

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 36-8530

Exam Date: 10/21/2011

1. Current Owner: CALVIN DE KRUYF

And/Or

ALICE RUTH DE KRUYF
303 W 300 S
JEROME ID 83338
(208)324-7360

2. Accompanied by: Mark De Kruf

Phone No: 208-280-7365

Address: 177 W 400S

Jerome, ID 83338

Relationship to Permit Holder: Son/operator

- 3.
- SOURCE**

GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: None
2. Other water rights with the same point of diversion: 36-8481

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER	L1 NE1/4NE1/4	Sec. 4,	Twp 09S,	Rge 16E, B.M.
JEROME County				
GROUND WATER	L1 NE1/4NE1/4	Sec. 4,	Twp 09S,	Rge 16E, B.M.
JEROME County				
GROUNDWATER	SE1/4SE1/4	Sec. 33,	Twp 08S,	Rge 16E, B.M.
JEROME County				

Method of Determination: Updated from the spatial database of GPS points (A0003632, A0003633 & A0003634) collected by IDWR staff on 6/1/2004.

2.

PLACE OF USE: DOMESTIC

Twp	Rge	Sec	NE	NW	SW	SE	Totals
09S	16E	4	X				
			L 1				

PLACE OF USE: COMMERCIAL

Twp	Rge	Sec	NE				NW				SW				SE				Totals
09S	16E	4	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	
			X																
			L 1																

PLACE OF USE: STOCKWATER

Twp	Rge	Sec	NE				NW				SW				SE				Totals
09S	16E	4	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	
			X																
			L 1																

Method of Determination: 1992 and 2011 Aerial photography

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 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 Size</u>
A0003632	submersible	7.5			2 inch
A0003633	submersible	5			1.5 inch
A0003634	submersible	15			3 inch

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

D. FLOW MEASUREMENTS

1.

<u>Measurement Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
Portaflow	sonic	FUJI		2400332		11/14/01
Portaflow	sonic	FUJI		2400332		11/14/01
Portaflow	sonic	FUJI		2400335		3/19/03

2. **Measurements:** Recorded Wmis data for these wells verify two ten minute average measurements (A0003633 & A0003634) collected on 11/14/01 by Corbin Knowles and one by Cindy Yenter (A0003632) on 3/19/03. (See attached Water Measuring Device Certification forms.)

A0003632	131.1 gpm or 0.29 cfs
A0003633	47 gpm or 0.11 cfs
A0003634	62.3 gpm or 0.14 cfs
Total	0.54 cfs

E. FLOW CALCULATIONS

_____ Additional Computation Sheets Attached

Measured Method:

HP Equation:

$$\text{A0003632} \quad \frac{15 \times 8.8 \times .7}{192 + (45 \times 2.31)} = 0.31 \text{ cfs}$$

$$\text{A0003633} \quad \frac{5 \times 8.8 \times .7}{190 + (45 \times 2.31)} = 0.10 \text{ cfs}$$

$$\text{A0003634} \quad \frac{7.5 \times 8.8 \times .7}{183 + (45 \times 2.31)} = 0.16 \text{ cfs}$$

Theoretical yield (0.57 cfs) and measured flows (0.54 cfs) vary little. Measured rate is the controlling factor.
Recommend 0.54 for stockwater and commercial use.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: **N/A**

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

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

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

2. Volume Calculations for Other Uses:

$$\text{System capacity volume} = 0.54 \times 1.9835 \times 365 = 390.9 \text{ AF}$$

Calculations for **stock** consumption based on 1200 milking cows.

Total **stock** volume calculated from *Attached Dairy Spreadsheet* = 44.3 AFA

Total Stock Volume: 44.3 AFA

Total **commercial** volume calculated from *Attached Dairy Spreadsheet* = 38.6 AFA

Total Commercial Volume: 38.6 AFA

The **Domestic** volume is based on the IDWR standard of 0.6 AFA in-house use per home and 0.6 AF per yard.

Total Domestic Volume: 1.2 AFA

G. NARRATIVE/REMARKS/COMMENTS

Permit 36-8530 in the name of Calvin and/or Alice De Kruf is for domestic, stockwater and commercial uses associated with a dairy operation located in Jerome County.

Two companion permits (36-8481 and 36-8530) for two adjacent facilities were filed jointly. 36-8530 is for a dairy operation and 36-8481 for a heifer facility. Permit 36-8530 has two original points of diversion. Via phone conversation on 10/21/2011 owner/operator Mark De Kruf of the heifer facility and the dairy operation verified that there are three wells at these facilities that are an interconnected system. An amendment was filed to add the heifer facility well to the license to reflect the actual water usage of the entire system.

Wmis records verify a combined flow of 0.54 cfs from all three wells. **Recommended flow rate for stockwater and commercial use is 0.54 cfs.**

The recommended volumes for the dairy operation have been calculated from the original permitted amount of 1200 milking cows and the IDWR dairy spreadsheet. To allow for flexibility in the dairy operation a combined total of **82.9 AF (44.3 AF + 38.6 AF) for the stockwater and commercial use** is recommended.

The **Domestic** volume is based on the IDWR standard of 0.6 AFA in-house use per home and 0.6 AF per yard. **Recommended 1.2 AF for domestic use.**

It is also recommended that a combined condition will limit 36-8481 and 36-8530 to a total diversion rate of 0.54 cfs and a total diversion volume of 104.3 AF for both the heifer and the dairy facility.

