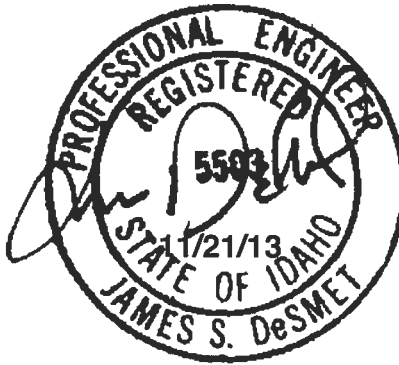


**BENEFICIAL USE FIELD REPORT
IDWR 95-9502**

**Camp MiVoden
17415 E. Hayden Lake Road
Hayden Lake, ID 83835**

RECEIVED
NOV 22 2013
IDWR / NORTH

November 21, 2013



Prepared by:
**QUANTUM Engineering and Geologic
Consulting**

South 2641 Silver Beach Loop Coeur d'Alene, Idaho 83814
208 765 2308

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APPENDIX 6 BENEFICIAL USE FIELD REPORT

1 Introduction

This report presents the results of a beneficial use survey performed at Camp MiVoden located at 17415 E. Hayden Lake Road, Hayden ID. The Camp is located on Hayden Lake and serves permanent staff as well as campers/guests for educational, spiritual and environmental improvement. The property is located in T51N, R3W, Section 11. See the attached site exhibit for details of the property boundaries.

The Idaho Department of Water Resources permit of concern in this beneficial use field examination is 95-9502. Proof of beneficial use was due on August 1, 2013.

2 System Description

Potable water for the Camp is provided by two existing wells (MiVoden#3 and MiVoden#4) and one new well (MiVoden#6) that pump to a common storage reservoir. Locations of the wells and reservoir are shown on the attached site plan.

2.1.1 MiVoden#3

This well was drilled on 11/2/89 to replace the surface lake water system. MiVoden#3 is equipped with a 7 HP Gould pump, Model 7GS10412L. This well has been in use by the Camp since some time shortly after drilling.

The well discharges through a totalizing flow meter and pumps up the hill to a storage reservoir through 2" PVC piping. A vault adjacent to the wellhead houses the flow meter, a pressure gauge and a valve for a 1" galvanized flush hydrant. Discharge piping exists and the exact location and construction have been approximated by the existing staff at the Camp through line repairs and surface evidence.

2.1.2 MiVoden#4

This well was drilled on 11/29/89 and deepened on 1/10/90 and again on 2/11/02. MiVoden#4 is equipped with a 10 HP Gould pump, Model 10GS15412. This well has also been in use by the Camp since some time shortly after drilling.

This well is equipped with a flow meter, pressure gauge and a valve for a 1" galvanized flush hydrant in a meter vault adjacent to the wellhead. This well is also equipped with a 2" PVC discharge that connects to a common line from MiVoden#3 to the reservoir.

2.1.3 MiVoden#6

MiVoden#6 was drilled on 2/15/02. The well was pump tested on 7/8/09 and found to produce approximately 18 gpm during a 24-hour sustained yield test. This well has been sampled and analyzed for a complete suite of contaminants to obtain approval as a public water supply with the Idaho Department of Environmental Quality. MiVoden#6 has not yet had electricity extended to the well and a discharge line to the common reservoir has not yet been constructed.

3 Elevated Storage Reservoirs

The reservoir is a grade level concrete tank located at approximately 2420 feet above mean seal level (msl) above the Camp buildings. Most camp buildings are located at approximately 2240 feet above msl, providing approximately 60-70 psi at the Camp buildings.

The 2" PVC supply line from MiVoden#3 and MiVoden#4 is a dedicated line that supplies the 30,000-gallon concrete reservoir. A network of 6" PVC lines distributes water to the Camp buildings. Again, exact location and construction of these lines is estimated based on historic information and line repairs.

A 3 HP Gould submersible pump is located in the 30,000-gallon reservoir that boosts water to a 6,000-gallon grade level concrete reservoir. The 6,000-gallon reservoir provides gravity flow to one completed cabins and several planned cabins located below the reservoir.

