the time of the field examination, there was no flow from the unnamed stream).

Orange Peel Method:

$$Q = VA$$

$$V = 3 \text{ ft} / 3 \text{ sec} = 1 \text{ ft/sec}$$

$$A = HW = 0.08 \text{ ft} \times 0.66 \text{ ft} = 0.05 \text{ ft-squared}$$

$$Q = 1 \text{ ft/sec} \times 0.05 \text{ ft-squared} = 0.05 \text{ cfs}$$

RECOMMEND:

Diversion to Storage = 0.02 cfs (as permitted)

E. VOLUME CALCULATIONS

1. Volume Calculations for Fire Protection Storage:

$0.02 \text{ cfs} \times 365 \text{ days} \times 1.9835 = 14.479 = 14.5 \text{ af}$ maximum capacity, but the groundwater and unnamed stream sources do not flow 365 days per year, since once the pond is full, there is a recirculating pump that takes the water from the pond and pumps it to the top of the ditch, with gravity flow back down the ditch and over the waterfall area into the pond. Water is added occasionally to the pond to compensate for evaporation to maintain the level of the pond.

Fire Protection Storage pond:

$$42 \text{ ft} \times 32 \text{ ft} / 43560 \times 6 \text{ ft deep} = 0.18 \text{ af}$$

RECOMMEND:

Fire Protection Storage = 0.1 af (as permitted)

F. NARRATIVE/REMARKS/COMMENTS

The system consists of an existing 8 inch casing, extended 18 inches above ground level. A 2 Hp Goulds submersible pump, serial #18E20412, 310 ft deep, 209 ft static, 1 ¼ inch discharge to buried 2 inch PVC schedule 40 pipe that runs to the house, and also to the north end of the ditch that gravity flows down to 42 ft X 32 ft X 6 ft deep pond. There is an aerator in the pond to keep the water from becoming stagnant, and a recirculating pump that takes the water back to the top of the ditch. Southwest from the pond is located an 8 inch fire protection hydrant hook-up to attach collapsible hose in the event of a fire. The forest service has been known to scoop up water from their helicopters, in the event of a local fire. At the time of the field examination, the unnamed stream was not flowing, but there is a lined area that is dammed, above the top of the ditch, for collecting flow from the unnamed stream. The overflow/flow through system from the collection area then goes into the same ditch currently supplied with groundwater, which gravity flows down to the fire protection storage pond. The diversion point for the unnamed stream was GPSd at the dam/overflow site. The unnamed stream is supplied by springs, rain run-off, and snow-melt.

Directions to POU: Hwy 75 towards Bellevue, mile marker 109, left Glendale Rd, past Webb Nursery about 5 ½ miles out (stay on the main road), right on Lewalt Rd (up the road to the top/end of the road).

Have conditions of permit approval been met? ☒ Yes ☐ No

G. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
DIVERSION TO STORAGE	01/01 to 12/31	0.020 CFS	
FIRE PROTECTION STORAGE	01/01 to 12/31		0.10 AF
<u>Totals:</u>		0.020 CFS	0.10 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

H. AUTHENTICATION

Field Examiner's Name

Sandy Hemmenway

Date

6/21/2012

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]

RESW

SWSE

21

SESE

NENW

NWNE

NENE

POD unnamed stream
4" buried PVC schedule 40
POD groundwater

collection pond water for unnamed stream

01N18E

28

SENW

ditch (dive down street) has recirculated from pond
pond fire hydrant (aerator in pond)

SWNE

SENE

POVERTY FLAT

NESW

NWSE

NESE

UNNAMED STREET



POD:
located
NE of
pond
310' deep
209' static
8 5/8"
casing
casing
extends
18" above
ground
level,
2 Hp
Goulds
18E20411
submersi
pump,
1 1/4"
dischar
to basin
2" PVC
schedule
40 pipe



pumps
to top of
ditch, th
gravity
flow to
pond

POU:
Fire
Protection
Storage

aerob

average
depth
6'
(15' in
the center)



8" fire protection hydrant SW of pond, to hook up fire hoses. Forest Service helicopter have scooped water from the pond



POD
Collection area for unnamed stream, with overflow or flow-through pipe discharges to ditch that gravity flows down to pond



recirculated
flow
to
ditch
going to
pond
(ground
water
source)

collecti
area
for
unnamed
stream

04/18/2012



Looking
North to

POD
ground
water
hydrant
fire
protection
storage

POD
unnamed
stream
source

04/18/2012