

[illegible]

**PLACE OF USE:** COMMERCIAL

| Twp | Rge | Sec | NE |    |    |    | NW |    |    |    | SW |    |    |    | SE |    |    |    | Totals |
|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|
|     |     |     | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE |        |
| 10S | 15E | 12  |    |    |    |    |    |    |    |    |    |    |    |    |    |    | X  |    |        |

Method of Determination: Aerial imagery and site visit

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><br><u>ID No.*</u> | <u>Motor Make</u> | <u>Hp</u> | <u>Motor Serial No.</u> | <u>Pump Make</u> | <u>Pump Serial No. or Discharge</u><br><u>Size</u> |
|--------------------------------------------|-------------------|-----------|-------------------------|------------------|----------------------------------------------------|
| 1996 well                                  | 7.5               |           |                         |                  |                                                    |
| 1975 well                                  | 1.0               |           |                         |                  |                                                    |

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

**D. FLOW MEASUREMENTS**

1.

| <u>Measurement</u><br><u>Equipment</u> | <u>Type</u> | <u>Make</u> | <u>Model No.</u> | <u>Serial No.</u> | <u>Size</u> | <u>Calib. Date</u> |
|----------------------------------------|-------------|-------------|------------------|-------------------|-------------|--------------------|
|----------------------------------------|-------------|-------------|------------------|-------------------|-------------|--------------------|

2. Measurements:

No measurements were made because neither original well was operable.

**E. FLOW CALCULATIONS**☒ Additional Computation Sheets Attached

Measured Method:

- 1996 well, 7.5 HP  $8.8 \times 7.5 \times 0.7 / (2.31 \times 50) + 71 = 0.25$  cfs
- 1975 well, 1.0 HP  $8.8 \times 1.0 \times 0.7 / (2.31 \times 50) + 18 = 0.05$  cfs

**TOTAL = 0.30 cfs**

**F. VOLUME CALCULATIONS**

## 1. Volume Calculations for Irrigation: NA

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

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

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$$

2. Volume Calculations for Other Uses: See attached Dairy Spreadsheet. Volume for stockwater calculated at 22.0 AFA, while volume for commercial is 8.7 AFA. The volume for the homes will be 0.6 AF per home for in-house use only.

The total combined volume will be 32.5 AFA.

|              |                 |
|--------------|-----------------|
| Stockwater   | 22.0 AFA        |
| Commercial   | 8.7 AFA         |
| Domestic     | 1.8 AFA         |
| <b>TOTAL</b> | <b>32.5 AFA</b> |

**G. NARRATIVE/REMARKS/COMMENTS**

The field exam for permit 47-8395 was accomplished on May 9, 2014 with Robb Steinke, of Rabo AgriFinance, present. Rabo is in possession of the dairy as a result of the owners failure to make loan payments on the property, and thus, the dairy contains no livestock at this time.

The water system for the dairy consisted of 2 wells, one with a 7.5 HP pump and the other a 1 HP pump. Water is stored in a 5000 gallon above ground storage tank to meet periods of high demand. Commercial use is in a small milking barn where cows are washed and milked. The water is also piped out in the corrals to 10 water troughs. Waste water is collected in a series of lagoons in the northeast corner of the property. At the present time, the well with the 7.5 HP pump (drilled in 1996) has been abandoned, and a new well was drilled in 2004. The other original well (1975) is apparently nonfunctioning.

In addition to the stockwater and commercial uses on the permit, domestic use for three homes was sought. The three homes are still present on the property. However, the irrigation use that was applied for on the permit appears, by review of aerial imagery, to never have been developed. Currently, weeds and cheatgrass surround the homes, with no signs of irrigation.

One condition of the permit was that the Twin Falls Canal Company water shares appurtenant to the property were to be retained with the property. According to Mr. Steinke, this has been done. That condition on the permit appears to be in error; it states that the legal description of the property is T10S, R15E, S12, SESW. The dairy actually is in the SWSE. During the field exam, a flow meter was confirmed to be present, satisfying the measuring device requirement. Compliance with the water use and water level monitoring conditions is unclear, as I could not find any evidence of them in any IDWR electronic or paper files.

Another issue is that the POU appears to be outside the permitted QQ, however, the taxlot data, and a known shift in the imagery would indicate that the POU is located as permitted.

As a result of running known values and estimates through the IDWR Dairy Spreadsheet, the annual diversion volume for stockwater use is 22.0 AFA, while the commercial volume totals 8.7 AFA for a combined value of 30.7 AFA. Each home will be licensed for 0.6 AF per home for a combined 1.8 AF. The total annual diversion volume for the license would then be 32.5 AFA. Because no actual field measurement could be made, theoretical flow rates were calculated and the calculations yielded 0.25 cfs for the 1996 well and 0.05 cfs for the 1975 well, giving a combined rate of 0.30 cfs. Pump HP values were acquired from the companies that drilled the wells. A diversion rate of 0.08 cfs for the three homes should be included in that rate for a total diversion rate of 0.30 cfs for the license.

