

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-33722
Exam Date: 07/18/2019

1. Current Owner:
RUETH DAIRY GENERAL PARTNERSHIP PO BOX 447 PARMA ID 83660
2. Accompanied by: Ray Rueth
Phone No: (208) 573-5495
Address: P.O. Box 447 Parma, ID 83660
Relationship to permit Holder: Owner

3. SOURCE:
GROUND WATER

Method of Determination: Field Observations

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
63-34897	BOISE RIVER	IRRIGATION FROM STORAGE	Application
63-2322	ELIJAH SLOUGH	IRRIGATION	Decreed
63-23785	GROUND WATER	DOMESTIC	Decreed
63-23785	GROUND WATER	STOCKWATER	Decreed
63-2878	WILSON DRAIN	IRRIGATION	Decreed
63-2878	ELIJAH DRAIN	IRRIGATION	Decreed
65-2433	PAYETTE RIVER	IRRIGATION	Decreed
65-2900	TUNNEL NO 2 DRAIN	IRRIGATION	Decreed

Comments:

Water Right 63-23785 was claimed in the Snake River Basin (SRBA) Adjudication on March 1, 1990. The claim referenced a well as the Point of Diversion (POD) for the ground water supply within the Place of Use (POU). The uses cited for the POU include domestic and stock water uses and has a priority date of April 27, 1978. It is worthy to note, the application for this water right requests diversion rates of 0.04 cfs and 0.14 cfs for domestic and stock water uses, respectively. However the final decree issued in the SRBA states the diversion rates are 0.04 cfs and 0.14 cfs for stock water and domestic purposes, respectively (the opposite of what the applicant requested). This a direct overlapping water right that supplies a portion of the stockwater use for this dairy.

Water Rights 65-2900, 65-2433, 63-2878, and 63-2322 overlap the POU for Permit No. 63-33722 and are water rights limited to irrigation over this POU. All the Water Rights listed were decreed in the SRBA over the course of many years. Permit 63-33722 does not request irrigation as part of the application, so these Water Rights are not considered to be part of the license to be issued with Water Right 63-33722.

Water Right 63-34897 was applied for on April 21, 2020 and proceeded through a series of protests. On February 17, 2021 an order was issued by the Director of the Idaho Department of Water Resources (IDWR) denying Application for Permit. This denied Application for Permit has no bearing on issuing the license for Water Right 63-33722.

2. Other water rights with the same point-of-diversion: NO Overlap

Water Right No.	Source	Purpose of Use	Basis
63-23785	GROUND WATER	DOMESTIC & Stockwater	Decreed

Comments:

Water Right 63-23785 uses the same POD for both domestic and stock water purposes; the same POD will be used with the issuance of Water Right 63-33722.

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

GROUND WATER SE¼ SW¼, Sec. 27, Twp 06N, Rge 05W, B.M. CANYON County
 GROUND WATER NW¼ SE¼, Sec. 27, Twp 06N, Rge 05W, B.M. CANYON County

Method of Determination: GIS Verification

PLACE OF USE: STOCKWATER

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
06N	05W	27												X		X			

PLACE OF USE: COMMERCIAL

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
06N	05W	27												X					

Method of Determination: GIS Verification

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.

 x 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
 x 1:24,000 or greater.

 x Aerial Photo Attached (required for irrigation of 10+ acres).

 x Photo of Diversion and System Attached

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Barn Well	Franklin	5.0	224 3038 602	Franklin	4400 Series 4" Rated Discharge (45 gpm)
Friday Well (D0064629)	Franklin	7.5	236 3118 120	Franklin	4400 Series 6" Rated Discharge (50 gpm)

D. FLOW MEASUREMENTS

1. A flow measurement was not possible because of the small pipe diameters of the distribution system and the conditions for taking a reliable measurement did not exist at the well locations.
2. Measurements: Flows were calculated using the known well depths, pump types, and motor sizes supplying the distribution system.

E. FLOW CALCULATIONS

x Additional Computation Sheets Attached

Measured Method: Verified flows using pump curves from manufacturer

Based on the manufacturers curves associated with the new well, a diversion rate of 0.18 cfs is recommended for this water right. Refer to the pump curves attached with this report. When combined with water right 63-23785 the diversion rate shall not exceed 0.18 cfs. This recommendation is made consistent with the IDWR. Water right condition X35 will be needed to allow the full diversion rate for the commercial use when they are using the misters.

