

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 36-8063D

Exam Date: 4/4/2014

1. Current Owner: HILL A BRANDSMA
2250 E 3200 S
WENDELL ID 83355
(208)316-2501
2. Accompanied by: Hill Brandsma
Phone No: 208-536-6620 and above number
Address: same as above
Relationship to Permit Holder: Permit holder

3. SOURCE TRIBUTARY
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: None

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

GROUND WATER	SW1/4SE1/4	Sec. 12,	Twp 08S,	Rge 15E, B.M.
GOODING County				
GROUND WATER	SW1/4SE1/4	Sec. 12,	Twp 08S,	Rge 15E, B.M.
GOODING County				

Method of Determination: Aerial imagery and site visit

2. PLACE OF USE: STOCKWATER

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
08S	15E	12															X	X	

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	
08S	15E	12															X	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.

Well or Diversion**ID No.*****Motor Make****Hp****Motor Serial No.****Pump Make****Pump Serial No. or Discharge****Size**

A0007981 Dairy barn well- no site tag on house well

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

D. FLOW MEASUREMENTS

1.

Measurement**Equipment****Type****Make****Model No.****Serial No.****Size****Calib. Date**

Flowmeter

Sonic

Fuji

2. Measurements:

Made two, ten minute tests with flowmeter, maximum recorded or observed flow was 63 gpm. WMIS records indicate that a flowmeter calibration in 2008, yielded a flow of 70.7 gpm; that will be used for licensing purposes. See attached sheets.

E. FLOW CALCULATIONS

_____Additional Computation Sheets Attached

Measured Method: 70.7 gpm

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: From IDWR Dairy Spreadsheet:

Stockwater = 29.9 AFA

Commercial = 4.5 AFA

TOTAL = 34.4 AFA

When examining IDWR water use data from WMIS, it is apparent that the dairy is using more water than the spreadsheet would allow. To assign a volume to the dairy, it was necessary to investigate the past 13 years of data, though no data is available from the development period of the permit. In the past, water use on the dairy was highly erratic, probably due to a faulty flowmeter. In 2011, a new magnetic flowmeter was installed, so data from 2012 and 2013 appears more realistic,

though higher than the dairy spreadsheet would suggest. It is likely that the dairy is somewhat inefficient in its water use. The volume assigned to the dairy is 64.7 AF, the higher volume of the years subsequent to the flowmeter replacement. See attached WMIS data sheets.

Stockwater volume	64.7 AF
Commercial volume	64.7 AF
Combined volume	64.7 AF

G. NARRATIVE/REMARKS/COMMENTS

On April 4, 2014 the field exam for permit 36-8063D was completed with the assistance of the permit holder, Hill Brandsma. Water is diverted from the main well and runs throughout the milking barn for washing and other uses; while a 12,000 gallon concrete storage tank adjacent to the barn keeps the supply of water constantly available. Five water troughs supply water to the main dairy corrals, while the heifer portion of the facility is supplied by 10 troughs.

Using the IDWR Dairy Spreadsheet with numbers supplied by Mr. Brandsma, volumes of 29.9 AF for stockwater, and 4.5 AF for commercial use were computed for a total diversion volume of 34.4 AF. A flow measurement was made on the system using a sonic flowmeter, which yielded a flow of 63 gpm. This was lower than a measurement done for a flowmeter calibration in 2008, so the 2008 flow rate of 70.7 gpm has been used for licensing purposes. To assign a volume to the dairy, it was necessary to examine the IDWR water use data from WMIS. In the past, water use on the dairy was highly erratic, probably from a faulty flowmeter. In 2011, a new magnetic flowmeter was installed, so data from 2012 and 2013 appears more realistic, though higher than the dairy spreadsheet would suggest. It is likely that the dairy is somewhat inefficient in its water use. I recommend licensing the combined stockwater and commercial uses at 0.16 cfs, with a volume of 64.7 AF.

An amendment of the permit was necessary for two reasons. First, the domestic well for the home has been connected to the dairy system in order to provide drinking water for the cattle at times when the main well is inoperable, creating two PODs instead of the permitted one. Secondly, the dairy has expanded to the north onto the next quarter-quarter (NWNE); it was permitted in the SWSE only.