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	0.040 CFS	1.20 AF
COMMERCIAL	01/01 to 12/31	0.540 CFS	82.90 AF
STOCKWATER	01/01 to 12/31	0.540 CFS	82.90 AF
<u>Totals:</u>		0.540 CFS	84.10 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

Sana Reeder

Date

11/21/11

Reviewer

[Signature]

Date

11/21/11

Heifer Facility Back up well - A0003634

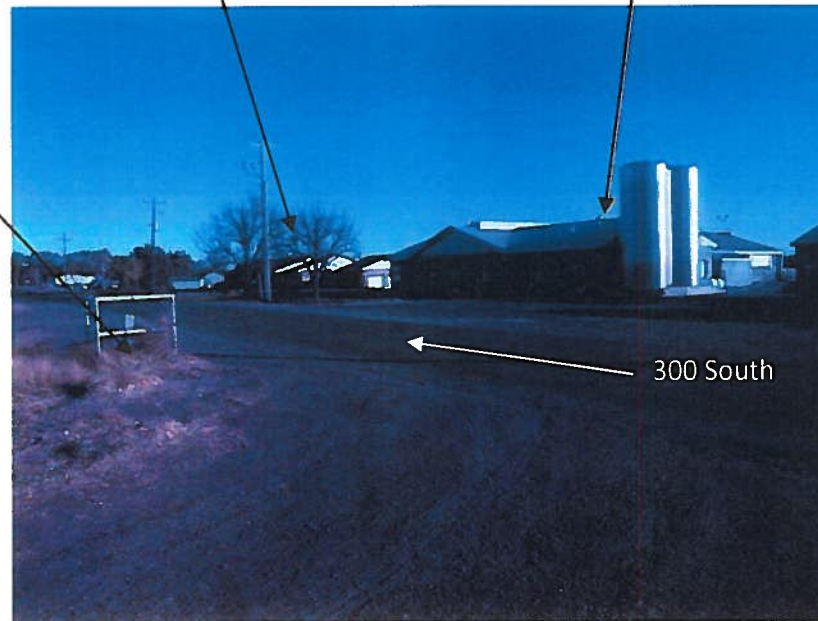
Mc Crometer Meter in pit next to well head



South of Heifer Facility is the Dairy Operation

Single home residence and yard

Milk Barn



Dairy Operation

Abandoned Well

A0003632





IDAHO DEPARTMENT OF WATER RESOURCES

STAFF ANALYSIS SHEET FOR BENEFICIAL USE FIELD EXAMS:

PERMIT NO. 36-8530

A. Items To Be Placed In Exam File (Items A & B to be Completed by Compiler)

- (☒) Blank Field Report & Notice of Completed Exam
- (☒) Copy of App. for Permit, Approved Permit, Amendments, Orders, Assignments, Proof of Beneficial Use, SRBA Claim (Claim Filed? _____ Required? _____)
- (☒) Well Inspection Form, Dairy Water-Use Worksheet (if applicable)
- (☒) Well Log(s) & Groundwater Measurement Analysis Form (if applicable)
- (☒) Copy of Orthophotoquad Map
- (☒) 660-Scale Aerial Photo (Examiner Will Obtain If Applicable)
- () Government Lot Plats (If Applicable)

B.1. P/D Overlap - ☒ Yes or No? If Yes, Include Copy of Overlapping Rights & Claims

- If Yes, Type of Overlap: () Add Acres or Uses to Existing System
() Increase Rate of Flow or Volume

B.2. P/U Overlap - Yes or ☒ No? If Yes, Include Copies of Overlapping Rights & Claims

- If Yes, Type of Overlap: () Increase Rate of Flow or Volume
() Add Supplemental Water Source
() Increase Acres Within Tracts

C. Field Exam Appointment Made:

Date 10/21/2011 Time _____ Place phone

Contact Person & Phone Mark De Kruyf 280-7365

D. Post-Exam Review & Processing

Exam Completed 11/17/11 Notice of Completion Turned In _____
Field Report Completed 11/17/11 Sara Roeder
Signature of Examiner & Date
Field Report Reviewed by Sr. Agent _____ (Initial & Date)
Field Report Reviewed by Region Mgr. AR 11/21/11 (Initial & Date)
Field Report Sent to S.O. 12/12/2011 Region Card File Updated _____

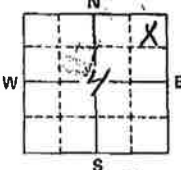
STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORTUSE TYPEWRITER OR
BALLPOINT PENState law requires that this report be filed with the Director, Department of Water Resources
within 30 days after the completion or abandonment of the well.