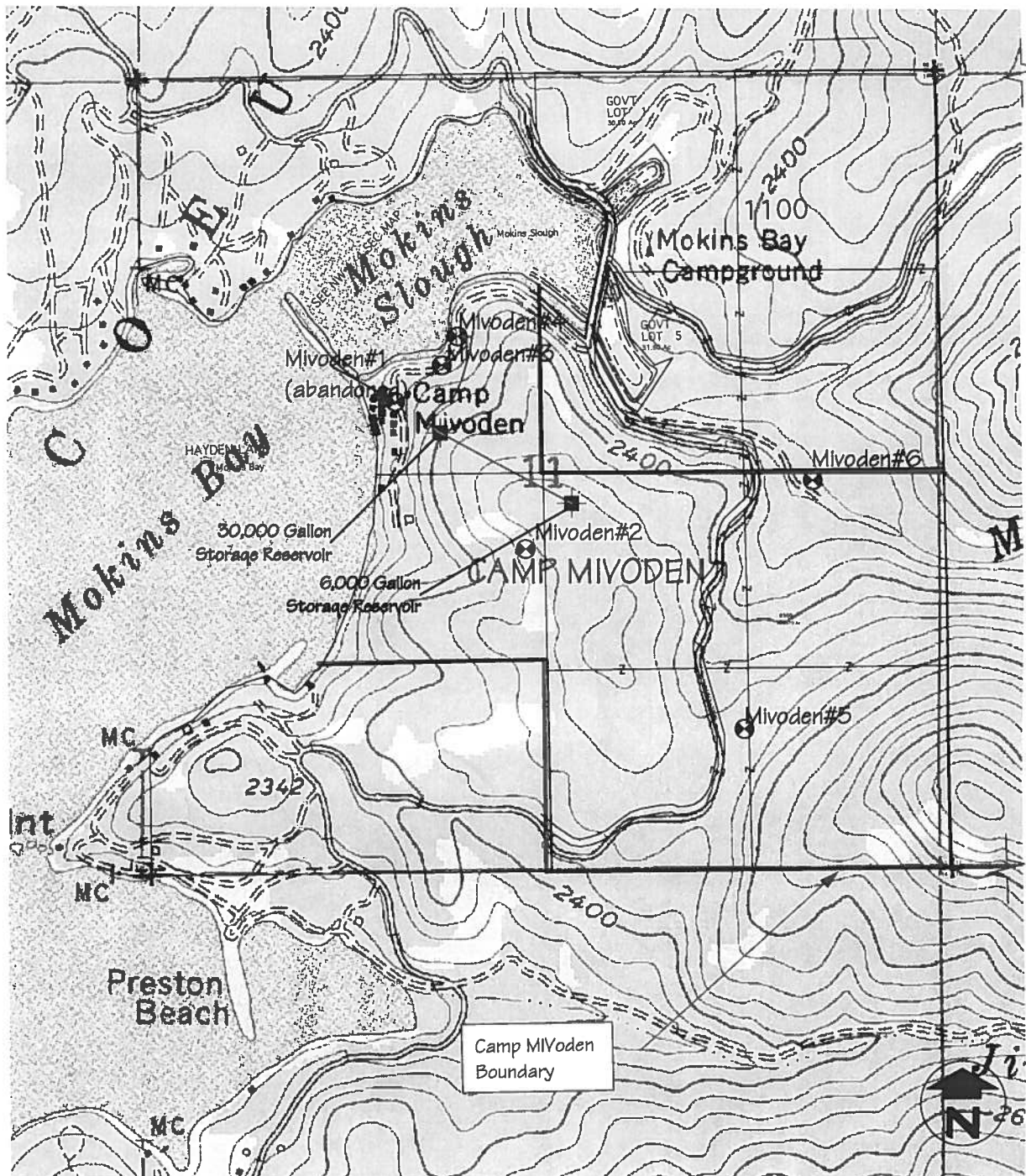
The 6,000-gallon reservoir also feeds a ½ HP Wayne jet pump and Dalton 21-gallon pressure tank. A 1" PVC line from the jet pump supplies water to two potable water hydrants located in the horse barns.

4 Site Reconnaissance

A site reconnaissance was performed on 11/4/2013 by Quantum Engineering with the assistance of Kevin Smith from Camp MiVoden.

The pump curves and flow calculations are attached in the Appendix.

Appendix 1 Site Plan



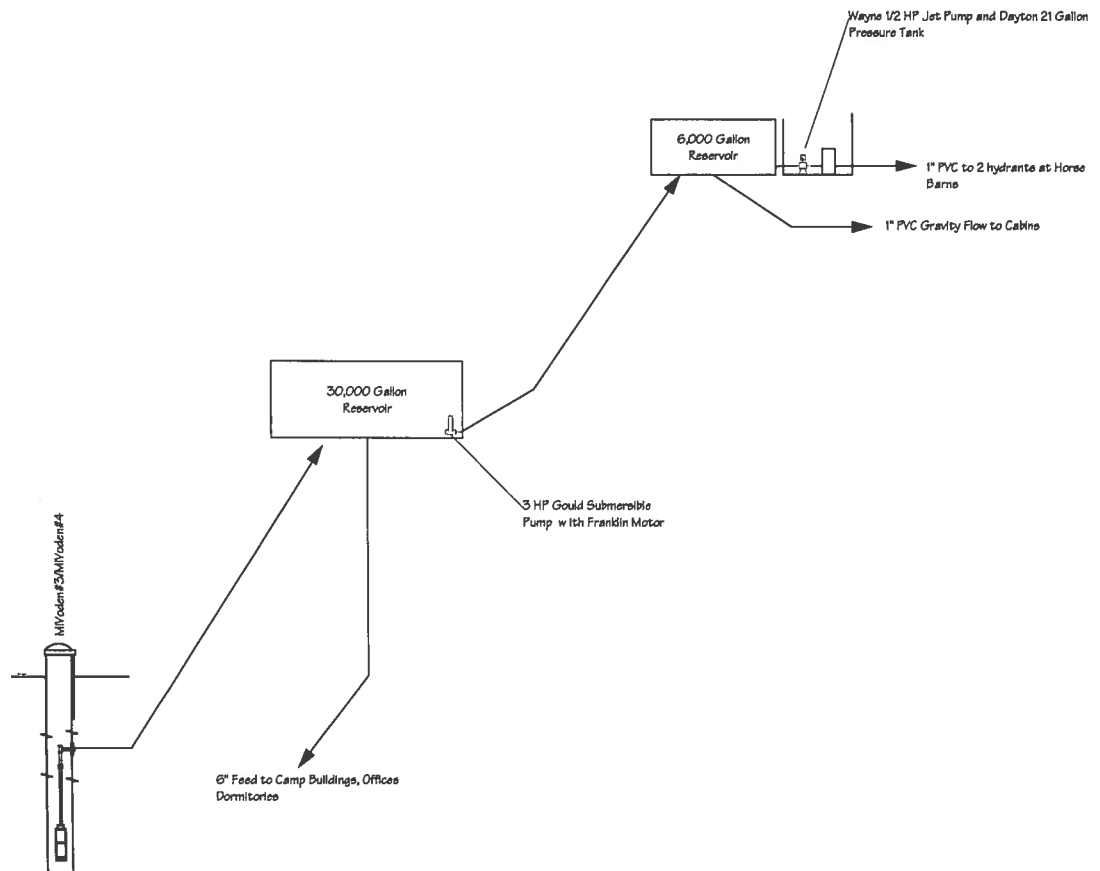
Plat Source: Kootenai County GIS

QUANTUM Engineering and Geologic Consulting

ENGINEER: Jim De Smet
DRAWN BY: Jim De Smet
DATE: 11/21/13
SCALE: 1"=1000'(approx)
SHEET NO:

