

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION** Partial Field Exam **

Permit No: 95-9395

Exam Date: Remote Exam

(Eric Davis did a site visit to verify POU and well location 7/2010)

1. Current Owner: KOOTENAI MEDICAL CENTER
2003 LINCOLN WAY
COEUR D'ALENE ID 83814
(208)666-3466

2. Accompanied by: NA

3. SOURCE

GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: Municipal Water (city of Coeur D'Alene), Permit 95-9484 for Heating/Cooling with a proof due date of 8/2010

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 L2 SW1/4NE1/4 Sec. 11, Twp 50N, Rge 04W, B.M. KOOTENAI County

Method of Determination: GPS coordinates 116 47°33.3'N 47 41°43.4'E

2.

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
50N	04W	11	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	5.0
					5.0														
					L 2														

Total Acres: 5

PLACE OF USE: COMMERCIAL

Twp	Rge	Sec	NE				NW				SW				SE				Totals
50N	04W	11	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
					X														
					L 2														

Method of Determination: Aerial Imagery (2009)

3.

___x___ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.

___x___ Photo of Diversion and System Attached (see DEQ's photos)

4.

Well or DiversionID No.*Motor MakeHpMotor Serial No.Pump MakePump Serial No. or Discharge Size

D0055427

10 hp Goulds 33GS

40 hp Goulds 6CHC

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

D. FLOW MEASUREMENTS1. Physical Measurement RequiredMeasurement

<u>Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
NA						

2. Measurements: No physical measurement obtained

E. FLOW CALCULATIONS

___x___ Additional Computation Sheets Attached

Measured Method: See attached pump curves. In addition I did theoretical estimates to check the curves.

PUMP #1

Depth to Water: 360

hP: 10

psi: maximum 60

$$Q = \frac{8.8 \times 0.7 \times 10}{360 \times (2.31 \times 60)} = \frac{61.6}{498.6} = 0.12 \text{ cfs}$$

The attached rating chart for Goulds Model 33GS (the pump used for irrigation) shows a range of 45-49 gpm (0.10 cfs-0.11 cfs), depending on the psi, at depth of 350 ft.

PUMP #2

Depth to Water: 360

hP: 40

psi: estimated @ 20

$$Q = \frac{8.8 \times 0.7 \times 40}{360 \times (2.31 \times 20)} = \frac{246.4}{406.2} = 0.60 \text{ cfs}$$

The attached rating chart for Goulds Model 6CHC shows an output of 350 gpm (0.78 cfs) for these conditions.
(which is not at the optimal operating range)

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 5 \text{ acres} \times 3 = 15 \text{ afa}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.13 \times 231 \times 1.9835 = 60 \text{ afa}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 15 \text{ afa (note that the volume will be addressed in the conditions of approval)}$$

2. Volume Calculations for Other Uses: The commercial use is intended to be back-up water for the medical center in the event the city water is compromised or unavailable. In order to establish a volume for the commercial use, we will use the volume of water used from the city. That should ensure that enlargement of this right does not occur.

A report submitted by the representative for KMC follows:

Total consumption from Oct. 07-Oct. 09 = 112,384,000 gallons

To calculate the annual volume that was consumed for the last two years in acre-feet the following calculation is used:

$$\frac{112,384,000}{2} = 172.4 \text{ afa}$$

$$325,850$$

G. NARRATIVE/REMARKS/COMMENTS**Reinstatement of Permit**

The proof of beneficial statement associated with this right was filed 82 days late. The proof is adequate to reinstate the permit and to also license the permit by conducting a remote field exam. The priority date has been advanced to reflect the date that the proof was received, 12/29/2009.

Irrigated Place of Use

The area immediately around the Kootenai Medical Center (KMC) includes grass and landscaped area. NAIP 2006 and 2009 imagery shows that there are 5 acres of irrigated land. Since there is municipal water available from the city, Eric Davis confirmed that the irrigated water under this right was put to beneficial use.

Place of Use Overlap

There is one well associated with KMCs back-up system. The center primarily receives water from the city of Coeur d Alene. The center wants to be prepared for any type of emergency situation and needs to be sure that there is always a source of water.

Water consumption records for the last two years, October 2007 through October 2009 were submitted in order to comply with the conditions of approval on the permit. The total volume for the two years is recorded as 112,384,000 gallons or 172.4 afa. The license will include a volume limit of 172.4 afa that includes both city water and water authorized from this right. This will give KMC the option to either use the city water or their well water, not both.