Dairy Facility

1. WELL OWNER Name <u>Calvin DeKruif</u> Address <u>Idaho Jerome</u> Owner's Permit No. _____	7. WATER LEVEL Static water level <u>290'</u> feet below land surface. Flowing? ☐ Yes ☒ No G.P.M. flow _____ Artesian closed-in pressure _____ p.s.i. Controlled by: ☐ Valve ☐ Cap ☐ Plug Temperature _____ °F. Quality _____																																																																																																				
2. NATURE OF WORK ☒ New well ☐ Deepened ☐ Replacement ☐ Abandoned (describe method of abandoning) _____	8. WELL TEST DATA ☐ Pump ☐ Bailer ☐ Air ☐ Other _____ <table border="1" style="width:100%"><tr><th>Discharge G.P.M.</th><th>Pumping Level</th><th>Hours Pumped</th></tr><tr><td> </td><td> </td><td> </td></tr></table>	Discharge G.P.M.	Pumping Level	Hours Pumped																																																																																																	
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4. METHOD DRILLED ☒ Rotary ☒ Air ☐ Hydraulic ☐ Reverse rotary ☐ Cable ☐ Dug ☐ Other _____	RECEIVED SEP 13 1982 Department of Water Resources Southern District Office																																																																																																				
5. WELL CONSTRUCTION Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____ <table border="1" style="width:100%"><tr><th>Thickness</th><th>Diameter</th><th>From</th><th>To</th></tr><tr><td>250 inches</td><td>6 inches</td><td>1 feet</td><td>19 feet</td></tr><tr><td>156 inches</td><td>6 inches</td><td>19 feet</td><td>272 feet</td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr></table> Was casing drive shoe used? ☐ Yes ☒ No Was a packer or seal used? ☐ Yes ☒ No Perforated? ☐ Yes ☒ No How perforated? ☐ Factory ☐ Knife ☐ Torch Size of perforation _____ inches by _____ inches <table border="1" style="width:100%"><tr><th>Number</th><th>From</th><th>To</th></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></table> Well screen installed? ☐ Yes ☒ No Manufacturer's name _____ Type _____ Model No. _____ Diameter _____ Slot size _____ Set from _____ feet to _____ feet Diameter _____ Slot size _____ Set from _____ feet to _____ feet Gravel packed? ☐ Yes ☐ No ☐ Size of gravel _____ Placed from _____ feet to _____ feet Surface seal depth <u>272</u> Material used in seal: ☐ Cement grout ☐ Puddling clay ☒ Well cuttings Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata Describe access port <u>Well seal</u>	Thickness	Diameter	From	To	250 inches	6 inches	1 feet	19 feet	156 inches	6 inches	19 feet	272 feet									Number	From	To																																																																														
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6. LOCATION OF WELL Sketch map location must agree with written location.  County <u>Jerome</u> <u>NE 1/4 NE 1/4</u> Sec. <u>4</u> , T. <u>9</u> N. R. <u>16</u> W.	10. Work started <u>6/10/82</u> finished <u>6/14/82</u> 11. DRILLERS CERTIFICATION <u>de</u> I/We certify that all minimum well construction standards were complied with at the time the rig was removed. Firm Name <u>Elving Well Drilling</u> Firm No. <u>31</u> Address <u>P.O. Box 99 T.F. Rd</u> Date <u>6/25/82</u> Signed by (Firm Official) <u>Arnold Elving</u> and (Operator) <u>M. J. / 6002</u>																																																																																																				

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

STATE OF IDAHO
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WELL DRILLER'S REPORTUSE TYPEWRITER OR
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	351	360	Broken clay sand	X																																																																																																																			
	360	380	Clay sand		X																																																																																																																		
4. METHOD DRILLED ☒ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary ☐ Cable ☐ Dug ☐ Other _____	10. Work started <u>6/14/82</u> finished <u>6/15/82</u>																																																																																																																						
5. WELL CONSTRUCTION Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____ <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th>Thickness</th><th>Diameter</th><th>From</th><th>To</th></tr></thead><tbody><tr><td>2.50 inches</td><td>6 inches</td><td>1 feet</td><td>20 feet</td></tr><tr><td>1.56 inches</td><td>6 inches</td><td>20 feet</td><td>287 feet</td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr></tbody></table> Was casing drive shoe used? ☐ Yes ☒ No Was a packer or seal used? ☐ Yes ☒ No Perforated? ☐ Yes ☒ No How perforated? ☐ Factory ☐ Knife ☐ Torch Size of perforation _____ inches by _____ inches <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th>Number</th><th>From</th><th>To</th></tr></thead><tbody><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></tbody></table> Well screen installed? ☐ Yes ☒ No Manufacturer's name _____ Type _____ Model No. _____ Diameter _____ Slot size _____ Set from _____ feet to _____ feet Diameter _____ Slot size _____ Set from _____ feet to _____ feet Gravel packed? ☐ Yes ☒ No Size of gravel _____ Placed from _____ feet to _____ feet Surface seal depth <u>287</u> Material used in seal: ☒ Cement grout ☐ Puddling clay ☒ Well cuttings Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld _____ ☐ Cemented between strata Describe access port <u>well seal</u>	Thickness	Diameter	From	To	2.50 inches	6 inches	1 feet	20 feet	1.56 inches	6 inches	20 feet	287 feet									Number	From	To																																																																																																
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Number	From	To																																																																																																																					
6. LOCATION OF WELL Sketch map location must agree with written location.  County <u>Jerome</u> <u>N.E. 1/4 Sec. 4, T. 9, N. 16 E.</u> Subdivision Name _____ Lot No. _____ Block No. _____	11. DRILLERS CERTIFICATION <u>al</u> I/We certify that all minimum well construction standards were complied with at the time the rig was removed. Firm Name <u>Claring Outing</u> Firm No. <u>31</u> Address <u>P.O. Box 917</u> Date <u>6/25/82</u> Signed by (Firm Official) <u>Arnold Claring</u> and (Operator) <u>Marjorie</u>																																																																																																																						