Camp Mivoden
T51N, R3W, Sec 11
Kootenai County, Idaho

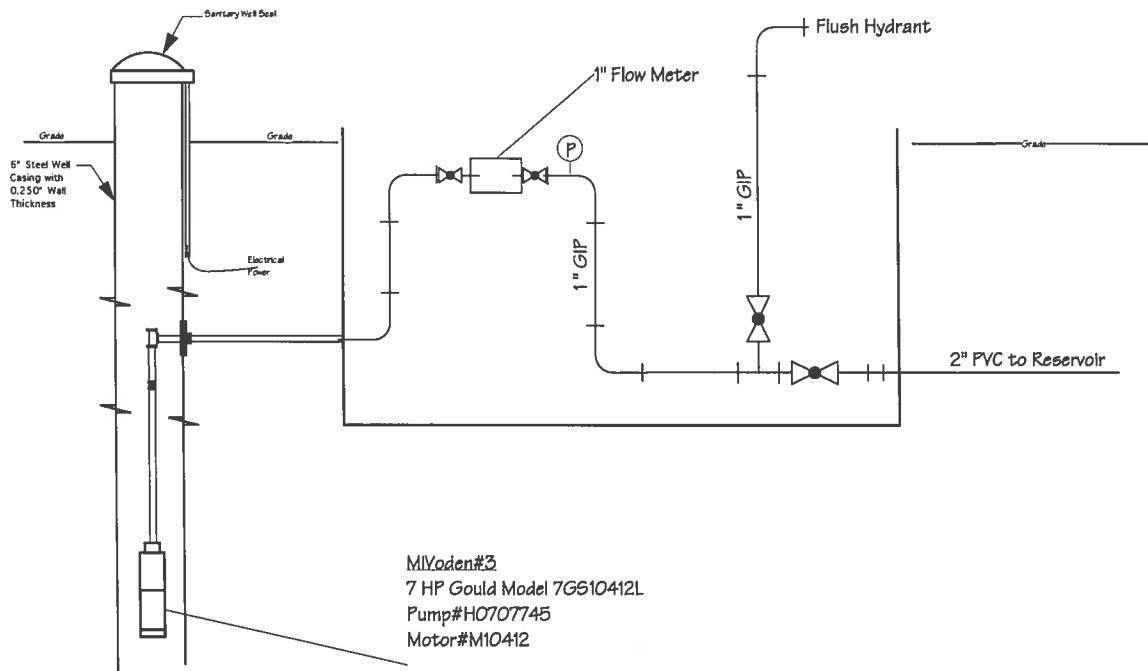
Appendix 2 Site Schematics



QUANTUM Engineering and Geologic Consulting*

ENGINEER: Jim De Smet
DRAWN BY: Jim De Smet
DATE: 11/21/13
SCALE: No Scale
SHEET NO:

Domestic Water System Schematic
Camp M/Voden
17415 E. Hayden Lake Road
Hayden, Idaho



MIYoden#3
 7 HP Gould Model 7GS10412L
 Pump#H0707745
 Motor#M10412

MIYoden#4
 10 HP Gould Model 10GS15412
 Pump#A9816789
 Motor#2K9715-0124

Note:
 Tamperproof caps on wellheads not shown for clarity. See photos in Field Report

QUANTUM Engineering
 and Geologic Consulting

ENGINEER: Jim De Smet
 DRAWN BY: Jim De Smet
 DATE: 11/21/13
 SCALE: No Scale
 SHEET NO:

Schematic
 Camp MIYoden
 MIYoden#3/MIYoden#4
 Kootenai County, Idaho

Appendix 3 Site Photographs



MiVoden#4 w/ tamperproof cap



MiVoden#3 w/ tamperproof cap



30,000-gallon concrete grade reservoir



30,000-gallon concrete grade reservoir



Wellhead for MiVoden#6



6,000-gallon concrete grade reservoir

Appendix 4 Statement of Completion and Well Logs

IDAHO DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

Office Use Only			
Inspected by			
Twp	Rge	Sec	
1/4	1/4	1/4	
Lat	:	Long	:

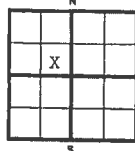
1. WELL TAG NO. D0022123 MAR 05 2002

Drilling Permit No: 773686
Other IDWR No. IDWR/North

2. OWNER
Name CAMP MIVODEN WELL #6 Well Number: 367

Address 17415 E. HAYDEN LK RD
City HAYDEN State ID Zip 83835

3. LOCATION OF WELL by legal description
sketch map location must agree with written location



Twp. 51N ☒ North or ☐ South
Rge. 3W ☐ East or ☒ West
Sec. 11 SE 1/4 NW 1/4 1/4

Gov't Lot _____ County KOOTENAI

Lat: _____ Long: _____

Address of Well Site SAME

City SAME

(Give at least name of road + Distance to Road or Landmark)

Lt. _____ Bik. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement, etc.)

☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD

☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	
BENTONITE			100 LBS	DRY BENTONITE
OTHER SEAL MAT	0	36	AD 0 GALLOS	OUT SEAL/OVERE

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 39

Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6	+2	39	.280	STEEL	☒	☐	☒	☐
4	-5	300	.160	PVC	☐	☒	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS

☒ Perforations Method SKIL SAW

☐ Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
-260	300	1/8 X 6	170	4	PVC	☐	☒

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

12 ft. below ground Artesian pressure _____ lb.
Depth flow encountered 20 ft. Describe access port or control devices: _____

51N 3W 11

11. WELL TESTS:

☐ Pump	☐ Bailor	☒ Air	☐ Flowing Artesian
Yield gal./min.	Drawdown	Pumping Level	Time
25		300	1 HR

Water Temp. COLD Bottom Hole Temp COLD

Water Quality test or comments: OK

Depth first Water encountered 20

12. LITHOLOGIC LOG:(Describe repairs or abandonment)

Bore Log			Water	
From	To	Remarks: Lithology, Water Quality, Temperature	Y	N
10	0	28 Soils w/Gravel w/Water - cased off	☒	☐
10	28	37 Clayish Gravel	☐	☒
10	37	39 Granite Salt & Pepper	☐	☒
6	39	56 Granite Salt & Pepper	☐	☒
6	56	63 Broken Granite Black & Brown w/10-1	☒	☐
6	63	243 Granite Salt & Pepper	☐	☒
6	243	250 Granite Salt & Pepper w/Soft Green 12	☒	☐
6	250	300 Granite Salt & Pepper	☐	☐

Completed Depth 300 (Measurable)
Date: Started 2/14/02 Completed 2/15/02

13. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name H2O Well Service, Inc. Firm No. 448

Firm Official [Signature] Date 2-19-02

and Supervisor or Operator [Signature] Date 2-19-02

(Sign Once if Firm Official and Operator)

Louie Hanner

SCANNED
DEC 24 2013

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.

