

MEMO

TO: File 45-7683 Adams

FROM: Sandy Hemenway

DATE: 3/28/2011

REF: Review for Licensing

The **Permit to Appropriate** was approved on 6/24/1991, for irrigation of 14.5 acres, with a rate of diversion of 0.29 cfs. The **Proof of Beneficial Use** was due on or by 7/1/1993, which was received on 5/10/1993.

The **6/26/2009 Final Order Required Installation of a Measuring Device for diversions of ground water rights within WD140, and the Departments Administrative Basin No. 45**, for most irrigation and Nonirrigation ground water diversions. The devices were required to be installed no later than the start of the 2011 irrigation season. Considerations for using alternative measurement methods could only be used upon approval by the watermaster. A 4/29/2010 updated list, showed Adams as being required to install a measuring device. On 3/24/2011, Brian Higgs (WD140 water master) was contacted at (208) 604-1280. He stated that he would email his comments/concerns, but that Corbin Knowles/IDWR was in charge of the Measuring Device Plans submitted and making the final decision as to whether or not an alternative method could be used by Mr. Adams. Corbin Knowles/IDWR confirmed that on 3/29/2010, Eldon Adams had submitted a Measurement Plan (which was due on 5/1/2010). Reviewing the plan indicated that Eldon would still be required to install a measuring device, since the house and stockwater were also included on the well (multiple uses, therefore power records would not be allowed). Corbin stated that the option for a variance would be provided in Idaho Code 42-701. That Mr. Adams could show that installing a measuring device would be burdensome financially, and that he was only pumping a fraction of the summer (i.e. submit a statement of how often the well is used for irrigation). A possible variance would be since the system is so small, that instead of installing a Magnetic Flow Meter, that a multi-jet meter (Master Meter) or C-Metrics Mag Meter (WMP Series makes a 1 - 2 inch meter) would be approved.

Proof of Beneficial Use was submitted without fulfilling condition 01C, that required a flow measurement "port" to be installed. On 3/24/2011, Shelley Keen stated that condition 01C was inactive, and **conditions that reference a "port"** should be removed and not put on the license. That the condition had been met, since during the field exam, the Department/James Stanton was able to determine the rate of diversion. Also, unless 01M was on the permit, then 01M should not be put on the license. That the license could be issued, and the measuring devices referenced in the 6/26/2009 Final Order would be enforced by the Water Management Division. Corbin Knowles agreed with this decision.

The **Period of Use** on the approved Permit period was for 3/15 thru 11/15. **IDWRs standard is for 4/1 thru 10/31**, which was used for licensing purposes. No amendment was required for this change.

A **field exam was conducted on 8/30/1995**. The well drillers report shows Tom McKenzie as the driller, on 3/27/1990. The drilling permit was to deepen the well (3/28/1990 \$10 fee paid S011703 for single family or stockwater use). The well has an 8 5/8-inch casing, a submersible Dayton 1 1/2 Hp teal pump model 3P627, running at 12 psi (the gauge at the well head), 150 ft deep, 52 ft static, and 25 gpm. From the well, a line goes to a pressure tank, then there are 2-lines, each 2-inch plastic that split off, with one going to the mobile home, with 1/2 acre lawn with 2-sprinkler heads, and a small pasture with 1 sprinkler head (5/32 inch and 9/64 inch). The other 2-inch line is flexible and goes to the cropland acreage with 8 rainbirds. Sometimes the well is discharged directly from the flexible pipeline into the surface water gravity flow system ditches, or the flexible pipe is moved around to flood irrigate, instead of using the sprinklers.

During the field exam, the POU was drawn on a topo map, whereas during the licensing review, the POU shapefile was constructed on ArcMap, which **calculated irrigation to be 12.0 acres**, which is within the limits of the Permit, approved for 14.5 acres irrigation.

POU and POD Overlaps

POU Overlap:

45-10326 stockwater (groundwater source), 45-317A irrigation (Marsh Creek source/main source for irrigation)

POD Overlap:

45-10326 stockwater (groundwater source)

An address change was conducted on 10/2/2007 (45-317A). **Ownership** was confirmed with the 2/3/2010 updated Tax Lot Information. It shows Eldon Adams as the current owner of 15.0-acres at the POU, with the same address (1060 E 900 S, Albion, ID 83311).

On 3/28/1990, a \$10 fee was paid, receipt S011703, for a single family or stockwater well. On 5/11/1993, and 6/11/1993 letters were sent to Mr. Adams requesting the upgrade fee from a domestic well permit to a nondomestic permit. On 6/21/1993, a **\$90 well upgrade fee was paid**, receipt S015891.

In a 4/26/1991 memo from Tim Luke, it was confirmed with a 1980 infrared aerial that this groundwater development appears to be supplemental therefore acreage will not be counted as trust acreage, but all other trust conditions apply. This **groundwater source is supplemental to surface water**, which is needed by mid-summer or sooner. The main source is surface water from Marsh Creek, with a gravity flow system for the same property.

RECOMMENDATIONS:

CFS

- (1) **A physical measurement** was taken at the time of the 8/30/1995 field exam:
5-gallon bucket measurement:
 $9.8 \text{ seconds}/5 \text{ gallons} = (5 \text{ gal} \times 60 \text{ sec})/9.8 \text{ sec} = 30.6 \text{ gpm} = 0.068 = 0.07 \text{ cfs}$
 $10.1 \text{ seconds}/5 \text{ gallons} = 0.066 = 0.07 \text{ cfs}$
Average = 0.07 cfs

(2) **Theoretical:**

$$[(8.8) \times (1.5 \text{ Hp}) \times (0.7)]/62 + (2.31 \times 12 \text{ psi}) = 9.24/89.72 = 0.10 \text{ cfs}$$

(3) **Pump catalog information** taken at the time of the field exam indicate:

w/20psi, 40 ft lift, the pump is rated at 32 gpm $\times 0.00223 = 0.07 \text{ cfs}$

w/50psi, 40 ft lift, the pump is rated at 27 gpm $\times 0.00223 = 0.06 \text{ cfs}$

(4) **Well Drillers Report:**

25 gpm = 0.06 cfs

(5) $0.02 \text{ cfs} \times 12.0 \text{ acres} = 0.22 \text{ cfs}$

System capacity found during the field exam is 0.07 cfs, for this supplemental source.

RECOMMEND: 0.07 cfs, as found during the field exam

Volume

$\text{Vir} = 12.0 \text{ acres} \times 4 = 48.0 \text{ af}$

$\text{Vdr} = 0.07 \text{ cfs} \times 214 \text{ days} \times 1.9835 = 29.7 \text{ af}$

$V = 29.7 \text{ af}$ for this supplemental source

RECOMMEND: 29.7 af