POD

The well drillers report lists the well in the NENE of Sec 11, 50N4W. I contacted KMCs representative and verified that the well is located in the SWNE of Sec 11, 50N4W (see map attached to email 3/11/10). Also, POD was verified during a site visit by Eric Davis.

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>
IRRIGATION	03/15 to 11/15	0.120 CFS	n/a
COMMERCIAL	01/01 to 12/31	0.60 CFS	n/a
<u>Totals:</u>		0.72 CFS	n/a (see conditions on license)

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

Reviewer: Cherie Padilla Date: 8/5/2010

95-9395 Place of Use



Legend

- Right POD
- Commercial POU
- Irrigated POU
- Township/Range
- Sections
- QQ



2009 Imagery

33GS

For Irrigation Pump

GOULDS PUMPS
Residential Water Systems

ART

Range 1 – 3, Recommended Range 10 – 50 GPM, 60 Hz, 3450 RPM

ft	Depth to Water in Feet/Ratings in GPM (Gallons per Minute)																											
	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	520	560	600	
1		48	45	41	36	30	22	11																				
0	44	39	34	28	19																							
0	39	33	27	17																								
0	32	25	15																									
0	24	14																										
0	12																											
	67	58	50	41	32	24	15	6																				
1		50	48	46	43	40	37	32	26	19																		
0	48	45	43	39	35	31	24	17																				
0	45	42	39	35	30	23	15																					
0	42	38	34	29	22	14																						
0	38	33	28	21	12																							
0	33	27	20	11																								
	95	86	78	69	60	52	43	34	26	17																		
1			49	48	46	44	41	38	35	32	28	22																
0	49	47	45	43	40	38	34	31	26	21	14																	
0	47	45	42	40	37	34	30	25	20	13																		
0	44	42	40	37	33	29	24	19	11																			
0	42	39	36	33	29	24	18																					
0	39	36	32	28	23	16																						
	121	112	103	95	86	77	69	60	51	43	34	26																
1				49	48	46	45	43	41	40	38	35	33	31	28	24	20	15										
0	50	49	47	46	44	43	41	39	37	35	32	30	27	23	19	13												
0	49	47	46	44	42	41	39	37	34	32	29	26	22	18	12													
0	47	45	44	42	40	38	36	34	32	29	25	22	17	11														
0	45	44	42	40	38	36	34	31	28	25	21	16																
0	43	42	40	38	36	33	31	28	24	20	15																	
	170	161	152	144	135	126	118	109	100	92	83	74	66	57	48	40	31	23										