1. WELL OWNER Name <u>Camp Juwoda Well #4</u> Address <u>Rte 2 Box 259 Hayden</u> Owner's Permit No. <u>95-89-A-82101</u>		7. WATER LEVEL Static water level <u>22'</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>60</u> °F. Quality <u>No. S&T</u> Describe strata or temperature zones below																																	
2. NATURE OF WORK ☒ New well ☐ Deepened ☐ Replacement ☐ Well diameter increase ☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)		8. WELL TEST DATA # <u>1</u> ☐ Pump ☐ Bailor ☒ Air ☐ Other <table border="1"><thead><tr><th>Discharge G.P.M.</th><th>Pumping Level</th><th>Hours Pumped</th></tr></thead><tbody><tr><td><u>60</u></td><td><u>50</u></td><td><u>2</u></td></tr></tbody></table> Final Yield = 15 gpm after Hydrofrac and Deepening <table border="1"><thead><tr><th>Bore Diam.</th><th>Depth</th><th>Material</th><th>Water</th></tr><tr><th></th><th>From</th><th>To</th><th>Yes No</th></tr></thead><tbody><tr><td><u>8</u></td><td><u>0</u></td><td><u>19</u></td><td></td></tr><tr><td><u>6</u></td><td><u>19</u></td><td><u>50</u></td><td></td></tr><tr><td><u>0</u></td><td><u>12</u></td><td><u>Decomposed Granite</u></td><td>☒</td></tr><tr><td><u>12</u></td><td><u>50</u></td><td><u>Salt & Pepper Granite</u></td><td>☒</td></tr></tbody></table> <u>Hit First water 32 ft</u> <u>Approx. 30 gpm</u> <u>Hit second water 42 ft</u> <u>Approx. 30 gpm</u> <u>rock is fractured in</u> <u>both water zones</u> RECEIVED DEC 08 1989 SOUTHERN REGION DWR		Discharge G.P.M.	Pumping Level	Hours Pumped	<u>60</u>	<u>50</u>	<u>2</u>	Bore Diam.	Depth	Material	Water		From	To	Yes No	<u>8</u>	<u>0</u>	<u>19</u>		<u>6</u>	<u>19</u>	<u>50</u>		<u>0</u>	<u>12</u>	<u>Decomposed Granite</u>	☒	<u>12</u>	<u>50</u>	<u>Salt & Pepper Granite</u>	☒		
Discharge G.P.M.	Pumping Level	Hours Pumped																																	
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Bore Diam.	Depth	Material	Water																																
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<u>12</u>	<u>50</u>	<u>Salt & Pepper Granite</u>	☒																																
3. PROPOSED USE ☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection ☐ Other _____ (specify type)																																			
4. METHOD DRILLED ☒ Rotary ☒ Air ☐ Hydraulic ☐ Reverse rotary ☐ Cable ☐ Dug ☐ Other _____																																			
5. WELL CONSTRUCTION Casing schedule: ☐ Steel ☐ Concrete ☐ Other <table border="1"><thead><tr><th>Thickness</th><th>Diameter</th><th>From</th><th>To</th></tr></thead><tbody><tr><td><u>250</u> inches</td><td><u>6</u> inches</td><td><u>1</u> feet</td><td><u>19</u> feet</td></tr><tr><td><u>160</u> inches</td><td><u>4</u> inches</td><td><u>10</u> feet</td><td><u>50</u> feet</td></tr><tr><td>_____ inches</td><td>_____ inches</td><td>_____ feet</td><td>_____ feet</td></tr><tr><td>_____ inches</td><td>_____ inches</td><td>_____ feet</td><td>_____ feet</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 ☐ Gun Size of perforation <u>16</u> inches by <u>3</u> inches <table border="1"><thead><tr><th>Number</th><th>From</th><th>To</th></tr></thead><tbody><tr><td><u>100</u> perforations</td><td><u>10</u> feet</td><td><u>50</u> feet</td></tr><tr><td>_____ perforations</td><td>_____ feet</td><td>_____ feet</td></tr><tr><td>_____ perforations</td><td>_____ feet</td><td>_____ feet</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 ☐ Puddling 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>250</u> inches	<u>6</u> inches	<u>1</u> feet	<u>19</u> feet	<u>160</u> inches	<u>4</u> inches	<u>10</u> feet	<u>50</u> feet	_____ inches	_____ inches	_____ feet	_____ feet	_____ inches	_____ inches	_____ feet	_____ feet	Number	From	To	<u>100</u> perforations	<u>10</u> feet	<u>50</u> feet	_____ perforations	_____ feet	_____ feet	_____ perforations	_____ feet	_____ feet		
Thickness	Diameter	From	To																																
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_____ perforations	_____ feet	_____ feet																																	
_____ perforations	_____ feet	_____ feet																																	
6. LOCATION OF WELL Sketch map location must agree with written location: <table border="1"><tr><td>N</td><td></td><td>E</td></tr><tr><td>W</td><td></td><td>E</td></tr></table> Subdivision Name <u>DEC 04 1991</u> Lot No. _____ Block No. _____ County <u>Boone</u> Sec. <u>11</u> T. <u>5</u> S. <u>3</u> R. <u>3</u> W. <u>3</u>		N		E	W		E	10. Work started <u>11-29-89</u> finished <u>11-30-89</u>																											
N		E																																	
W		E																																	
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>H&O Well Serv.</u> Firm No. <u>442</u> Address <u>Hayden</u> Date <u>12-1-89</u> Signed by (Firm Official) <u>John Williams</u> and (Operator) <u>Wayne Miller</u>																																			

