

MEMO

To: File 85-7665 Berquist
From: Sandy Hemenway
Date: 12/9/2010
Ref: Licensing Review Memo

A Permit to Appropriate Water was approved for Betty Berquist on 3/10 2000 for 0.10 cfs, for Domestic, Stockwater, and Irrigation of 5 acres. Proof of Beneficial Use was set to be **due on 3/1/2005**. An ownership change was received on 4/3/2001, changing ownership to Levi Berquist. An Assignment of Permit was received on 1/29/2004, and then on **2/11/2005, the Proof of Beneficial Use was received** (receipt C076725, \$50)

A field exam was conducted on 8/22/2006, and completed on 11/26/2006. The field exam shows a 301 ft deep well, 6 inch casing, static 112 ft, yield of 30 gpm, a 3Hp Franklin submersible pump with a 1.5 inch discharge, 100 ft buried 1.5 inch PVC to the barn, then 75 ft of 1 inch PVC going west to the house. From the barn, there is buried PVC that moves north, then splits into 3 branches with each branch having 3 rainbirds, and 5/8 inch garden hoses with portable sprinklers that they move around the house.

A 5 gallon bucket measurement was: 5 gallons in 10 seconds. $(5 \times 60)/10 = 30 \text{ gpm} \times 0.00223 = 0.0669 = \mathbf{0.07 \text{ cfs maximum capacity of the system}}$ (matching information shown on the well drillers report). The volume for irrigation is based on 4.0 afa. Acreage irrigated is from GIS shapefile 4.3 acres, and the POD shape was from a GPS point in Spatial Data.

POU and POD Overlaps

NONE

Volume Calculation

(1) Irrigation:

$\text{Vir} = 4.3 \text{ acres} \times 4.0 = 17.2 \text{ af.}$

$\text{Vdr} = 0.06 \text{ cfs} \times 288 \text{ days} \times 1.9835 = 34.2.$

$\text{V} = 17.2 \text{ af}$

(2) Domestic/1 = 0.02 cfs, 0.6 af (for internal use only). The lawn and garden are covered on the irrigation component).

(3) Stockwater:

$(5 \text{ head} \times 12 \text{ gpd/day} \times 365 \text{ days})/325,850 = 0.67 \text{ af.}$

$0.02 \times 365 \times 1.9835 = 14.5 \text{ af. } \text{V} = 0.67 = 0.7 \text{ af.}$

Total Volume = 18.5 af

CFS

Stockwater 0 - 25 head horses = 0.02 cfs

Domestic internal = 0.02 cfs

Irrigation = 0.03 cfs $\times$ 4.3 acres = 0.13 cfs, but capacity of system is only 0.07 cfs.

Total Recommended Diversion Rate: 0.07 cfs.

From the information above, the following is recommended:

Stockwater	0.02 cfs	0.7 af
Domestic	0.02 cfs	0.6 af (internal use only)
Irrigation	0.07 cfs	17.2 af
TOTAL	0.07 cfs	18.5 af