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

H. RECOMMENDATIONS

1. Recommended Amounts

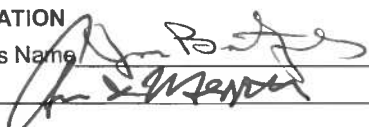
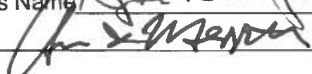
<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
STOCKWATER	01/01 to 12/31	0.160 CFS	64.70 AF
COMMERCIAL	01/01 to 12/31	0.160 CFS	64.70 AF
	<u>Totals:</u>	0.160 CFS	64.70 AF

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 04/04/2014
Reviewer  Date 9/29/14

Idaho Department of Water Resources

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Data Summary

You are viewing 400119; A0007981

Report Year	Alternate	FM	PCC	Time Clock
2013		64.66		
2012		57.76		
2011		28.28		
2010		16.30		
2009		62.56		
2008		95.83		
2007		92.87		
2006		87.34		
2005		83.97		
2004		56.80		
2003		67.15		
2002		82.67		
2001		92.23		

DAIRIES: WATER USE WORKSHEET

REQUIRED DAIRY DATA

NUMBER OF MILKING CATTLE -----	530
NUMBER OF DRY CATTLE -----	120
NUMBER OF REPLACEMENT CATTLE: 0-2 MONTHS -----	160
3-4 MONTHS -----	220
5-8 MONTHS -----	250
9-12 MONTHS -----	163
13-15 MONTHS -----	219
16-24 MONTHS -----	180
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 -----	3
AVG. LBS. OF MILK PRODUCED PER DAY PER ANIMAL (IDAHO AVG IS 70 LBS.) -----	83
HOURS PER DAY PUMP OPERATES FOR STOCKWATER USE -----	18.0
HOURS PER DAY PUMP OPERATES FOR COMMERCIAL USE -----	18.0
IS RECYCLED WATER USED TO FLUSH MILKHOUSE AND PARLOR FLOORS? -----	N
IS RECYCLED WATER USED TO WASH COWS? -----	N
IS A PLATE COOLER USED? -----	N
IS RECYCLED WATER USED FOR PLATE COOLER? (IF NO PLATE COOLER,	
LEAVE BLANK) -----	
IF CORRAL MISTERS ARE USED: NUMBER OF MISTERS IN HOLDING PEN -----	
NOZZLE DISCHARGE (GPM) -----	9.0
OPERATION TIME OF MISTERS (MIN/DAY) -----	180.0
DAYS PER YEAR MISTERS ARE USED -----	21.0

CALCULATIONS

DIVERSION RATE (CFS):

STOCKWATER

MILKING CATTLE (BASED ON MILK PRODUCTION) -----	0.04
DRY CATTLE @17.0 GPD/HD -----	0.00
REPLACEMENT CATTLE -----	0.02
TOTAL -----	0.07

COMMERCIAL

TOTAL -----	0.01
-------------	------

TOTAL DIVERSION RATE ----- 0.08

DIVERSION VOLUME (AFA):

STOCKWATER

MILKING CATTLE -----	20.1
DRY CATTLE -----	1.8
REPLACEMENT CATTLE -----	8.0
TOTAL -----	29.9

COMMERCIAL

WASHING OF BULK TANK AND RELATED EQUIPMENT -----	0.6
BACKFLUSH -----	0.9
PARLOR/MILKHOUSE/HOLDING PEN CLEANUP -----	3.0
CATTLE WASHING BASED UPON METHOD OF WASHING -----	0.9
PLATE COOLER -----	0.0
CORRAL MISTERS -----	0.0
TOTAL -----	4.5