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
Water Measurement Program

1998 WATER MEASURING DEVICE CERTIFICATION

District DND Inventory Date _____ Inventory Examiner _____ PCC ok? Yes no

Date of test 11-14-01 Person performing test C. Knowles Exam complete? Yes no

Name:	<u>DeKruyf</u>
Water Right No:	_____
Legal Description:	T _____ R _____ Sec _____ 1/4 _____ 1/4 _____ 1/4
Site Tag No:	<u>POLO 3634</u>
Diversion Name:	<u>HEIFEEL WELL</u>

Current Owner

Name DeKruyf MAIR Phone _____
Last, First, MI

Address _____ City _____ State _____ Zip _____

Operator (if leased or operated by someone else)

Name _____ Phone _____
Last, First, MI

SECTION I WELL SITE IDENTIFICATION

Global Positioning System Data:

Data Collection Filename _____ Offset _____

IDWR Site Tag Identification No. _____

Site Tag location description: _____

PLS/USGS Locator _____

Diversion Name: _____

For Department/District Use Only

Received by _____ Date _____

Reviewed by _____ Date _____

Data Entry by C. Knowles Date 11-15-01

SECTION II INSTALLED METER INFORMATION

METER AND MOUNTING PIPE INFORMATION			
Motor HP	10 H.P.	Volume Units	Acre-Feet ☐ Gallons ☐ Other(specify) ☐
Meter Install Date		Volume Multiplier	1.0
Manufacturer	McCrometer	Installation location	Excl Good Fair Poor
Meter Type	Propeller	Pipe material	CS
Meter Model		Outside Diameter	2.45"
Serial Number	95 2778-2	Wall Thickness	.150
Size (nominal)	2"	Inside Diameter	
Measure Flow Rate?	(circle one) Yes ☒ No ☐	Dist. of straight pipe upstream from meter	2'
Measurement Units	(circle one) GFS ☐ GPM ☒ Other(specify) ☐	Dist. of Straight pipe downstream from meter	10' +
Flow rate Multiplier		Std Meter Type	Sonic Pyg Collins Hall Anub Dye/chem Other ☒
Measure Cumulative Volume?	(circle one) Yes ☒ No ☐	Std. Meter Confidence	Excl ☐ Good ☐ Fair ☐ Poor ☐ 2% 5% 10% >10% X

Are multiple flowmeters used to measure diversions from this well? Yes / No

If so, how many? _____ (Attach separate form for each meter checked and/or calibrated)

If this meter measures diversions from multiple wells, names and locations of other wells: _____

SECTION III CERTIFICATION FOR CALIBRATION OF A WATER MEASUREMENT METER

See back page for instructions.

Measurement No. 1 (M_1) is the measured rate of flow from the permanently installed flow meter.

Measurement No. 2 (M_2) is the measured rate of flow from the measuring device being used to check the flow for the calibration. This method or device must be accurate to within $\pm 5\%$ error. Describe below the method and equipment used to perform this measurement.

$$\text{Percent Difference} = (M_1 - M_2) \div M_2 \times 100 = \pm \% \quad (\text{Acceptable is within } \pm 10\%) \quad (\text{equation 1})$$

$$\text{Calibration Multiplier} = M_2 \div M_1 \quad (\text{equation 2})$$

Is flowmeter installed according to manufacturer's specifications? Yes / No / Unsure

Describe any apparent problems with installation or operation _____

Flowmeter accuracy prior to any adjustments: _____ Totalizer reading _____

Flowmeter accuracy after final adjustment: _____ Totalizer reading _____

Flowmeter calibration multiplier: _____

Water Level DataDoes the well have access to measure water levels? Yes / NoIs this well part of USGS, IDWR, or another network of water level monitoring wells? Yes / No

Static Water Level _____ ft Pumping Water Level _____ ft (at condition _____)

Date _____

Date _____

FLOWMETER ACCURACY CALIBRATION TABLE

Owners meter (totalizer reading)	Time	Total Gallons	Ave. Flow Rate - GPM (M ₁)	Standard total gallons	Average flow rate (M ₂)	Percent diff. (±)	Comments and adjustments
153640	5 min	590	58.35	623	62.3	-6.3	
153699	10.11 min						

Notes, Comments or Calculations: _____

Sketch and or photograph of installation:

I certify that the above information is true and correct to the best of my knowledge and ability and the measurements taken and recorded are in accordance with the standards and specifications of the equipment used.

Signature _____
(person performing measurements)