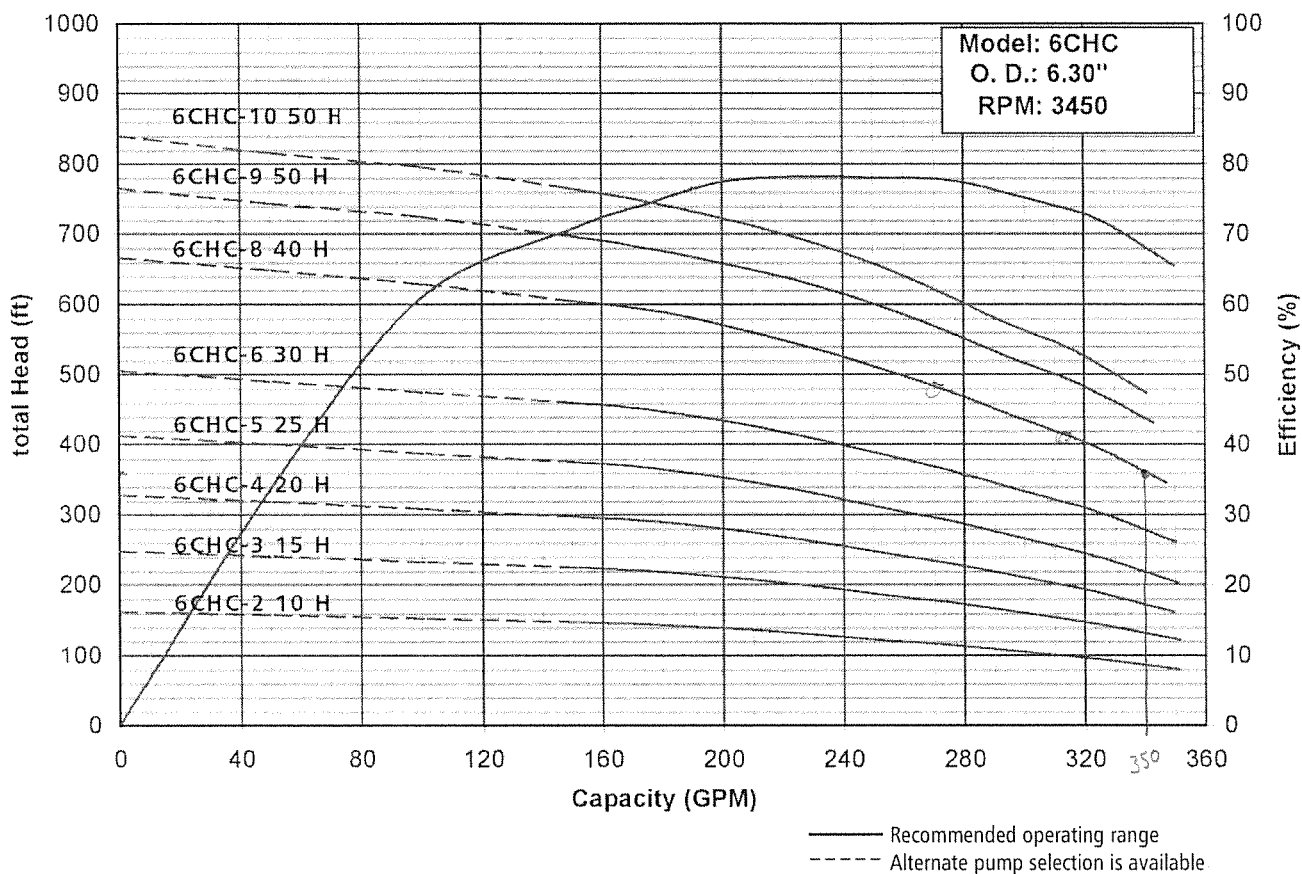
Range 5-10, Recommended Range 10 – 50 GPM, 60 Hz, 3450 RPM

ft	Depth to Water in Feet/Ratings in GPM (Gallons per Minute)																											
	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	
1		50	48	46	44	41	38	35	31	27	20	11																
0	50	48	46	44	41	38	35	32	27	21	11																	
0	49	47	45	43	40	37	34	30	25	17																		
0	48	46	44	41	39	36	32	27	21	12																		
0	47	45	43	40	37	34	30	25	18																			
0	46	44	42	39	36	32	28	22	13																			
0	264	242	220	199	177	156	134	112	91	69	47	26																
1				50	48	47	46	44	42	40	38	36	33	31	27	23	19	14										
0			50	49	47	46	44	42	41	38	36	34	31	28	24	19	14											
0		50	49	48	46	45	43	42	40	37	35	32	29	26	22	17	12											
0		50	49	47	46	44	43	41	39	36	34	31	28	24	20	15												
0		49	48	47	45	43	42	40	38	35	33	30	26	22	17	12												
0	50	49	47	46	44	43	41	39	37	34	31	28	24	20	15													
0	415	393	371	350	328	306	285	263	241	220	198	176	155	133	111	90	68	47										
1							49	48	46	45	43	42	41	40	39	38	36	34	31	28	25	22	18	13				
0					50	48	46	45	43	42	41	40	39	38	36	34	31	29	25	22	18	14						
0					49	47	45	44	43	42	41	40	38	37	35	33	30	27	24	20	16	12						
0				50	48	46	45	44	43	42	40	39	38	36	34	32	29	26	22	18	14							
0				49	47	45	44	43	42	41	40	39	37	35	33	30	27	24	20	16	12							
0				50	48	46	45	44	43	42	41	39	38	36	34	32	29	26	22	19	14							
0	551	529	508	486	464	443	421	399	378	356	334	313	291	269	248	226	205	183	161	140	118	96	75	53				

Model 6CHC 250 GPM

For commercial pump

GOULDS PUMPS
Turbine



DIMENSIONS AND WEIGHTS

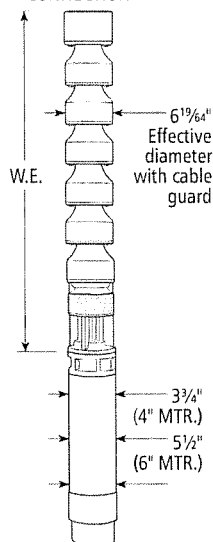
HP	Stages	W.E. Order Number	W.E. Length	W.E. Wt. (lbs.)
10	2	C06CHC010A64B	24.6	72
15	3	C06CHC015A64B	29.7	89
20	4	C06CHC020A64B	34.8	106
25	5	C06CHC025A64B	40.0	123
30	6	C06CHC030A64B	50.3	157
40	8	C06CHC040A64B	55.4	174
50	9	C06CHC050B64B	60.5	191
50	10	C06CHC050A64B	65.6	208

(All dimensions in inches and weights in lbs. Do not use for construction purposes.)