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

SCANNED
DEC 24 2013

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only			
Inspected by _____			
Twp _____	Rge _____	Sec _____	
Lat: _____	Long: _____	_____	

WELL TAG NO. D0022120

Drilling Record No: 95-89-N-101-1

Other Record No. 773349

2. OWNER

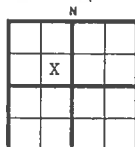
Name CAMP MIVODEN WELL # 364

Address 17415 E. HAYDEN LK RD Second Deepening

City HAYDEN State ID Zip 83835

3. LOCATION OF WELL by legal description

sketch map location must agree with written location



Twp. 51N ☒ North or ☐ South

Rge. 3W ☐ East or ☒ West

Sec. 11 SE 1/4 NW 1/4 1/4

Gov't Lot _____ County KOOTENAI

Lat: _____ Long: _____

Address of Well Site SAME

City SAME

(Give at least name of road + Distance to Road or Landmark)

Lt. _____ Bik. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation

☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement, etc.)

☐ New Well ☒ Modify ☐ Abandonment ☐ Other DEEPEN

6. DRILL METHOD

☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	

Was drive shoe used? ☐ Y ☐ N Shoe Depth(s) _____

Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS

☐ Perforations Method _____

☐ Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

20 ft. below ground Artesian pressure _____ lb.

Depth flow encountered 20 ft. Describe access port or control devices: _____

51N 3W 11

11. WELL TESTS:

☐ Pump ☐ Bailor ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
Final Yield=15gpm			

Water Temp. _____ Bottom Hole Temp _____

Water Quality test or comments: _____

Depth first Water encountered 20

12. LITHOLOGIC LOG:(Describe repairs or abandonment)

				Water	
Bore Hole	From	To	Remarks: Lithology, Water Quality, Temperature	Y	N
6	100	400	Granite Salt & Pepper w/ Green Tint	☐	☐
			No more water found	☐	☐

Completed Depth 400 (Measurable)

Date: Started 2/11/02 Completed 2/12/02

13. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name H2O Well Service, Inc. Firm No. 448

Firm Official Tom R. Hanner Date 2-15-02

and Supervisor or Operator Louie Hanner Date 2-15-02

(Sign Once if Firm Official and Operator)

Louie Hanner

SCANNED
DEC 24 2013

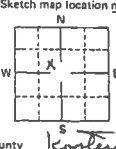
STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORTUSE TYPEWRITER OR
BALLPOINT PENState law requires that this report be filed with the Director, Department of Water Resources
within 30 days after the completion or abandonment of the well.

1. WELL OWNER Name <u>Camp Minors</u> Address <u>Rte 2 Box 259 Hayden</u> Owner's Permit No. <u>95-82-N-101-1</u>		7. WATER LEVEL Static water level <u>22</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 _____ OF. Quality _____ Describe stratum or temperature must 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 ☐ Baller ☐ Air ☐ Other _____ <table border="1"><thead><tr><th>Discharge G.P.M.</th><th>Pumping Level</th><th>Hours Pumped</th></tr></thead><tbody><tr><td><u>7.5</u></td><td><u>80'</u></td><td><u>4</u></td></tr><tr><td><u>5.7</u></td><td><u>80'</u></td><td><u>after this</u></td></tr></tbody></table> Final Yield <u>15gpm</u> after <u>Hydrotrac and Deepening</u> 9. LITHOLOGIC LOG <table border="1"><thead><tr><th>Bore Diam.</th><th>Depth</th><th>Material</th><th>Water Yrd No</th></tr></thead><tbody><tr><td><u>6"</u></td><td><u>50-100</u></td><td><u>fractured limestone</u></td><td>☒</td></tr></tbody></table>		Discharge G.P.M.	Pumping Level	Hours Pumped	<u>7.5</u>	<u>80'</u>	<u>4</u>	<u>5.7</u>	<u>80'</u>	<u>after this</u>	Bore Diam.	Depth	Material	Water Yrd No	<u>6"</u>	<u>50-100</u>	<u>fractured limestone</u>	☒															
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3. PROPOSED USE ☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection ☐ Other _____ (specify type)																																			
4. METHOD DRILLED ☒ Rotary ☒ Air ☐ Hydraulic ☐ Reverse rotary ☐ Cable ☐ Dug ☐ Other _____																																			
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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>H. D. Wells Inc.</u> Firm No. <u>48</u> Address <u>Hayden, ID</u> Date <u>1-15-90</u> Signed by (Firm Official) <u>John L. Lister</u> and (Operator) <u>John L. Lister</u>																																			

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

SCANNED
DEC 24 2013

Form 238-7
6/89STATE 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.