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

**H. 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       | 0.080 CFS             | 1.80 AF              |
| STOCKWATER            | 01/01 to 12/31       | 0.300 CFS             | 22.00 AF             |
| COMMERCIAL            | 01/01 to 12/31       | 0.300 CFS             | 8.70 AF              |
| <u>Totals:</u>        |                      | 0.300 CFS             | 32.50 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

**I. AUTHENTICATION**

Field Examiner's Name

Date 05/09/2014

Reviewer

Date

6/17/14

# Idaho Department of Water Resources

## System Diagram



### Legend

- Township/Range
- Sections
- QQ
- Water troughs

47-8395 Azevedo Permit

0 0.03 0.06 0.12 Miles

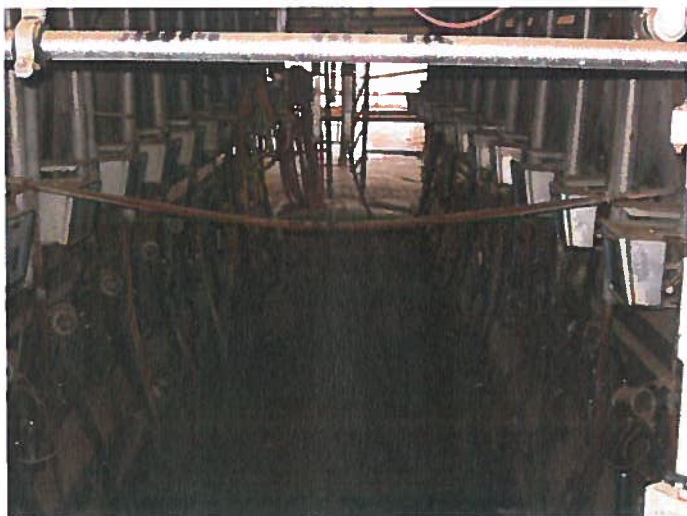




**Milking barn at Azevedo Dairy**



**Water trough and corrals**



**Milking parlor**



**Main house at dairy**



**Mobile home at dairy**



**Mobile home at dairy**



1996 well at dairy- abandoned in 2004



Water storage tank at milking barn



1975 well



**Water trough**



**Water trough and corrals**



**Water trough and corrals**



Plumbing inside dairy barn



Flowmeter inside dairy barn

FILE NUMBER \_\_\_\_\_ Azevedo 47-8395  
REVIEWER \_\_\_\_\_ JB

DAIRIES: WATER USE WORKSHEET

REQUIRED DAIRY DATA

NUMBER OF MILKING CATTLE \_\_\_\_\_ 620  
NUMBER OF DRY CATTLE \_\_\_\_\_ 130  
NUMBER OF REPLACEMENT CATTLE: 0-2 MONTHS \_\_\_\_\_  
3-4 MONTHS \_\_\_\_\_  
5-8 MONTHS \_\_\_\_\_  
9-12 MONTHS \_\_\_\_\_  
13-15 MONTHS \_\_\_\_\_  
16-24 MONTHS \_\_\_\_\_  
ENTER 1 FOR MANUAL COW WASHING, 2 FOR AUTOMATIC, OR 3 IF  
SPRINKLERS ARE USED TO FLUSH HOLDING PEN AND WASH COWS \_\_\_\_\_ 1  
IF SPRINKLERS ARE USED: NUMBER OF SPRINKLERS IN HOLDING PEN \_\_\_\_\_  
NOZZLE DISCHARGE (USE 5.0 GPM IF UNKNOWN) \_\_\_\_\_  
OPERATION TIME OF SPRINKLERS (MIN/DAY) \_\_\_\_\_  
NUMBER OF MILKINGS PER DAY \_\_\_\_\_ 2  
AVG. LBS. OF MILK PRODUCED PER DAY PER ANIMAL (IDAHO AVG IS 70 LBS.) \_\_\_\_\_ 70  
HOURS PER DAY PUMP OPERATES FOR STOCKWATER USE \_\_\_\_\_ 20.0  
HOURS PER DAY PUMP OPERATES FOR COMMERCIAL USE \_\_\_\_\_ 6.0  
IS RECYCLED WATER USED TO FLUSH MILKHOUSE AND PARLOR FLOORS? \_\_\_\_\_ N  
IS RECYCLED WATER USED TO WASH COWS? \_\_\_\_\_ N  
IS A PLATE COOLER USED? \_\_\_\_\_ Y  
IS RECYCLED WATER USED FOR PLATE COOLER? (IF NO PLATE COOLER,  
LEAVE BLANK) \_\_\_\_\_ N  
IF CORRAL MISTERS ARE USED: NUMBER OF MISTERS IN HOLDING PEN \_\_\_\_\_ N  
NOZZLE DISCHARGE (GPM) \_\_\_\_\_  
OPERATION TIME OF MISTERS (MIN/DAY) \_\_\_\_\_  
DAYS PER YEAR MISTERS ARE USED \_\_\_\_\_