F. VOLUME CALCULATIONS

1. Volume Calculations for dairy operations:

Based on the stockwater and commercial requirements of the dairy in conjunction with the allowable volumes under Water Rights 63-23785, a volume of 37.6 AF is recommended for Water Right 63-33722. Refer to the volume calculations attached with this report.

G. NARRATIVE/REMARKS/COMMENTS

The dairy began back in 1978 with the construction of a single 10" diameter well (aka Barn Well) for domestic purposes and the allowable livestock purposes. In time the dairy grew in size, and the Rueth's claimed their uses for the domestic and livestock purposes in the Snake River Basin Adjudication (SRBA).

On February 9, 1990 a "Notice of Claim to a Water Right for Domestic and Stock Water Purposes where Daily use is less than 13,000 gal/day" was filed in the SRBA. The Notice of Claim requested both domestic and stock water uses for water right 63-23785. The rates of diversion requested were 0.04 cfs and 0.14 cfs for domestic and stock water purposes, respectively while the volume for the water right was 13,000 gal/day (14.6 Ac-ft Annually). Subsequently, a partial decree was issued by the SRBA on April 7, 2000 for the domestic and stock water purposes.

On September 7, 2000 the Claimants (Herbert & Kathleen Rueth) filed a letter stating there was a mistake on the partial decree issued by the SRBA. The Claimants questioned whether the diversions were correct for the domestic and stock water purposes. It was ordered that the matter be referenced to Special Master for further review and recommendation on October 29, 2000. No documents in the water right back file state the conclusions the Special Master.

The 1998 SRBA documents indicate the stock water is for 1,600 range cattle, but on January 25, 1991 the Claimants submitted clarification to the Water Rights Supervisor there are 600 cattle (no specifics were provided on the type of cattle: range or dairy). Again, there was no conclusion of findings in the file from the Special Master.

In 2014 a new 10" well (aka Friday Well) was constructed to meet the needs of the dairy. The well was constructed for the sole purposes of providing stock water for the expanded dairy operations. Water Right 63-33722 is expected to cover the commercial and stock water use for the current dairy operations.

Currently the water supplies for the dairy include the two Points of Diversion (POD) mentioned above. The wells are connected with a 3" pipeline. The purpose of this water right is to include the increase in stock water and commercial uses at the dairy since the issuance of the water right 63-23785.

The dairy operations are consistent with typical dairies using dry chemical washing techniques to eliminate the need to wash the cows before milking.

The permit holder applied for a water permit for the beneficial uses of commercial and stock water for an additional 1,500 cows in the dairy operation. In the "Statement of Completion for Submitting Proof of Beneficial Use", the permit holder stated there were 2,500 dairy cattle associated with water right 63-33722. When in the field with the dairy operator, the counts were confirmed to be 870 dairy cows, 571 dry cows, and 705 heifers. Based on the information from the dairy operator, and visual observations made on site, these numbers were reasonable and are recommended to be incorporated into the final water right.

The commercial use of water in the dairy operations were addressed in the field with the operator. The commercial uses in the dairy operation include the washing of the milking parlor/bulk tanks, the maintenance shed, and the towel washer. The estimated volumes were provided by the permit holder and a walk through of the facility confirmed the volumes and frequency of use for the bulk tank, pipelines, parlor clean up, wash pen clean up, maintenance shop, and towel washing. Seasonally, the operations of the dairy will use misters to cool the dairy cows in the heat of summer. During the tour of the facility, the misters were in operation and the dairy operator described the misting duration and frequency. The duration and frequency were reasonable and are recommended for incorporation into this water right. The daily requirement for misting is stated in the calculations of the dairy shown below.

Based on the observations made in the field and the information provided by the dairy operator (point of contact in the permit), the volume of water associated with stock water and the dairy's commercial use as stated below are recommended for this license.