1. WELL OWNER Name <u>Comp Involvement</u> Address <u>Hayden Lake</u> Owner's Permit No. <u>95-89-N-92</u>		7. WATER LEVEL Static water level <u>23'</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>Cool</u> of: Quality <u>No Small</u> Describe artesian or temperature zones below.																																					
2. NATURE OF WORK ☒ New well ☐ Deepened ☒ Replacement ☐ Well diameter increase ☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)		8. WELL TEST DATA # <u>3</u> ☐ Pump ☐ Baller ☒ Air ☐ Other _____ Discharge G.P.M. <u>3.9</u> Pumping Level <u>350</u> Hours Pumped <u>2</u> Yield=6gpm after Hydrofrac																																					
3. PROPOSED USE ☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection ☐ Other _____ (specify type)		9. LITHOLOGIC LOG <table border="1"> <thead> <tr> <th>Bore Diam.</th> <th>Depth From To</th> <th>Material</th> <th>Water Yes No</th> </tr> </thead> <tbody> <tr> <td>6"</td> <td>0 39</td> <td></td> <td></td> </tr> <tr> <td></td> <td>39 350</td> <td></td> <td></td> </tr> <tr> <td></td> <td>0 35</td> <td>Decomposed Granite</td> <td>X</td> </tr> <tr> <td></td> <td>35 350</td> <td>Salt & Pepper Granite</td> <td></td> </tr> <tr> <td></td> <td></td> <td>with salt spots</td> <td>X</td> </tr> <tr> <td></td> <td>390 340</td> <td>Dark Granite (harder)</td> <td>X</td> </tr> <tr> <td></td> <td>340 345</td> <td>Salt & Pepper (Brachic)</td> <td>X</td> </tr> <tr> <td></td> <td>345 350</td> <td>Dark Salt & Pepper Granite</td> <td>X</td> </tr> </tbody> </table> Hit water at 95 ft. 3.9 gals per minute NO water below 95 ft.		Bore Diam.	Depth From To	Material	Water Yes No	6"	0 39				39 350				0 35	Decomposed Granite	X		35 350	Salt & Pepper Granite				with salt spots	X		390 340	Dark Granite (harder)	X		340 345	Salt & Pepper (Brachic)	X		345 350	Dark Salt & Pepper Granite	X
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USE ADDITIONAL SHEETS IF NECESSARY - FORWARD THE WHITE COPY TO THE DEPARTMENT

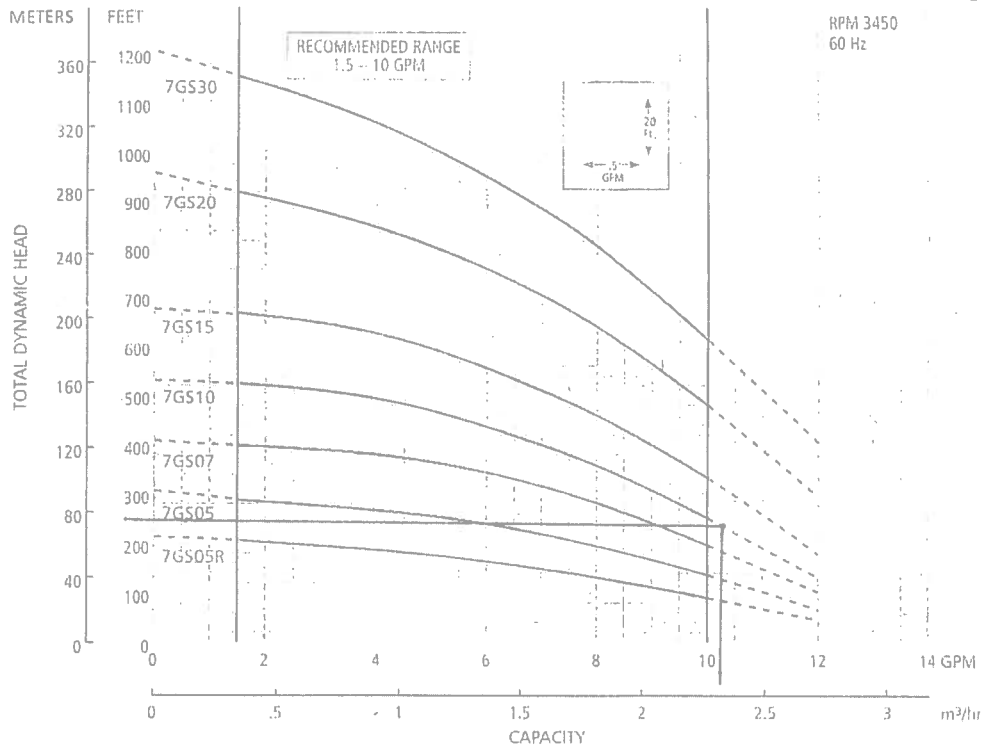
SCANNED
DEC 24 2013

Appendix 5 Pump Curves and Flow Calculations

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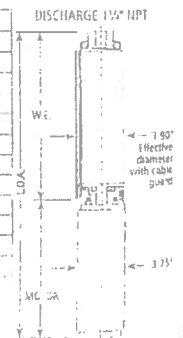
Model 7GS

GOULDS PUMPS



DIMENSIONS AND WEIGHTS

Model	HP	Phase	Stages	Length (inches)			Weight (lbs.)		
				W.E.Ⓢ	Motor	L.O.A.Ⓢ	W.E.	Motor	Total
7GS05412R,22,11,21Ⓢ	1/4Ⓢ	1	7	11.7	9.5	21.2	6	19	25
7GS05412,22,11,21	1/4	1	10	13.8	9.5	23.3	7	19	26
7GS07412,22	1/4	1	13	16.6	10.7	26.7	8	21	29
7GS10412,22	1	1	17	18.8	11.8	30.6	9	24	33
7GS15412	1 1/2 3 wire	1	22	23.6	13.6	37.2	12	28	40
7GS15422	1 1/2 2 wire	1	22	23.6	15.1	38.7	12	31	43
7GS15432,34	1 1/2	3	22	27.2	11.8	39.0	12	24	36
7GS20Ⓢ	2	1	27	27.2	15.1	42.3	13	33	46
7GS20Ⓢ	2	3	27	27.2	13.6	40.8	13	28	41
7GS30Ⓢ	3	1	34	33.2	19.1	52.3	18	41	59
7GS30Ⓢ	3	3	34	33.2	16.1	49.3	18	35	53