Date _____

DEKRUYF HEIFER FAC WELL

START :11-14 12:11

END :11-14 12:21

INTERVAL:00:01:00

11/14/2001 12:11

+5.477E+0 ft/s
+6.198E+1 gal/m
+TOTAL 0000000 gal
-TOTAL 0000000 gal
NORMAL

11/14/2001 12:12

+5.552E+0 ft/s
+6.283E+1 gal/m
+TOTAL 0000061 gal
-TOTAL 0000000 gal
NORMAL

11/14/2001 12:13

+5.502E+0 ft/s
+6.226E+1 gal/m
+TOTAL 0000123 gal
-TOTAL 0000000 gal
NORMAL

11/14/2001 12:14

+5.523E+0 ft/s
+6.249E+1 gal/m
+TOTAL 0000185 gal
-TOTAL 0000000 gal
NORMAL

11/14/2001 12:15

+5.528E+0 ft/s
+6.255E+1 gal/m
+TOTAL 0000248 gal
-TOTAL 0000000 gal
NORMAL

11/14/2001 12:16

+5.594E+0 ft/s
+6.330E+1 gal/m
+TOTAL 0000311 gal
-TOTAL 0000000 gal
NORMAL

11/14/2001 12:17

+5.566E+0 ft/s
+6.298E+1 gal/m
+TOTAL 0000374 gal
-TOTAL 0000000 gal
NORMAL

11/14/2001 12:18

+5.453E+0 ft/s
+6.171E+1 gal/m
+TOTAL 0000436 gal
-TOTAL 0000000 gal
NORMAL

11/14/2001 12:19

+5.433E+0 ft/s
+6.148E+1 gal/m
+TOTAL 0000497 gal
-TOTAL 0000000 gal
NORMAL

11/14/2001 12:20

+5.503E+0 ft/s
+6.227E+1 gal/m
+TOTAL 0000559 gal
-TOTAL 0000000 gal
NORMAL

11/14/2001 12:21

+5.478E+0 ft/s
+6.199E+1 gal/m
+TOTAL 0000621 gal
-TOTAL 0000000 gal
NORMAL

62.3 GPM

-6.3% OFF OF STANDARD

62.3 gpm
14 cfs

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
Water Measurement Program

1998 WATER MEASURING DEVICE CERTIFICATION

District WMD Inventory Date Inventory Examiner PCC ok? Yes ☒ No ☐

Date of test 11-14-01 Person performing test C. Knowles Exam complete? Yes ☒ No ☐

Name:	<u>DEKRUUF DARY</u>
Water Right No:	<u> </u>
Legal Description:	<u>T 09S R 16E Sec. 04</u> <u>1/4 NE 1/4 NE 1/4</u>
Site Tag No:	<u>A0003633</u>
Diversion Name:	<u>BACK-UP well</u>

Current Owner

Name DEKRUUF MARK Phone
Last, First, MI

Address City State Zip

Operator (if leased or operated by someone else)

Name Phone
Last, First, MI

SECTION I WELL SITE IDENTIFICATION

Global Positioning System Data:

Data Collection Filename Offset

IDWR Site Tag Identification No.

Site Tag location description:

PLS/USGS Locator

Diversion Name:

For Department/District Use Only

Received by Date

Reviewed by Date

Data Entry by C. Knowles Date 11-15-01

SECTION II INSTALLED METER INFORMATION

METER AND MOUNTING PIPE INFORMATION			
Motor HP	10 H.P.	Volume Units	Acre-Feet ☒ Gallons ☐ Other(specify)
Meter Install Date		Volume Multiplier	X 100
Manufacturer	PWM	Installation location	Excl Good Fair Poor
Meter Type	Impeller	Pipe material	PVC
Meter Model	9	Outside Diameter	1.90"
Serial Number	956418	Wall Thickness	.145"
Size (nominal)	1 1/2"	Inside Diameter	
Measure Flow Rate?	(circle one) Yes ☐ No ☒	Dist. of straight pipe upstream from meter	3'
Measurement Units	(circle one) CFS ☐ GPM ☒ Other(specify)	Dist. of Straight pipe downstream from meter	3'
Flow rate Multiplier		Std Meter Type	Sonic Pyg Collins Hall Anub Dye/chem Other X
Measure Cumulative Volume?	(circle one) Yes ☐ No ☒	Std. Meter Confidence	Excl ☐ Good ☒ Fair ☐ Poor ☐ 2% 5% 10% >10% X

Are multiple flowmeters used to measure diversions from this well? Yes / No

If so, how many? _____ (Attach separate form for each meter checked and/or calibrated)

If this meter measures diversions from multiple wells, names and locations of other wells: _____

SECTION III CERTIFICATION FOR CALIBRATION OF A WATER MEASUREMENT METER

See back page for instructions.

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$$\text{Calibration Multiplier} = M_2 \div M_1 \quad (\text{equation 2})$$

Is flowmeter installed according to manufacturer's specifications? Yes / No / Unsure

Describe any apparent problems with installation or operation _____

Flowmeter accuracy prior to any adjustments: _____ Totalizer reading _____

Flowmeter accuracy after final adjustment: _____ Totalizer reading _____

Flowmeter calibration multiplier: _____

Water Level Data

Does the well have access to measure water levels? Yes / No

Is this well part of USGS, IDWR, or another network of water level monitoring wells? Yes / No

Static Water Level _____ ft Pumping Water Level _____ ft (at condition _____)