CALCULATIONS

DIVERSION RATE (CFS):

STOCKWATER  
MILKING CATTLE (BASED ON MILK PRODUCTION) \_\_\_\_\_ 0.04  
DRY CATTLE @17.0 GPD/HD \_\_\_\_\_ 0.00  
REPLACEMENT CATTLE \_\_\_\_\_ 0.00  
TOTAL \_\_\_\_\_ 0.04  
COMMERCIAL  
TOTAL \_\_\_\_\_ 0.05  
TOTAL DIVERSION RATE \_\_\_\_\_ 0.09

DIVERSION VOLUME (AFA):

STOCKWATER  
MILKING CATTLE \_\_\_\_\_ 20.0  
DRY CATTLE \_\_\_\_\_ 2.0  
REPLACEMENT CATTLE \_\_\_\_\_ 0.0  
TOTAL \_\_\_\_\_ 22.0  
COMMERCIAL  
WASHING OF BULK TANK AND RELATED EQUIPMENT \_\_\_\_\_ 0.4  
BACKFLUSH \_\_\_\_\_ 0.7  
PARLOR/MILKHOUSE/HOLDING PEN CLEANUP \_\_\_\_\_ 2.0  
CATTLE WASHING BASED UPON METHOD OF WASHING \_\_\_\_\_ 0.7  
PLATE COOLER \_\_\_\_\_ 5.8  
CORRAL MISTERS \_\_\_\_\_ 0.0  
TOTAL \_\_\_\_\_ 8.7  
TOTAL DIVERSION VOLUME \_\_\_\_\_ 30.7

CONSUMPTIVE USE VOLUME (AFA)(assuming 100% consumptive):

STOCKWATER \_\_\_\_\_ 22.0  
COMMERCIAL \_\_\_\_\_ 8.7  
TOTAL CONSUMPTIVE USE \_\_\_\_\_ 30.7

THEORETICAL FLOW ESTIMATION WORKSHEET

REQUIRED PUMP INFORMATION

|                                   | PUMP 1 | PUMP 2 | PUMP 3 | PUMP 4 | PUMP 5 |
|-----------------------------------|--------|--------|--------|--------|--------|
| PUMP HORSEPOWER (HP) _____        | 7.50   | 1.00   | 0.00   | 0.00   | 0.00   |
| LIFT (FT) _____                   | 71     | 18     | 0      | 0      | 0      |
| DISCHARGE PRESSURE (PSI) _____    | 50     | 50     | 0      | 0      | 0      |
| FRICTION LOSSES (FT) _____        | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| HOURS PER DAY PUMP OPERATES _____ | 20.0   | 3.0    | 0.0    | 0.0    | 0.0    |

CALCULATIONS

|                                     |       |      |      |      |      |
|-------------------------------------|-------|------|------|------|------|
| THEORETICAL FLOW RATE (CFS) * _____ | 0.25  | 0.05 | 0.00 | 0.00 | 0.00 |
| DIVERSION VOLUME (AFA) ** _____     | 149.5 | 4.2  | 0.0  | 0.0  | 0.0  |

\* PUMP EFFICIENCY WAS ASSUMED TO BE 70%

\*\* DIVERSION VOLUME IS THE ABSOLUTE MAXIMUM VOLUME BASED ON THE  
THEORETICAL FLOW RATE ASSUMING PUMP RUNS EVERY DAY OF THE YEAR.

EVALUATION OF EQUIVALENT IRRIGATED ACREAGE

IRRIGATION RIGHT (BEFORE CHANGE)

|                                                                                                                                   |          |
|-----------------------------------------------------------------------------------------------------------------------------------|----------|
| DIVERSION RATE _____                                                                                                              | CFS      |
| ACRES OF IRRIGATION _____                                                                                                         | ACRES    |
| DIVERSION VOLUME _____                                                                                                            | AC-FT/AC |
| CONSUMPTIVE USE VOLUME _____                                                                                                      | AC-FT/AC |
| IRRIGATION IS BEING CONVERTED FOR WHICH PORTION OF THE<br>DAIRY OPERATION - STOCKWATER (S), COMMERCIAL (C), OR<br>BOTH (B)? _____ |          |

CALCULATIONS

|                                                         |         |        |
|---------------------------------------------------------|---------|--------|
| IRRIGATION DIVERSION RATE PER ACRE _____                | #DIV/0! | CFS/AC |
| REDUCTION OF IRRIGATION BASED ON DIVERSION RATE _____   | 0.0     | ACRES  |
| REDUCTION OF IRRIGATION BASED ON DIVERSION VOLUME _____ | 0.0     | ACRES  |
| REDUCTION OF IRRIGATION BASED ON CONSUMPTIVE USE _____  | 0.0     | ACRES  |