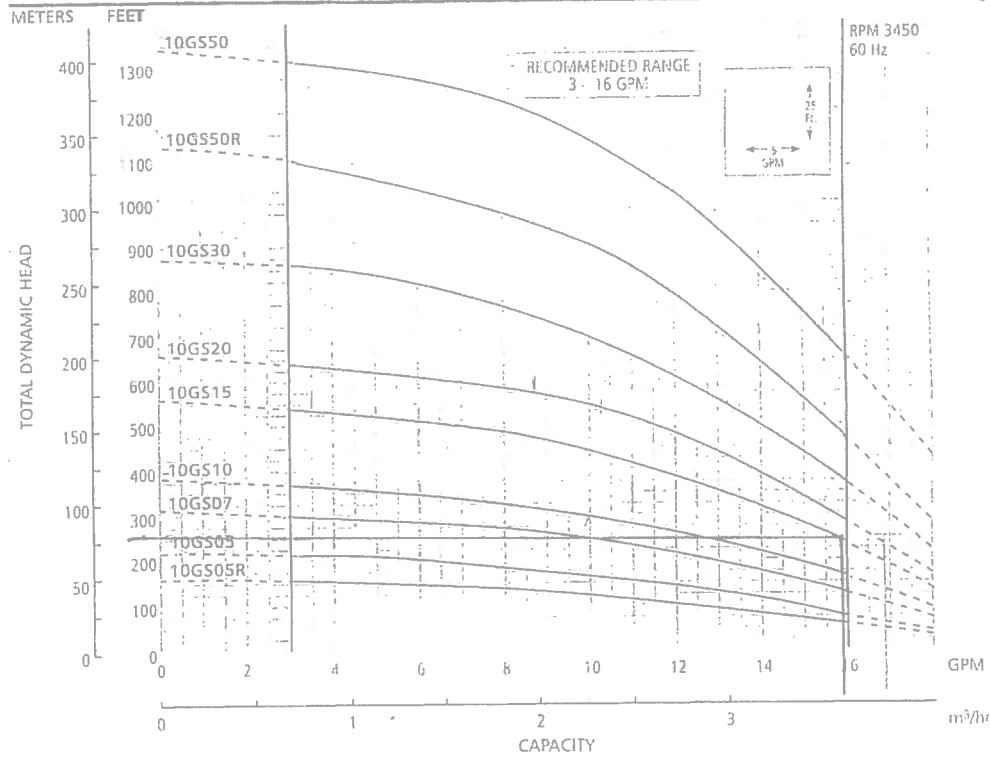


Ⓢ Reduced stage 1/4 HP pump/water end for low head applications. This model replaces the 1/4 HP water end.
 Ⓢ W.E. = water end or pump without motor.
 Ⓢ L.O.A. = length of assembly - complete pump - water end and motor
 Ⓢ See Price Book for Complete Pump Order Numbers, 2 HP and larger units are not preassembled

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Model 10GS

GOULDS PUMPS



DIMENSIONS AND WEIGHTS

Model	HP	Phase	Stages	Length (inches)			Weight (lbs.)		
				W.E. Ⓢ	Motor	L.O.A. Ⓢ	W.E.	Motor	Total
10GS05412R, 22, 11, 21 Ⓢ	1/8 Ⓢ	1	5	10.1	9.5	19.6	6	19	25
10GS05412, 22, 11, 21	1/8	1	7	11.5	9.5	21.0	7	19	26
10GS07412, 22	1/4	1	10	13.6	10.7	24.3	8	21	29
10GS10412, 22	1	1	12	15.0	11.2	26.2	9	24	33
10GS15412	1 1/2 w/e	1	17	18.4	13.6	32.0	12	28	40
10GS15422	1 1/2 w/e	1	17	18.4	15.1	33.5	12	31	43
10GS15432	1 1/2	3	17	18.4	11.8	30.2	12	24	36
10GS20 Ⓢ	2	1	20	21.7	15.1	36.8	13	33	46
10GS20 Ⓢ	2	3	20	21.7	13.6	35.3	13	28	41
10GS30 Ⓢ	3	1	27	27.5	19.1	46.6	16	41	57
10GS30 Ⓢ	3	3	27	27.5	16.1	43.6	18	35	53
10GS50R Ⓢ Ⓢ	5	1	35	33.0	28.2	61.2	21	70	91
10GS50R Ⓢ Ⓢ	5	3	35	33.0	22.2	55.2	21	55	76
10GS50 Ⓢ	5	1	42	40.2	28.2	68.4	24	70	94
10GS50 Ⓢ	5	3	42	40.2	22.2	62.4	24	55	79

DISCHARGE 1 1/2" NPT



Ⓢ R = Reduced stage water end.
 Ⓢ W.E. = water end or pump without motor.
 Ⓢ L.O.A. = length of assembly - complete pump - water end and motor.
 Ⓢ See Price Book for Complete Pump Order Numbers, 2 HP and larger units are not preassembled.

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Flow Calc's.

M. Vaden # 3

Given SWL = 22 ft.

W/H Elev = 2240 ft.
Res Elev = 2420 ft.

$$h_{Total} = h_z + h_f$$

$$\Delta Z = 23 ft + (2420 - 2240)$$

$$\Delta Z = 203$$

$$\text{Let } h_f \approx 20\% = 40.6 ft.$$

$$h_{Total} = 203 + 40.6 = 243.6 ft.$$

From Pump Curve $Q \approx 10.5 gpm$

M. Vaden # 4

Given SWL = 20 ft.

W/H Elev = 2240
Res Elev = 2420

$$h_T = h_z + h_f$$

$$\Delta Z = 20 + (2420 - 2240)$$

$$\Delta Z = 200 ft$$

$$\text{Let } h_f = 20\% = 0.20 (200) = 40 ft.$$

$$h_{Total} = 200 + 40 ft. = 240 ft.$$

From Pump Curve $Q \approx 16 gpm.$

Appendix 6 Beneficial Use Field Report Form 219

SCANNED
DEC 24 2013

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A Beneficial Use Field Report is prepared by a water right examiner as the result of an examination to clearly confirm and establish the extent of the beneficial use of water established in connection with a permit during the development period authorized by the permit and any extensions of time previously approved.