Date _____

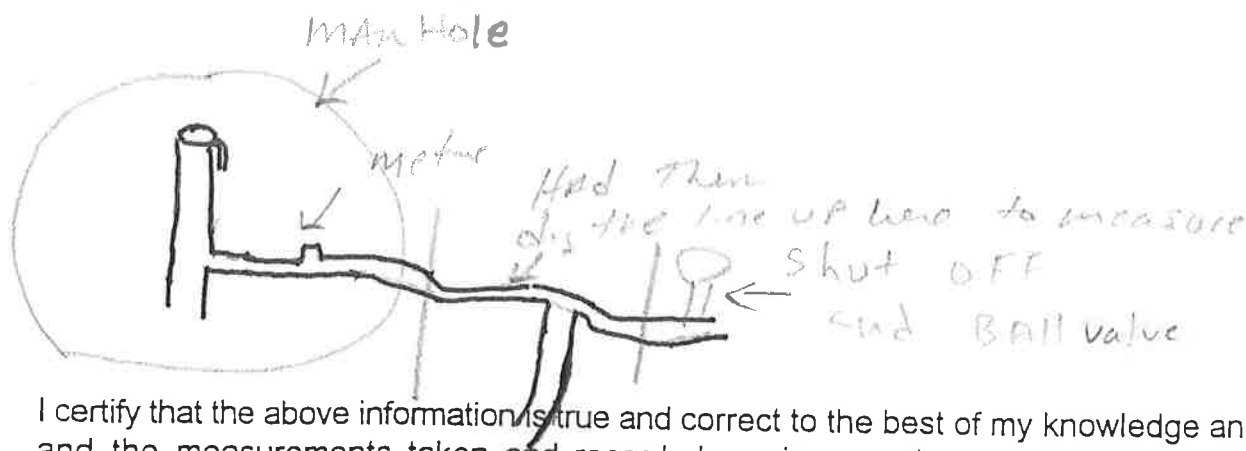
Date _____

FLOWMETER ACCURACY CALIBRATION TABLE

Owners meter (totalizer reading)	Time	Total Gallons	Ave. Flow Rate - GPM (M ₁)	Standard total gallons	Average flow rate (M ₂)	Percent diff. (±)	Comments and adjustments
84442.8	37 Act	470	46.25	470	47.0	-1.57%	
84447.5	10.12						

Notes, Comments or Calculations: Meter & well were initially
Not included in the district but well now has 10 HP
pump in it. measured and found well meter to be
working great.

Sketch and or photograph of installation:



I certify that the above information is true and correct to the best of my knowledge and ability and the measurements taken and recorded are in accordance with the standards and specifications of the equipment used.

Signature Cole R Kh
(person performing measurements)

Date 11-15-01

DEKRUYF BACKUP WELL 10 HP

START :11-14 12:58

END :11-14 13:08

INTERVAL:00:01:00

11/14/2001 12:58

+7.711E+0 ft/s

+4.832E+1 gal/m

+TOTAL 0000000 gal

-TOTAL 0000000 gal

NORMAL

11/14/2001 12:59

+7.830E+0 ft/s

+4.907E+1 gal/m

+TOTAL 0000048 gal

-TOTAL 0000000 gal

NORMAL

11/14/2001 13:00

+7.728E+0 ft/s

+4.843E+1 gal/m

+TOTAL 0000097 gal

-TOTAL 0000000 gal

NORMAL

11/14/2001 13:01

+7.563E+0 ft/s

+4.739E+1 gal/m

+TOTAL 0000145 gal

-TOTAL 0000000 gal

NORMAL

11/14/2001 13:02

+7.431E+0 ft/s

+4.657E+1 gal/m

+TOTAL 0000192 gal

-TOTAL 0000000 gal

NORMAL

11/14/2001 13:03

+7.327E+0 ft/s

+4.591E+1 gal/m

+TOTAL 0000238 gal

-TOTAL 0000000 gal

NORMAL

11/14/2001 13:04

+7.463E+0 ft/s

+4.676E+1 gal/m

+TOTAL 0000284 gal

-TOTAL 0000000 gal

NORMAL

11/14/2001 13:05

+7.384E+0 ft/s

+4.627E+1 gal/m

+TOTAL 0000331 gal

-TOTAL 0000000 gal

NORMAL

11/14/2001 13:06

+7.254E+0 ft/s

+4.546E+1 gal/m

+TOTAL 0000377 gal

-TOTAL 0000000 gal

NORMAL

11/14/2001 13:07

+7.284E+0 ft/s

+4.565E+1 gal/m

+TOTAL 0000423 gal

-TOTAL 0000000 gal

NORMAL

11/14/2001 13:08

+7.250E+0 ft/s

+4.543E+1 gal/m

+TOTAL 0000469 gal

-TOTAL 0000000 gal

NORMAL

47.0 GPM STANDARD

46.25 GPM OWNERS METER

-1.57% OFF OF STANDARD

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
Water Measurement Program

1998 WATER MEASURING DEVICE CERTIFICATION

District 130 Inventory Date _____ Inventory Examiner _____ PCC ok? Yes ☒ No ☐
Date of test 3-19-03 Person performing test Cy Exam complete? Yes ☒ No ☐

Name:	<u>DeKruyf Dairy</u>
Water Right No:	_____
Legal Description:	T _____ R _____ Sec. _____ 1/4 _____ 1/4 _____ 1/4 _____
Site Tag No:	<u>A0003632</u>
Diversion Name:	<u>15 HP Mann Dairy</u>

Current Owner

Name DeKruyf Mark Phone 208.280-7365
Last, First, MI 324 7360
Address _____ City _____ State _____ Zip _____

Operator (if leased or operated by someone else)

Name _____ Phone _____
Last, First, MI

SECTION I WELL SITE IDENTIFICATION

Global Positioning System Data:

Data Collection Filename _____ Offset _____

IDWR Site Tag Identification No. _____

Site Tag location description: _____

PLS/USGS Locator _____

Diversion Name: _____

For Department/District Use Only

Received by _____ Date _____
Reviewed by _____ Date _____
Data Entry by _____ Date _____

