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DEPT. OF WATER RESOURCES
SOUTHERN REGION

Narrative - Thompson Permit nos. 47-7578 and 47-7579

Brockway Engineering, PLLC

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Overview

Mr. Russell Thompson inherited the property located at 4592 River Road, Buhl, Idaho 83316, from his father, H.H. Thompson. H.H. Thompson originally filed two water right permits, permit no. 47-7578 for domestic, heating, and recreation and permit no. 47-7579 for irrigation from wastewater. Both permits were filed in November 1979 with a proof of construction date of November 1, 1984. Proof of construction was not filed with IDWR and subsequently the permits lapsed. We, Russell Thompson and Brockway Engineering, have tried to understand why H.H. Thompson did not file the appropriate proof documentation. Russell Thompson has written a letter to IDWR, Appendix A, which may indicate some reasons why his father did not file the appropriate paperwork. Russell's letter contains several possibilities, including combined factions, including multiple addresses on file at IDWR, physical health of H.H. Thompson, and mental health of H.H. Thompson.

Because no extension or proof of beneficial use was filed by H.H. Thompson and according to the Idaho Code §42-218a, these two permits have lapsed. However, as Russell Thompson indicated in his letter, his father thought his water rights were secured with no additional paper work necessary. The intent of this narrative and beneficial use field exam is to establish the water use in 1984, per Idaho Code §42-218a.2.

42-218a.2 In connection with a proof of beneficial use statement submitted more than sixty (60) days after such notice of lapsing, the director shall require all of the following items to be submitted to the department:

- (a) A report prepared by a certified water right examiner as the result of an examination to clearly confirm and establish the extent of the beneficial use of water established in connection with the permit during the time authorized by the permit and any extensions of time previously approved. The report shall be on the form or forms specified by the director and shall provide the information specified in section 42-217, Idaho Code, for confirming beneficial use and such other information as may be required by the director.*
- (b) A statement of reasonable cause for filing a late proof of beneficial use.*
- (c) A reinstatement fee of two hundred fifty dollars (\$250).*

This narrative and accompanying additional information serve to complete the requirements outlined previously. A water right examination was performed on June 8, 2012. All attempts were made to establish water use at the beneficial use deadline on 11/1/1984. As discussed earlier, Russell Thompson wrote a letter outlining the possible reasons why his father did not file the appropriate paperwork with IDWR following the completion of construction; this letter can be found in Appendix A. The reinstatement fee of \$250 for each permit (total of \$500) is included with this application.

Permit No. 47-7578

All evidence available indicate that the structure on the property was developed in 1982, and that development included the beneficial use of the intended water. The Twin Falls County Assessor's office indicates that the shop and living area were constructed and finished in 1982 (Appendix B). To our knowledge, no other water use has been developed since the original structure was completed in 1982. Aerial photo from 1984 confirms the existence of a recreational pond (Figure 1). The water source for in-house, heating, and recreation water use on this property has always been the shared well located in T9S R14E Section 9, which is on a neighbor's property. Russell Thompson has indicated that his father and/or he have paid their fair portion of well upkeep and that this well serves several neighbors in the vicinity. According to the IDWR well records (Appendix C), this well was constructed in 1973 with artesian flow rate of 3000 gpm and a groundwater temperature of 88 degrees F.

Maintenance work was performed on the well head and diversion pipes recently. The well head divides water to several users, including a 4-inch PVC line that supplies water to four neighbors in the area (Figure 5). The 4-inch delivery line is entirely underground and is split to other neighbors. By the time it reaches the Thompson property, the delivery pipe has been reduced to a 2-inch PVC pipe (Figure 6). The system map is shown in Figure 4.

The 2-inch supply line enters the structure at the southwest corner and connects to a 1-inch galvanized steel pipe that delivers water to the house for in-house use and heating. The heating pipes are spaced at 18-inch intervals under the concrete floor through the living portion and the shop area. The entire structure has concrete floors with heating pipes located within the concrete. This serves as additional evidence that the water use occurred prior to the proof deadline of 11/1/1984.

There is no valve at the well head or in the 2-inch PVC delivery pipe to measure the flow to the structure. There is not an adequate location to use an ultrasonic meter without substantial invasive work. It was determined that the best conservative flow measurement would be to measure the flow at an outside faucet using a calibrated 5-gallon bucket. The average time to fill the calibrated 5-gallon bucket was 7.3 seconds, which equates to 0.09 cfs. Again, this flow rate was determined to be a conservative estimate of the in-house, heating, and recreation flow rate.

The original permit requested 0.02 cfs for in-house domestic use, which is provided by the water system. The original permit also requested 0.20 cfs for both heating and recreation. As only 0.09 cfs was measured, the flow rate recommended for heating and recreation is 0.09 cfs. Appendix D contains the print out of the peak flow calculation and monthly volume calculation to heat a 3600 square foot structure with a peak flow calculation determined from the minimum average monthly low temperature of 11° F. The heating cannot heat the living portion to a satisfactory level during extremely cold nights (less than 10° F) and is supplemented with a wood burning stove. The calculated peak flow was determined to be 0.18 cfs. As this is more than the measured 0.09 cfs,

therefore the 0.09 cfs value will govern. The estimated annual volume for heating is 48 afa.

Water not used for in-house consumption is discharged to a pond for recreation use (swimming pond). Mr. Thompson indicated that the pond was built around the time as the house. This was confirmed with an aerial photo from 1984 was obtained from Farm Service Agency, which shows the existence of the pond with a surface area of approximately 0.25 acre. The average depth of the pond during the beneficial use field exam was approximately 3-ft, resulting in a pond volume of 0.75 acft. A flow rate of 0.09 cfs will result in a complete pond turn over every 4.2 days. A typical permit today would include recreational storage, but since this permit does not, the storage volume of the pond is 0.75 acft with an annual diversion volume of 65.1 afa.

Some water is lost in the recreational pond to seepage and evaporation. Effluent from the system can return to Deep Creek and then back to the Snake River.

Permit No. 47-7579

Permit no. 47-7579 requested 0.14 cfs to irrigate 7 acres from wastewater. The wastewater requested was from the spent geothermal water from heating. H.H. Thompson sold or divided portions of his property between 1979 and when he passed away, as his property now is only 4.7 acres. In 2012, some diversions for irrigation use occur prior to the recreational use in the pond. It was difficult to determine the extent of irrigation occurring in 1984. The 1984 aerial photograph shows the majority of the irrigable land on the property disturbed, which could indicate that the ground was prepared for planting of pasture, but only about 1.0 acres of irrigation was delineated on the property. Again, the entire property was disturbed and the irrigation system likely was installed. Subsequent aerial photos [Figure 2 (1987) and Figure 3 (1989)] show more irrigated area, especially in the disturbed area, with a maximum irrigation of 2.0 acres in 1989. The irrigation source is the continuation of the 2-inch pvc supply pipe that is wastewater from in-house heating; this supply pipe is the same delivery pipe that supplies the recreation pond water.

In 2012, it was noted that the sprinkler sets were activated by older hand valves to irrigate the 2.0 acres (Figures 7 through 10). Recreation water is discharged to the swimming pond from the same supply line as the irrigation water. Excess water can be returned to Deep Creek. My interpretation of the data would conclude that the pasture preparation occurred prior to the 1984 proof deadline, including the installation of the irrigation system, which is supported with some irrigation occurring on the property. If same ratio of the original permit (flow rate of 0.14 cfs for 7 acres) is applied to the current irrigation then the permit is valid for 0.04 cfs. This flow rate is smaller (only wastewater) from the measured flow rate of 0.09 cfs for permit no. 47-7578.