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

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H. RECOMMENDATIONS**1. Recommended Amounts**

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual Volume</u>
STOCKWATER	01/01 to 12/31	0.18 CFS	37.6 AF
COMMERCIAL	01/01 to 12/31	0.18 CFS	37.6 AF

Totals: 0.18 CFS 37.6 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 ✓ None

I. AUTHENTICATION Randy Broesch - Engineer, Staff

Field Examiner's Name Randy H. Broesch P.E. Date July 13, 2021
Reviewer Daniel A. Meeker Date 7-14-21



Figure 1 Rueth Dairy POU and POD

The Rueth Dairy exists over two quarter-quarters (the SESE and NWSE) of Section 27 in T06N.R.05W. Stock and commercial water uses reside in the SESE quarter-quarter while stock water is only used in the NWSE quarter-quarter. The entire POU is supplied by water from the two wells (the Barn Well and the Friday Well), and are interconnected in order to provide water throughout the POU.

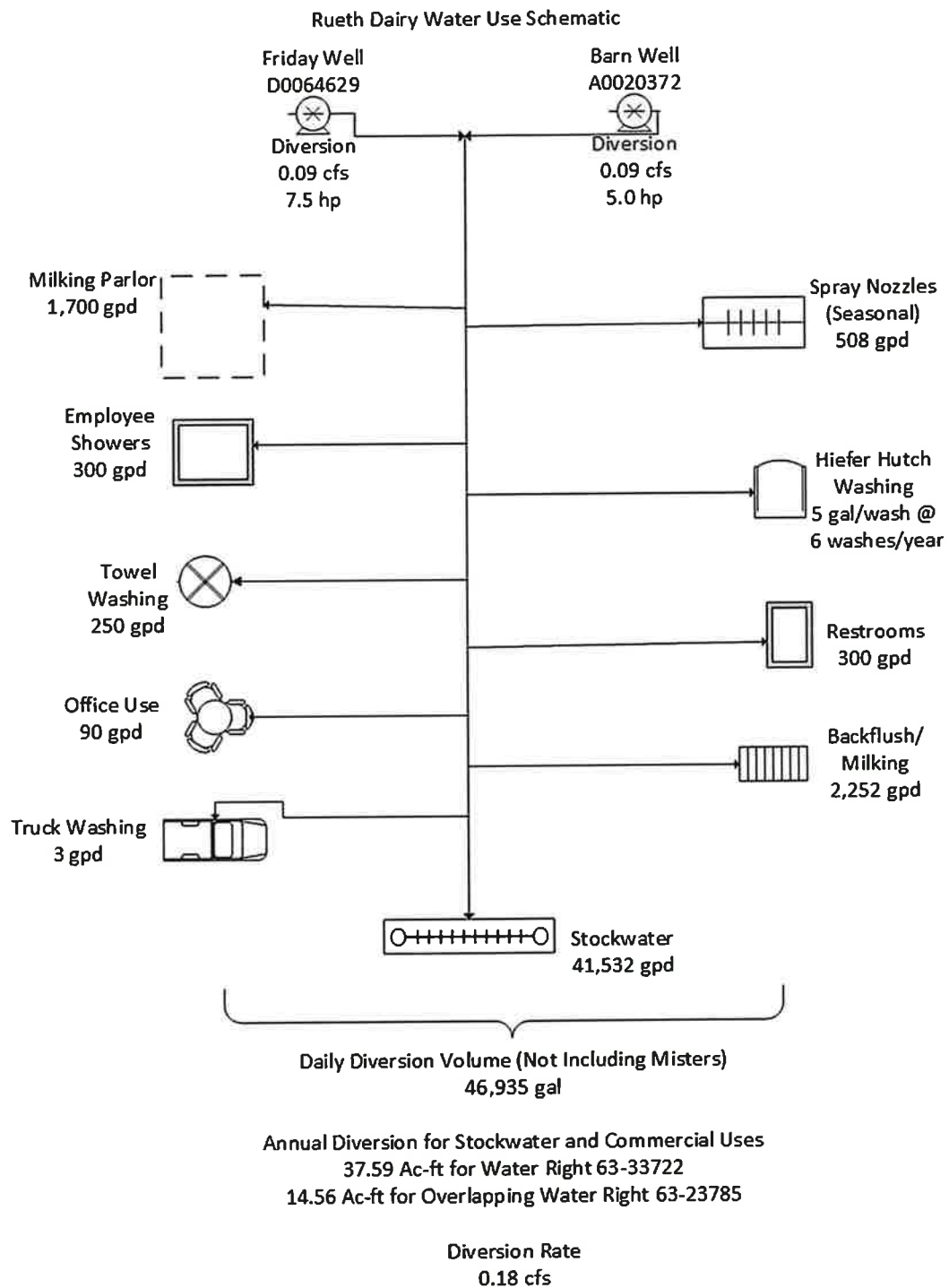


Figure 2 Schematic Layout of Dairy

SUBMERSIBLE PUMPS

4400 SERIES



MENU

4-INCH HIGH CAPACITY

PERFORMANCE

45 GPM

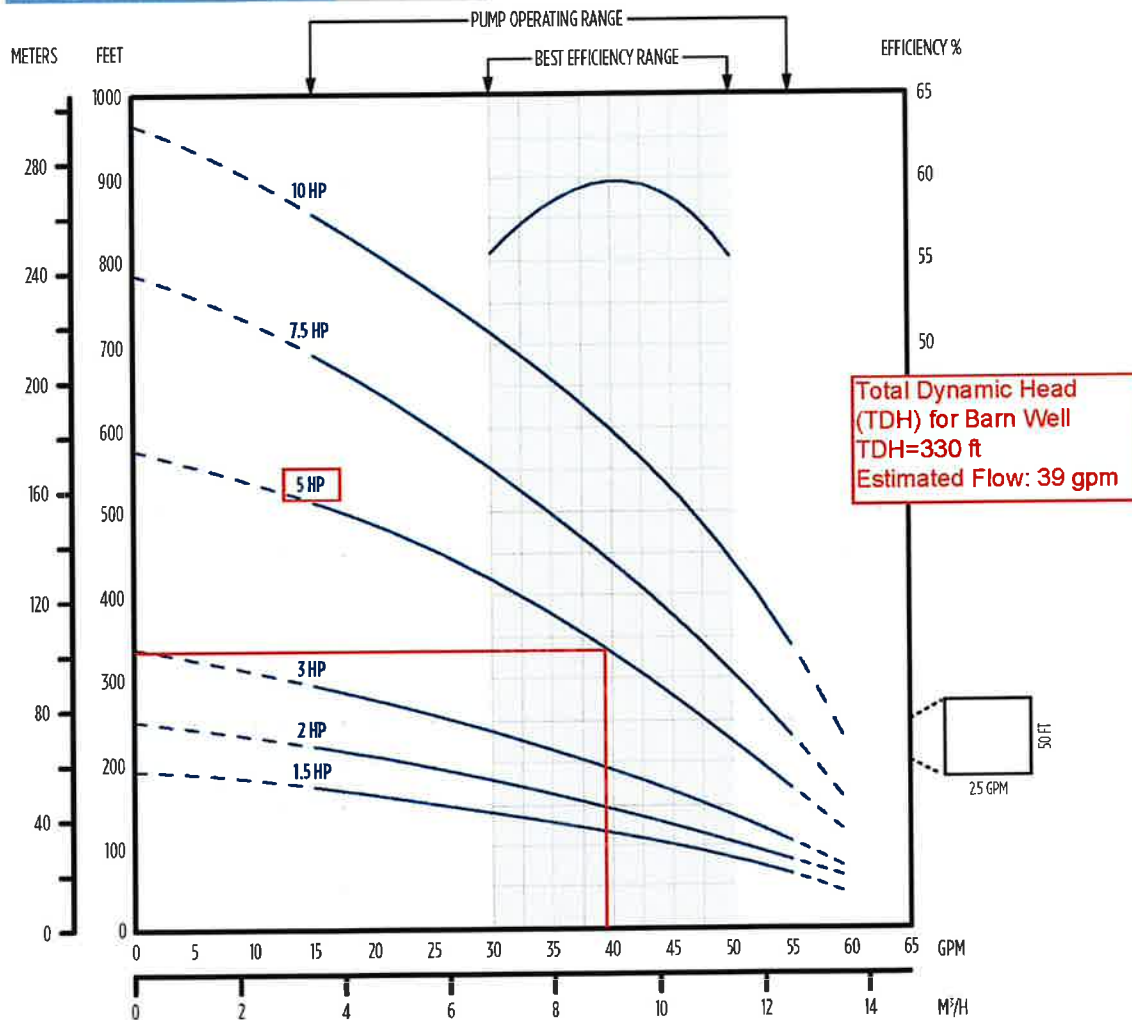


Figure 3 Pump Curve for Barn Well

SUBMERSIBLE PUMPS

4400 SERIES



MENU

6-INCH HIGH CAPACITY - 50 GPM

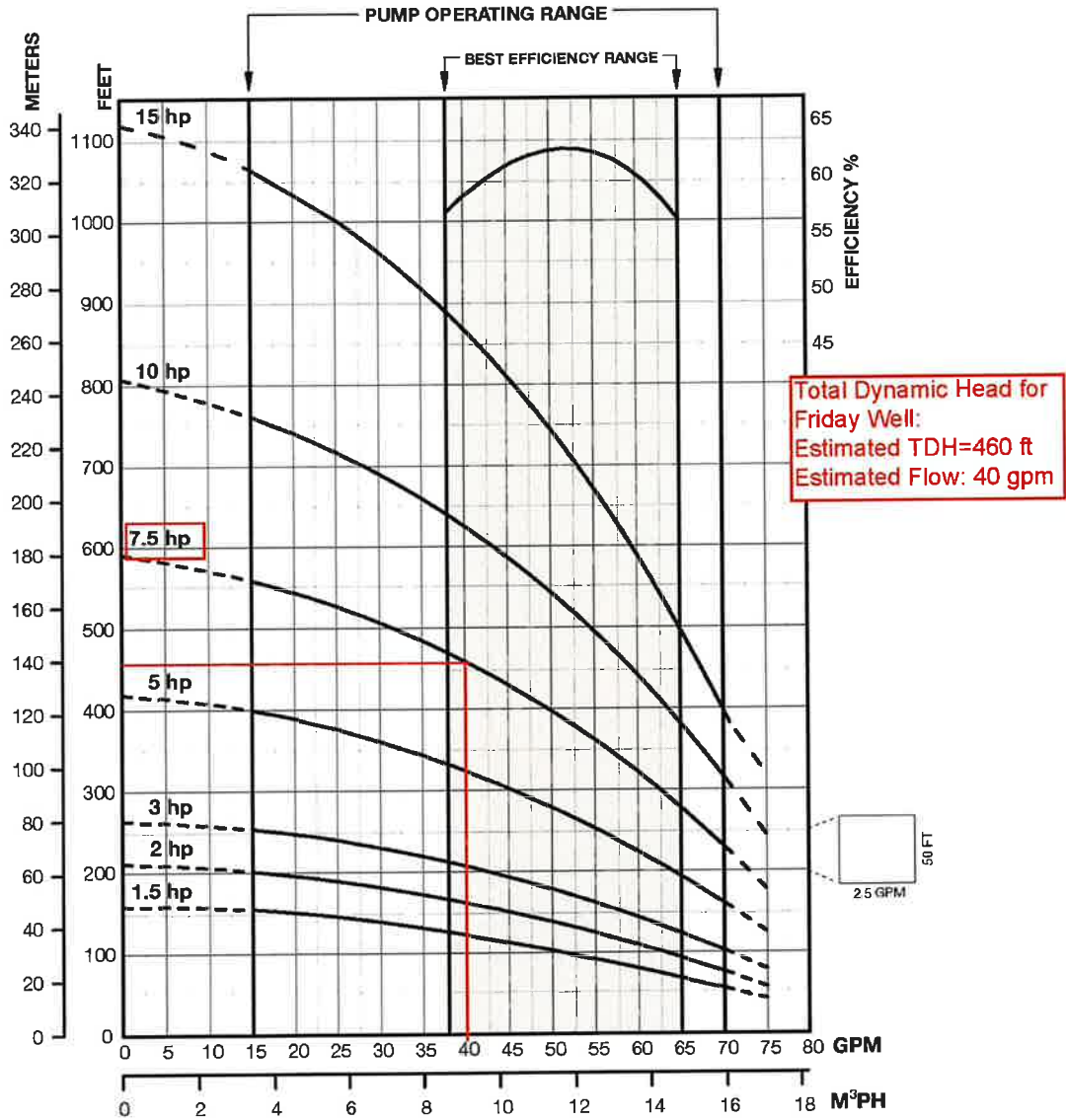


Figure 4 Pump Curve for Friday Well

DAILY FRESH WATER REQUIREMENT FOR DAIRY FACILITY

FOR: Rueth Dairy 63-33722
 BY: DANIEL A NELSON/Randall A. Broesch P.E.
 DATE: 10/7/2019

Stockwater Requirements

Animal Type	Number	Use/day	Total GPD	Total GPY
MILKING COWS	870.00	35.00	30,450.00	11,114,250.00
DRY COWS	571.00	12.00	6,852.00	2,500,980.00
HEIFERS	705.00	6.00	4,230.00	1,543,950.00
TOTAL GALLONS			41,532.00	15,159,180.00

Stockwater Annual Volume Needed in AF = 46.5 AF

COMMERCIAL VOLUME REQUIREMENT**Wash Pen Requirements**

GPM Per Nozzle	Number of Nozzels	Total Gpm	Time Per Use (in minutes)	Number of Uses	Total GPD	Total GPY