SECTION II INSTALLED METER INFORMATION

METER AND MOUNTING PIPE INFORMATION			
Motor HP	15	Volume Units	Acre-Feet ☒ Gallons
Meter Install Date	Jan 17, 2003	Volume Multiplier	1
Manufacturer	Danfoss	Installation location	☒ Excl ☐ Good ☐ Fair ☐ Poor
Meter Type	Mag	Pipe material	GALV
Meter Model	3100	Outside Diameter	3.54
Serial Number	235930T292	Wall Thickness	.23
Size (nominal)	3	Inside Diameter	2.8
Measure Flow Rate?	(circle one) ☒ Yes ☐ No	Dist. of straight pipe upstream from meter	8"
Measurement Units	(circle one) CFS ☒ GPM Other (specify) _____	Dist. of Straight pipe downstream from meter	8"
Flow rate Multiplier	1	Std Meter Type	☒ Sonot Pyg Collins Hall Anub Dye/chem Other _____
Measure Cumulative Volume?	(circle one) ☒ Yes ☐ No	Std. Meter Confidence	Excl ☐ 2% ☒ 5% ☐ 10% ☐ >10% ☐ X

Are multiple flowmeters used to measure diversions from this well? Yes / No

If so, how many? _____ (Attach separate form for each meter checked and/or calibrated)

If this meter measures diversions from multiple wells, names and locations of other wells: _____

SECTION III CERTIFICATION FOR CALIBRATION OF A WATER MEASUREMENT METER

See back page for instructions.

Measurement No. 1 (M_1) is the measured rate of flow from the permanently installed flow meter.

Measurement No. 2 (M_2) is the measured rate of flow from the measuring device being used to check the flow for the calibration. This method or device must be accurate to within $\pm 5\%$ error. Describe below the method and equipment used to perform this measurement.

$$\text{Percent Difference} = (M_1 - M_2) \div M_2 \times 100 = \pm \% \quad (\text{Acceptable is within } \pm 10\%) \quad (\text{equation 1})$$

$$\text{Calibration Multiplier} = M_2 \div M_1 \quad (\text{equation 2})$$

Is flowmeter installed according to manufacturer's specifications? Yes / No / Unsure

Describe any apparent problems with installation or operation _____

Flowmeter accuracy prior to any adjustments: _____ Totalizer reading _____

Flowmeter accuracy after final adjustment: _____ Totalizer reading _____

Flowmeter calibration multiplier: _____

Water Level Data

Does the well have access to measure water levels? Yes / No

Is this well part of USGS, IDWR, or another network of water level monitoring wells? Yes / No

Static Water Level _____ ft Pumping Water Level _____ ft (at condition _____)

Date _____

Date _____

FLOWMETER ACCURACY CALIBRATION TABLE

Owners meter (totalizer reading)	Time	Total Gallons	Ave. Flow Rate - GPM (M ₁)	Standard total gallons	Average flow rate (M ₂)	Percent diff. (±)	Comments and adjustments
2988480	Q						
2989755	10.0	1275 1275	127.5	1311	131.1	-2.7%	

Notes, Comments or Calculations:

Signal 3 bars Speed 4753 1.01%

meas taken with tank valve open

Sketch and or photograph of installation:

I certify that the above information is true and correct to the best of my knowledge and ability and the measurements taken and recorded are in accordance with the standards and specifications of the equipment used.

Signature Cy Yenter
(person performing measurements)

Date 3-19-03

DeKruyf Dairy, Main Well

LOG NAME:A0003632

START :03-19 15:00

END :03-19 15:10

INTERVAL:00:01:00

3/19/2003 15:00

+5.689E+0 ft/s

+1.321E+2 gal/m

+TOTAL 0000000 gal

NORMAL

3/19/2003 15:01

+5.697E+0 ft/s

+1.323E+2 gal/m

+TOTAL 0000130 gal

NORMAL

3/19/2003 15:02

+5.646E+0 ft/s

+1.311E+2 gal/m

+TOTAL 0000262 gal

NORMAL

3/19/2003 15:03

+5.755E+0 ft/s

+1.336E+2 gal/m

+TOTAL 0000381 gal

NORMAL

3/19/2003 15:04

+5.763E+0 ft/s

+1.338E+2 gal/m

+TOTAL 0000514 gal

NORMAL

3/19/2003 15:05

+5.694E+0 ft/s

+1.322E+2 gal/m

+TOTAL 0000646 gal

NORMAL

3/19/2003 15:06

+5.675E+0 ft/s

+1.317E+2 gal/m

+TOTAL 0000778 gal

NORMAL

3/19/2003 15:07

+5.682E+0 ft/s

+1.319E+2 gal/m

+TOTAL 0000910 gal

NORMAL

3/19/2003 15:08

+5.725E+0 ft/s

+1.329E+2 gal/m

+TOTAL 0001043 gal

NORMAL

3/19/2003 15:09

+5.689E+0 ft/s

+1.321E+2 gal/m

+TOTAL 0001176 gal

NORMAL

3/19/2003 15:10

+5.639E+0 ft/s

+1.309E+2 gal/m

+TOTAL 0001307 gal

NORMAL

avg flow

130.7 gpm

0.29 cfs

Dairy Sec 4



A0003632

A0003633

192' 15 HP

190' 5 HP

$$\frac{15 \times .7 \times 8.8}{192 + (45 \times 2.31)} = \frac{92.4}{103.95} = .31 \text{ cfs}$$

$$\frac{5 \times .7 \times 8.8}{190 + (45 \times 2.31)} = \frac{30.8}{294} = .1 \text{ cfs}$$