TOTAL DIVERSION VOLUME ----- 34.4

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

STOCKWATER -----	29.9
COMMERCIAL -----	4.5
TOTAL CONSUMPTIVE USE -----	34.4

Idaho Department of Water Resources

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Flow Meter Calibrations

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Calibration Date/Time:	11/04/2011	Factor:	1.05
Installed Meter Data:		Standard Meter Data:	
Installed Meter Flow:	43.53	Standard Meter Flow:	45.85
Rate Unit:	GPM	Rate Unit:	GPM
Rate Multiplier:	1.0000	Pipe Material:	STEEL
Volume Multiplier:	1000.0000	Outside Diameter (inches):	2.39
Volume Unit:	GAL	Wall Thickness (inches):	0.14
Location:		Downstream Distance (feet):	1.00
Comments:		Upstream Distance (feet):	1.00
Well just North of water-mechanical room, meter is on North wall of that room. This well seems to be the only water source to the barn.		Calibration Confidence:	FAIR
Installed Meter Information:		Installation Date:	
Manufacturer:	SEIMENS	Serial Number:	7me6582352011201
Model Number:	mag 5000	Other Well:	
Meter Type:	MAGNETIC, FULL PROFILE		
Calibration Date/Time:	12/05/2008	Factor:	1.15
Installed Meter Data:		Standard Meter Data:	
Installed Meter Flow:	61.40	Standard Meter Flow:	70.70
Rate Unit:	GPM	Rate Unit:	GPM
Rate Multiplier:	1.0000	Pipe Material:	STEEL
Volume Multiplier:	100.0000	Outside Diameter (inches):	2.40
Volume Unit:	GAL	Wall Thickness (inches):	0.09
Location:		Downstream Distance (feet):	1.00
Comments:		Upstream Distance (feet):	1.00
1 well at this dairy. House well tied in before the meter.		Calibration Confidence:	
Installed Meter Information:		Installation Date:	
Manufacturer:	MASTER	Serial Number:	2906213
Model Number:		Other Well:	
Meter Type:	IMPELLER		
Calibration Date/Time:	09/27/2005	Factor:	1.15
Installed Meter Data:		Standard Meter Data:	
Installed Meter Flow:	50.40	Standard Meter Flow:	58.20
Rate Unit:	GPM	Rate Unit:	GPM
Rate Multiplier:	1.0000	Pipe Material:	STEEL
Volume Multiplier:	100.0000	Outside Diameter (inches):	2.43
Volume Unit:	GAL	Wall Thickness (inches):	0.09
Location:	GOOD	Downstream Distance (feet):	2.00
		Upstream Distance (feet):	2.00

Comments: corrected volume multiplier (cy)		Calibration Confidence:	POOR
Installed Meter Information:			
Manufacturer:	MASTER	Installation Date:	
Model Number:		Serial Number:	2906213
Meter Type:	PROPELLER	Other Well:	
Calibration Date/Time:	05/16/2001	Factor:	1.08
Installed Meter Data:		Standard Meter Data:	
Installed Meter Flow:	58.21	Standard Meter Flow:	62.70
Rate Unit:	GPM	Rate Unit:	GPM
Rate Multiplier:	1.0000	Pipe Material:	STEEL
Volume Multiplier:	100.0000	Outside Diameter (inches):	2.42
Volume Unit:	GAL	Wall Thickness (inches):	0.14
Location:	GOOD	Downstream Distance (feet):	0.00
Comments:		Upstream Distance (feet):	2.50
Has a domestic well tied to the dairy for backup purposes only.		Calibration Confidence:	FAIR
Installed Meter Information:			
Manufacturer:	MASTER	Installation Date:	04/05/2001
Model Number:		Serial Number:	2906213
Meter Type:	IMPELLER	Other Well:	