A. GENERAL INFORMATIONPermit No. 95-9502

1. Owner Upper Columbia Corporation Phone No. 208 772 3484
Current address PO Box 19039
2. Examiner's name James S. De Smet EXAM DATE 11/4/13
3. Accompanied by Kevin Smith Email brucech@mivoden.com
Address 17415 E. Hayden Lake Rd, Hayden Lake, ID 83835
Relationship to permit holder Camp Maintenance Manager Phone No. 208 699 7045
4. Source Groundwater tributary to _____

B. OVERLAP REVIEW

1. Other water rights with the same place of use N/A
2. Other water rights with the same source and point of diversion N/A

C. DIVERSION AND DELIVERY SYSTEM

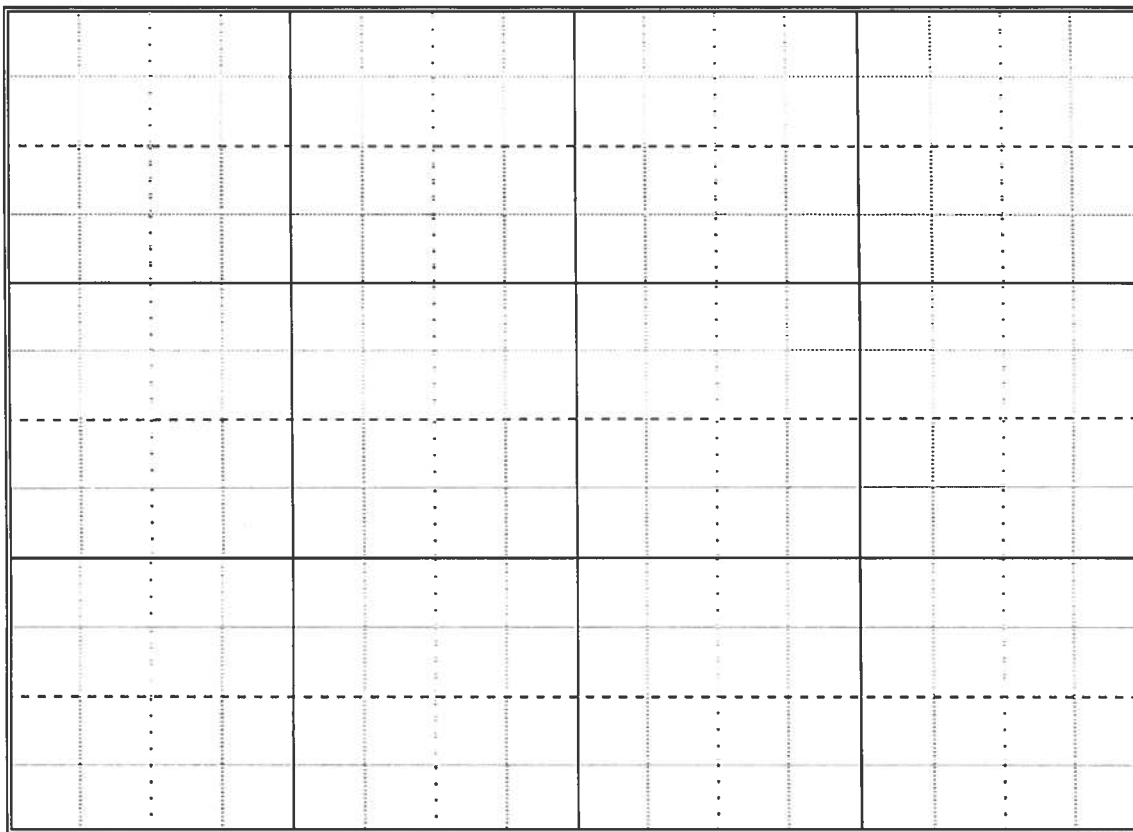
1. Point(s) of Diversion:

Ident. No.	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County	Method of Determination/Remarks
#3	4		SE	NW	11	51N	3W	Kootenai	GPS and grid overlay
#4	4		SE	NW	11	51N	3W	Kootenai	GPS and grid overlay
#6			NE	SE	11	51N	3W	Kootenai	GPS and grid overlay

2. Place(s) of Use: Method of determination Map grid overlay

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
51N	3W	11								D	D					D			

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☒ see attached.



Scale: 1" = _____

- ☒ 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
Well #3	Gould 7GS10412	7	M10412	Gould	H0707745
Well#4	Gould10GS15412	10	2K9715-0124	Gould	A9816789

*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
N/A						

2. Measurements: _____

E. NARRATIVE/REMARKS/COMMENTS

Wells MiVoden#3 and MiVoden#4 are existing wells that serve the Camp domestic water supply. MiVoden #6 has been drilled, pump tested, sampled and approved by IDEQ for potable use to the Camp. MiVoden #6 is not yet connected to the distribution system and has not yet been put to beneficial use at the time of the survey. Both wells pump to a 30,000-gallon reservoir that gravity feeds water to Camp facilities located near the beach on Hayden Lake. A submersible pump (3 HP Franklin, 33 gpm SN#B125908) is located in the 30,000-gallon reservoir that boosts water to a 6,000-gallon reservoir located at the highest elevation on the Camp. This reservoir then distributes water by gravity to a newly constructed cabin and several cabins to be constructed in the future.

A booster pump and pressure tank are also located in a vertical culvert located adjacent to the 6,000-gallon reservoir. This booster pump (1/2 HP Wayne Jet Pump) and pressure tank (Dayton 21-gallon) provide pressure flow to two potable hydrants located near the horse barns.

Has the permit holder met all conditions of permit approval, including any mitigation requirements and/or measuring device installation requirements? ☐ Yes ☒ No If no, what must be done to meet the permit requirements?

MiVoden#6 has yet to be energized and connected to the existing distribution system.

F. FLOW CALCULATIONS☒ Additional computation sheets attached

Measured Method:

Using pump curve and pressure head observed by pump service contractor.

See attached pump curves and head calculations.

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:

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use From To		Rate of Diversion Q (cfs)	Annual Volume V (afa)
Domestic MiVoden#3	1/1	12/31	0.023	
Domestic MiVoden#4	1/1	12/31	0.036	
Totals:			0.06	

2. Recommended Amendments

- ☐ Change P.D. as reflected on page 1 ☐ Add P.D. as reflected on page 1 ☒ None
☐ Change P.U. as reflected on page 1 ☐ Add P.U. as reflected on page 1 ☐ Other

I. AUTHENTICATIONField Examiner's Signature  Date 11/21/13

SEAL

Reviewer _____ Date _____