Proof 4/29/93

1200 Dairy Cows $\frac{1200 \times 35 \times 365}{325,850} = 47 \text{ AF}$

Add all
three
wells to
permits

Mark DeKruyf 10/21/11

PSI 45

Sprinklers 60

5-7 gpm

40 min x 2 day = 80 min

milking 2 per day

80 lbs

Recycled water yes

plate cooler yes

misters yes

$$\frac{3 \text{ gpm}}{60} = .05 \text{ gpm}$$

Nozzles 8' apart 600' Fence = 75 Nozzles

11-6 daily 100 days per year

$$7 \text{ hrs} \times 60 = 420 \text{ MIN.}$$

* Measured = 0.54 cfs

↓ theoretical = 0.58 cfs

mark 280-7365
Dekruyf

Heifer Facility

Proof Filed 4/29/1993

1500 Heifers/dry cows

$$\frac{1500 \times 12 \text{ gpm} \times 365 \text{ days}}{325,850} = 20.2 \text{ AF}$$

A0003634

183'

7.5 HP

$$\frac{7.5 \times .7 \times 8.8}{183 + \frac{(45 \times 2.31)}{92.4}} = \frac{46.2}{285.95}$$

.16 cfs or
~~76 gpm~~
72.3

* WMIS 11/14/2001 Corbin Knowles
62.3 gpm or .14 cfs

* Dairy + heifer wells tied together
per conversation w/mark 10/21/11
(Add 2 wells in 9516E sec 4 NENE)

* 36-8481 Limited to .34

A0003632 .29

A0003633 .11

A0003634 .14

.54 cfs

HP EQUATION For
3 WELLS =

.57 cfs

FILE NUMBER _____ De Kruf 36-8530
REVIEWER _____ JJR

DAIRIES: WATER USE WORKSHEET

REQUIRED DAIRY DATA

NUMBER OF MILKING CATTLE _____ 1200
NUMBER OF DRY CATTLE _____ 0
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 _____ 3
IF SPRINKLERS ARE USED: NUMBER OF SPRINKLERS IN HOLDING PEN _____ 60
NOZZLE DISCHARGE (USE 5.0 GPM IF UNKNOWN) _____ 7.00
OPERATION TIME OF SPRINKLERS (MIN/DAY) _____ 80
NUMBER OF MILKINGS PER DAY _____ 2
AVG. LBS. OF MILK PRODUCED PER DAY PER ANIMAL (IDAHO AVG IS 70 LBS.) _____ 80
HOURS PER DAY PUMP OPERATES FOR STOCKWATER USE _____ 12.0
HOURS PER DAY PUMP OPERATES FOR COMMERCIAL USE _____ 12.0
IS RECYCLED WATER USED TO FLUSH MILKHOUSE AND PARLOR FLOORS? _____ Y
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) _____ Y
IF CORRAL MISTERS ARE USED: NUMBER OF MISTERS IN HOLDING PEN _____ 75
NOZZLE DISCHARGE (GPM) _____ 0.05
OPERATION TIME OF MISTERS (MIN/DAY) _____ 420
DAYS PER YEAR MISTERS ARE USED _____ 100

CALCULATIONS

DIVERSION RATE (CFS):

STOCKWATER
MILKING CATTLE (BASED ON MILK PRODUCTION) _____ 0.14
DRY CATTLE @ 17.0 GPD/HD _____ 0.00
REPLACEMENT CATTLE _____ 0.00
TOTAL _____ 0.14

COMMERCIAL
TOTAL _____ 0.11

TOTAL DIVERSION RATE _____ 0.25

DIVERSION VOLUME (AFA):

STOCKWATER
MILKING CATTLE _____ 44.3
DRY CATTLE _____ 0.0
REPLACEMENT CATTLE _____ 0.0
TOTAL _____ 44.3

COMMERCIAL
WASHING OF BULK TANK AND RELATED EQUIPMENT _____ 0.4
BACKFLUSH _____ 0.0
PARLOR/MILKHOUSE/HOLDING PEN CLEANUP _____ 0.0
CATTLE WASHING BASED UPON METHOD OF WASHING _____ 37.6
PLATE COOLER _____ 0.0
CORRAL MISTERS _____ 0.5
TOTAL _____ 38.6

TOTAL DIVERSION VOLUME _____ 82.9

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

STOCKWATER _____ 44.3
COMMERCIAL _____ 38.6
TOTAL CONSUMPTIVE USE _____ 82.9

THEORETICAL FLOW ESTIMATION WORKSHEET

REQUIRED PUMP INFORMATION

	PUMP 1	PUMP 2	PUMP 3	PUMP 4	PUMP 5
PUMP HORSEPOWER (HP) _____	5.00	15.00	0.00	0.00	0.00
LIFT (FT) _____	190	192	0	0	0
DISCHARGE PRESSURE (PSI) _____	45	45	0	0	0
FRICTION LOSSES (FT) _____	0.0		0.0	0.0	0.0
HOURS PER DAY PUMP OPERATES _____	12.0	12.0	0.0	0.0	0.0

CALCULATIONS

THEORETICAL FLOW RATE (CFS) * _____	0.10	0.31	0.00	0.00	0.00
DIVERSION VOLUME (AFA) ** _____	37.9	113.0	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 DAIRY OPERATION - STOCKWATER (S), COMMERCIAL (C), OR 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