0.00	0.00	0	0.00	0.00	0.00	0.00

Milking Parlor Requirements

Item	Gals/ Operation	Times/Day	Total GPD	Total GPY
BULK TANK	300.00	1.00	300.00	109,500.00
COW PREP	0.00	0.00	0.00	0.00
PIPELINES	180.00	2.00	360.00	131,400.00
PARLOR CLEANUP	520.00	2.00	1,040.00	379,600.00
WASHPEN CLEANUP	0.00	0.00	0.00	0.00
Total Milking Parlor Use			1,700.00	620,500.00

HOSPITAL BARN USE

Item	Gals/ Operation	Times/Day	Total GPD	Total GPY
BULK TANK	0.00	0.00	0.00	0.00
COW PREP	0.00	0.00	0.00	0.00
PIPELINES	0.00	0.00	0.00	0.00
PARLOR CLEANUP	0.00	0.00	0.00	0.00
WASHPEN CLEANUP	0.00	0.00	0.00	0.00
Total Milking Parlor Use				0.00

MISCELLANEOUS USES

Item	Gal/ Operation	Times/Day	Total GPD	GALS/YEAR
TOWEL WASHING	50.00	5.00	250.00	91,250.00
EMPLOYEE SHOWERS	300.00	1.00	300.00	109,500.00
& RESTROOMS	300.00	1.00	300.00	109,500.00
MAINTENANCE SHOP	3.00	1.00	3.00	1,095.00
Plate Cooler	0.00	0.00	0.00	0.00
Misters (Seasonal Use: 84 days/year)	507.60	1.00	507.60	42,638.40
Office Use	90.00	1.00	90.00	32,850.00
Hiefer Hutch Washing	1,100.00	0.02	18.08	6,600.00
Backflushing	1,126.00	2.00	2,252.00	821,980.00
TOTAL MISCELLANEOUS USES			3,720.68	1,215,413.40

Commercial Annual Volume Required in AF =

5.6

Stockwater Volume Requirement in AF =	46.52
Commercial Annual Volume Requirement in AF =	5.63
TOTAL VOLUME REQUIRED =	52.16
Overlapping Stockwater Right 63-23785=	-14.56
Volume Recommended for 63-33722=	37.59

Figure 5 Volume Calculations for the Rueth Dairy



Figure 6 Picture of the Barn Well



Figure 7 Pump House for Barn Well



Figure 8 Pressure Reading at the Barn Well



Figure 9 Picture of the Friday Well



Figure 10 Pump House for the Friday Well



Figure 11 Pressure Reading & Pump Information for Friday Well



Figure 12 Milking Parlor



Figure 13 Stock Pen w/ Heifer Hutches



Figure 14 Stock Pen Area



Figure 15 Mistlers Attached to Railing & Used Seasonally