Idaho Department of Water Resources

System Diagram



Legend

- Township/Range
- Sections
- QQ
- Wells
- Water Troughs

Hill Brandsma
36-8063D

0 0.045 0.09 0.18 Miles





Main Well at dairy

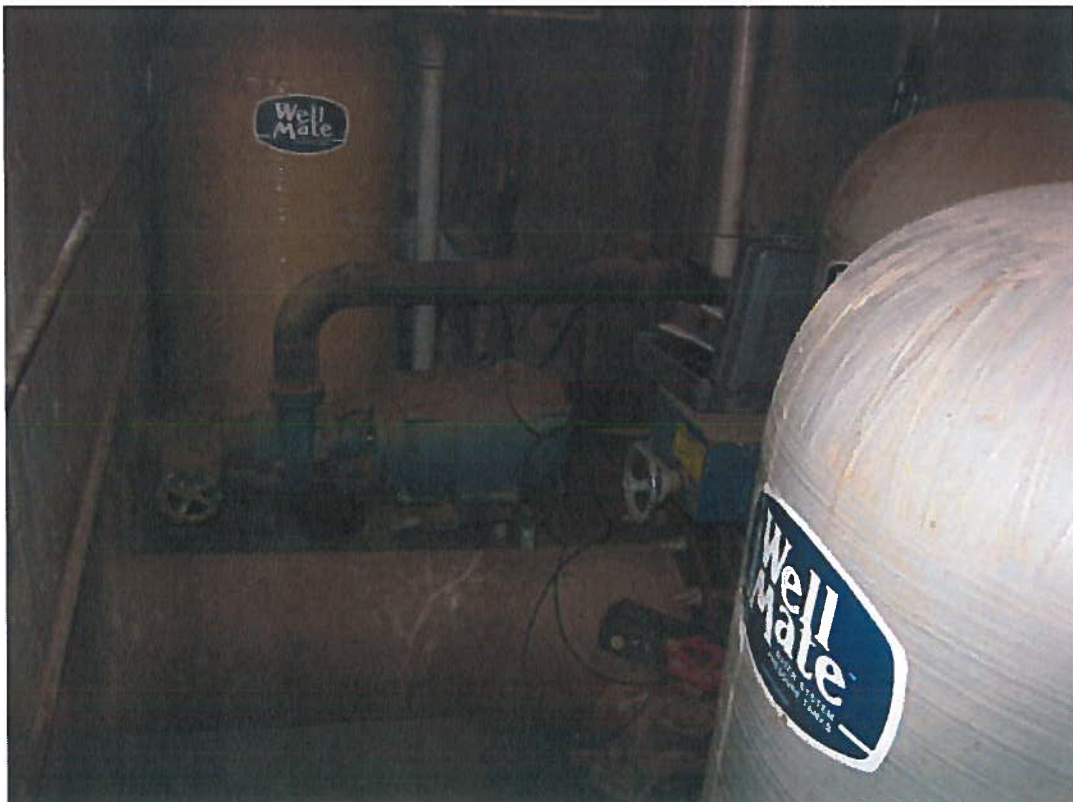
Backup Well at dairy





Installed flowmeter

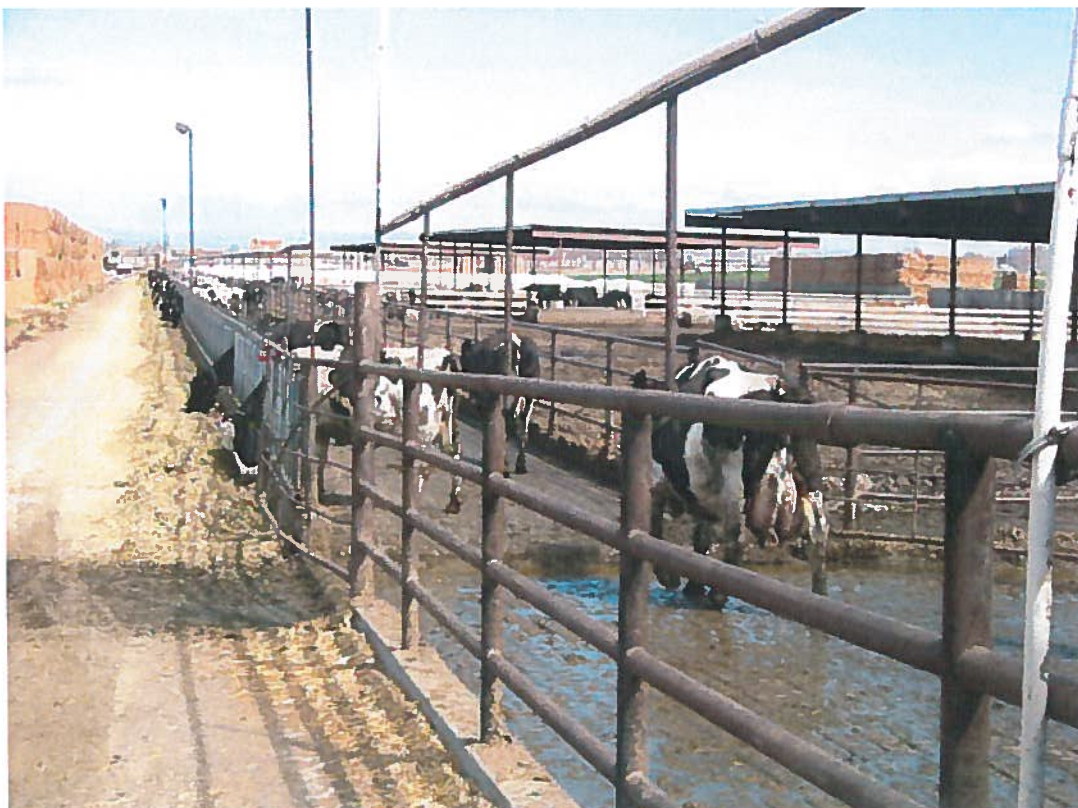
Plumbing inside pump house





Milking barn

Corrals at dairy





Water trough and loafing shed

Water trough





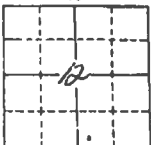
Water trough and corrals

Washing facilities inside milk barn



WELL DRILLER'S REPORT

State 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.

1. WELL OWNER Name <u>Hill Brandsma</u> Address <u>2258 E 32005 Wendell, ID 83355</u> Owner's Permit No. <u>36-89-5-011</u>	7. WATER LEVEL Static water level <u>159</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 <u>-55</u> °F. Quality <u>good</u> Describe artesian or temperature zones below																																																				
2. NATURE OF WORK ☒ New well ☐ Deepened ☐ Replacement ☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)	8. WELL TEST DATA ☐ Pump ☐ Bailer ☐ Air ☐ Other _____ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Discharge G.P.M.</th> <th>Pumping Level</th> <th>Hours Pumped</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>	Discharge G.P.M.	Pumping Level	Hours Pumped																																																	
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3. PROPOSED USE ☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection ☐ Other _____ (specify type)	9. LITHOLOGIC LOG 022076 <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Bore Diam.</th> <th colspan="2">Depth</th> <th rowspan="2">Material</th> <th colspan="2">Water</th> </tr> <tr> <th>From</th> <th>To</th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>8</td> <td>0</td> <td>4</td> <td>Overburden</td> <td> </td> <td> </td> </tr> <tr> <td>8</td> <td>4</td> <td>19</td> <td>Black