NOTES:

1. All dimensions in inches and weights in lbs.
2. Solid line is recommended operating range.
3. For intermediate horsepower pumps consult factory.
4. Please specify all options changes in W.E. order number.
5. 50 hp performance curve based on using 8" motor with 6" flange.
Consult factory if you want 6" motor.

4" NPT DISCHARGE CONNECTION



MATERIALS OF CONSTRUCTION

Part Name	Material
Shaft	ASTM A582 S41600
Coupling	ASTM A582 S41600
Suction Adapter	ASTM A536 Gr. 60-40-18
Suction Bearing	ASTM B584 C89835
Impeller	ASTM A744 CF8M
Taperlock	ASTM A108 Gr. 1018
Intermediate Bowl	ASTM A49 CI. 30B
Intermediate Bowl Bearing	ASTM B584 C89835 (Std.)
Intermediate Bowl Bearing	Rubber (optional)
Upthrust Collar	Polyethylene
Discharge Bowl	ASTM A48 CI. 30B
Discharge Bowl Bearing	ASTM B584 C89835
Fasteners	SAE J429 Gr. 8
Cable Guard	ASTM A240 S30400
Suction Strainer	ASTM A240 S30400

WELL DRILLER'S REPORT

Office Use Only

 Inspected by _____
 Twp. _____ Rge. _____ Sec. _____
 Lat. _____ 1/4 _____ 1/4 _____ 1/4 _____
 Long. _____

1. WELL TAG NO. D0055427

Drilling Permit No: 853757

Other IDWR No. _____

2. OWNER

Well Number:

Name KOOTENAI MEDICAL CENTER

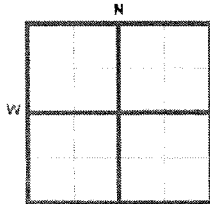
1470

Address 2003 LINCOLN WAY

City COEUR D' ALENE State ID Zip 83814

3. LOCATION OF WELL by legal description

sketch map location must agree with written location

Twp. 50N ☒ North or ☐ SouthRge. 04W ☐ East or ☒ West

Sec. 11 1/4 NE 1/4 NE 1/4

Gov't Lot _____ County KOOTENAI

Latitude: N47:41:726 Longitude: W116:47:552

Address of Well Site E. SIDE KMC

2003 Lincoln Way City COEUR D' ALENE

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

Lt. _____ Blk. _____ 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
	From	To	
Material			
3/8 HOLE PLUG	0	84	2100 LBS
BENTONITE	0	84	3150 LBS

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 Welded	Threaded
12	+2	338	.375	STEEL	☒	☐	☒

Length of Headpipe 10 Length of Tailpipe 0

9. PERFORATIONS/SCREENS

☐ Perforations Method _____☒ Screens Screen Type Telescoping SS

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
340	360	50	20	12	SS	☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

180 ft. below ground Artesian pressure _____ lb.

Depth flow encountered 180 ft. Describe access port or control devices: _____

11. WELL TESTS:

☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
400	100	360	7HRS

Water Temp. COLD Bottom Hole Temp COLD

Water Quality test or comments: CLEAR

Depth first Water encountered 180

12. LITHOLOGIC LOG:(Describe repairs or abandonment)

Bore Diam	From	To	Remarks: Lithology, Water Quality, Temperature	Water	
				Y	N
16	0	2	Top Soil	☐	☒
16	2	58	Sand w/ small gravels	☐	☒
16	58	250	Gravels w/ sand 3/4 minus	☒	☐
16	250	330	Fine Sand	☐	☒
16	330	360	Sand & Gravels 3/4 minus	☐	☒

RECEIVED

APR 01 2009

IDWR/North

 Completed Depth 360 (Measurable)
 Date: Started 2/16/2009 Completed 3/24/2009

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 WellService, Inc. Firm No. 448

Firm Official _____ Date 3-25-09

Supervisor or Operator _____ Date 3/25/2009

LOUIE HANNER (Sign Once if Firm Official and Operator)

8 50N 04W 11