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DEPT. OF WATER RESOURCES
SOUTHERN REGION

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

REVISÉ 6/29/2009

GENERAL INFORMATION

Permit No.: 37-8813

Phone No.: (208) 886-7716

1. Owner: North Valley Milk Inc

Current Address: 425 N. 250 W. Shoshone, Idaho 83352

2. Accompanied by: _____ Exam Date: _____

Address: _____ Phone No.: _____

Relationship to Permit Holder: _____

3. Source: Ground Water tributary to

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 37-22326

2. Other water rights with the same point of diversion: None

C. DIVERSION AND DELIVERY SYSTEM

1. **Point(s) of Diversion:**

[illegible]

2. **Place(s) of Use:**

Indicate Method of Determination: Field/Aerial Verified

[illegible]

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ ditch size/ pipe i.d. as applicable.

See Attached Grid sheet

- ☐ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use *(required)*.
☒ Aerial photo attached *(required for irrigation of 10+ acres)*.
☒ Photo of diversion and system attached.

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Heifer Well	Stayright	5	30p4j02h	SUBMERSIBLE	?

(Information provided by Eaton Drilling)

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calibration

2. Measurements: Volume measurement w/calibrated 55 gallon drum/timed intervals

E. NARRATIVE / REMARKS / COMMENTS

See attached narrative

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

F. **FLOW CALCULATIONS**

☐ Additional Computation Sheets Attached

Measured Method: _____

G. **VOLUME CALCULATIONS**

1. Volume Calculations for Irrigation:

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

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

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

2. Volume Calculations for Other Uses:

See attached Consumptive use worksheet.

H. **RECOMMENDATIONS**

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
<u>Stockwater</u>	<u>1/1</u>	<u>12/31</u>	<u>.13</u>	<u>31.4</u>
_____	—	—	—	—
_____	—	—	—	—
TOTALS:			_____	_____

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 |

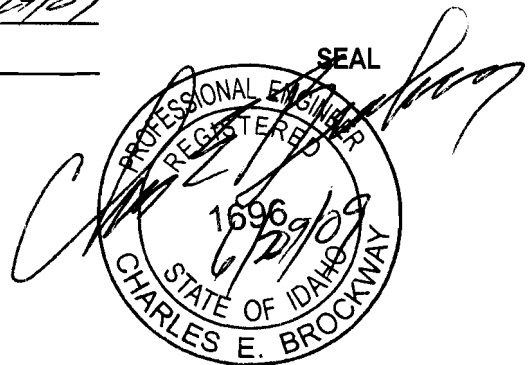
I. **AUTHENTICATION**

Field Examiner's Name: Charles E. Brockway

Date: 6/29/09

Reviewer: _____

Date: _____



Livestock Confinement Operations

Water Requirements and Consumptive Use Worksheet

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PRELIMINARY

COMPLETE BLUE HIGHLIGHTED SECTIONS ONLY

Prepared for: Four Brothers
Lincoln County

Revision: 9801
Run Date: 6/12/09 ALR

Remarks: Data from Andrew Fitzgerald
Owner & operator of facility

Herd Information - User Input

Number of milking cows 0 Breed: Large
Number of dry cows 1350
Number of other adult dry animals 150

Calves at age: Heifers at age:
1 month 0 5 months 1650
2 months 0 15 - 18 months 550
3 months 0 18 - 24 months 0
4 months 0

ANIMAL INFORMATION

Use defaults or enter values if known

Average body weight 1400 lbs Nearest weather station Shoshone
Milk fat percentage 3.5 % Number of milkings/day 3
Average days dry 60
Annual milk yield per animal 21000 lbs/year Check: Total herd size based on days dry 1200
Percent dry matter in ration 90 % HERD SIZE NOT CONSISTENT WITH DAYS DRY

Lagoon Information - User Input

Lagoon Number	Top width	Top length	SS (h:v)	Max depth	Average depth factor	% days with water	Top Area	Bottom Area	Average Area
1	400	525	2	8	0.5	100	210000	195456	202728
2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
TOTAL ACRES							4.82	4.49	4.65

Component

Drinking Water Calculation for Lactating Cows

4% fat-corrected milk yield	19425 lbs/year
Daily average FCM yield	63.69 lbs/day
Daily average milk yield	68.85 lbs/day
Estimated DMI	46.95 lbs/day

METHOD 1: Kertz

Estimated total water intake (TWI)	277.1 lbs/day or 33.2 gal/day
As-fed feed daily intake	52.2 as-fed lb/day
Water content of feed	5.22 lb/day in feed
Drinking water intake	271.9 lb/day or 32.6 gal/day
Drinking water requirement for lactating cows	0 gal/day 0.0 ac-ft/year

METHOD 2: Holter and Urban

Regression equation with DMI, milk production, and dry matter %

Drinking water intake	99.5 liters/day 26.3 gal/day
	0 gal/day 0.0 ac-ft/year

Maximum drinking water requirement 0.0 ac-ft/year

Drinking Water Calculation for Dry Cows

Estimated DMI	26.6 lbs/day
Average drinking water intake	13 gal/day

Average drinking water requirement 17550 gal/day
19.7 ac-ft/year

Drinking Water Calculation for Replacement Herd (Calves and Heifers)

Age	GPD	Ac-Ft/year
1 mo	0	0.00
2 mo	0	0.00
3 mo	0	0.00
4 mo	0	0.00
5 mo	6930	7.76
15-18 mo	3575	4.00
18-24 mo	0	0.00

Drinking water requirement for replacement herd 10505 gpd 11.77 ac-ft/year

TOTAL STOCKWATER COMPONENT 31.4 AC-FT/YEAR

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Summary

Drinking Water

Milking herd	0.0
Non-milking herd (dry cows)	19.7
Replacement herd (calves and heifers)	11.8

Total drinking water volume	31.4 ac-ft/year
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Commercial

Milking parlor	0.00
Holding pen and cleanup	0.0
Other flushing water	0.00

Total commercial volume	0.0 ac-ft/year
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TOTAL DIVERSION VOLUME REQUIREMENT	31.4 AC-FT/YR
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Consumptive Use

Lagoon evaporation	18.92
Animal milk, excretion, & metabolism	28.4
Parlor and holding pen cleanup	0.00
Crop consumptive use on land application	0.0

Total consumptive use	47.3 ac-ft/year
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Percent of diversion volume consumed	150.5 %
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Annual crop consumptive use - IDWR allowable	3.4 afa
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Equivalent irrigated acres	13.9 acres
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Diversion volume to acres conversion factor	3.40 ac-ft/ac
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