Basalt</td> <td> </td> <td> </td> </tr> <tr> <td>6</td> <td>19</td> <td>41</td> <td>"</td> <td> </td> <td> </td> </tr> <tr> <td>6</td> <td>41</td> <td>43</td> <td>Red Basalt</td> <td> </td> <td> </td> </tr> <tr> <td>6</td> <td>43</td> <td>47</td> <td>Black Basalt</td> <td> </td> <td> </td> </tr> <tr> <td>6</td> <td>47</td> <td>53</td> <td>Red Clay</td> <td> </td> <td> </td> </tr> <tr> <td>6</td> <td>53</td> <td>180</td> <td>lost circ</td> <td> </td> <td> </td> </tr> </tbody> </table>	Bore Diam.	Depth		Material	Water		From	To	Yes	No	8	0	4	Overburden			8	4	19	Black Basalt			6	19	41	"			6	41	43	Red Basalt			6	43	47	Black Basalt			6	47	53	Red Clay			6	53	180	lost circ		
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4. METHOD DRILLED ☒ Rotary ☒ Air ☐ Hydraulic ☐ Reverse rotary ☐ Cable ☐ Dug ☐ Other _____	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><u>1250</u> inches</td> <td><u>6</u> inches</td> <td><u>1</u> feet</td> <td><u>19</u> feet</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </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>19</u> Material used in seal: ☐ Cement grout ☒ Bentonite ☐ Pudding clay ☐ _____ 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 _____	Thickness	Diameter	From	To	<u>1250</u> inches	<u>6</u> inches	<u>1</u> feet	<u>19</u> feet													Number	From	To																													
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Number	From	To																																																			
6. LOCATION OF WELL Sketch map location <u>must</u> agree with written location.  Subdivision Name _____ Lot No. _____ Block No. _____ County <u>Gooding</u> <u>SW</u> $\frac{1}{4}$ <u>SE</u> $\frac{1}{4}$ Sec. <u>12</u> T. <u>85</u> N/S, R. <u>150</u> E/W.	11. DRILLERS CERTIFICATION I/We certify that all minimum well construction standards were complied with at the time the rig was removed. Firm Name <u>Eaton Drilling</u> Firm No. <u>26</u> Address <u>Wendell</u> Date <u>6-28-89</u> Signed by (Firm Official) _____ and _____ (Operator)																																																				

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