

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. 22-140411. Owner HUNTSMAN SPRINGS

Phone No. _____

Current address 501 HUNTSMAN SPRING DR. DRIGGS, ID 834222. Examiner's name CASS JONESEXAM DATE 5/5/173. Accompanied by TODD WOOLSTENHULME

Email _____

Address _____

Relationship to permit holder OPERATIONS MANAGERPhone No. 208-313-40604. Source GROUND WATER

tributary to _____

B. OVERLAP REVIEW1. Other water rights with the same place of use NONE2. Other water rights with the same source and point of diversion NONE**C. DIVERSION AND DELIVERY SYSTEM**

1. Point(s) of Diversion:

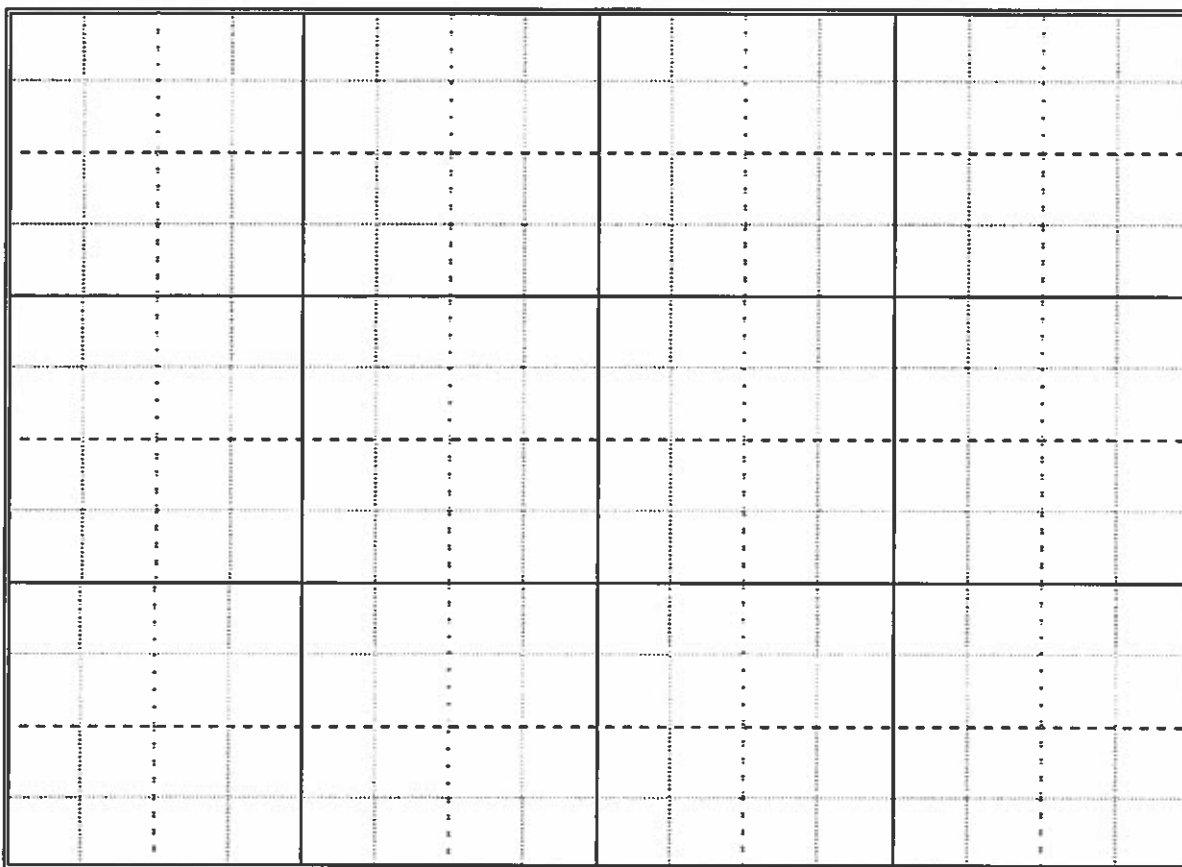
Ident. No.	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County	Method of Determination/Remarks
			SW	SW	23	05N	45E	Teton	GPS

2. Place(s) of Use:

Method of determination GPS

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
05N	45E	23											H/C						

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
		7.5		Berkeley	

*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

2. Measurements: _____

Pump only comes on when the water has cooled enough it needs to be injected back into the ground. Because of this I was unable to get a flow measurement so a theoretical was used.

E. NARRATIVE/REMARKS/COMMENTS

Water is pumped out of the supply well and into the building. From there it is sent through one of two boilers to be brought up to 122 degrees F. It is then pumped into a hot water holding tank that maintains the water temperature until it is pumped out for use. It is then piped throughout the Fitness center. Once water has been used, it is sent to the injection well and discharged back into the aquifer. System is used year round for heating and cooling.

Flow Theoretical;

7.5 hp pump

37' water depth

20psi discharge pressure

$$(7.5 \times 8.8 \times 0.7) / (37 + (20 \times 2.31)) = 0.56\text{cfs}$$

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?

F. FLOW CALCULATIONS☐ Additional computation sheets attached

Measured Method:

Flow Theoretical; (7.5 hp pump), (37' water depth), (20psi discharge pressure)

$$(7.5 \times 8.8 \times 0.7) / (37 + (20 \times 2.31)) = 0.56 \text{ cfs}$$

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \text{NA}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = \text{NA}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = \text{NA}$$

2. Volume Calculations for Other Uses:

23.2 af = estimate from Michael Cook, engineer who designed system

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
Heating	01/01	12/31	0.56 cfs	23.2 afa
Cooling	01/01	12/31	0.56 cfs	23.2 afa
Totals:			0.56 cfs	23.2 afa

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. AUTHENTICATION**

Field Examiner's Signature _____ Date 5/26/17

Reviewer James Cefalo Date 8/11/17

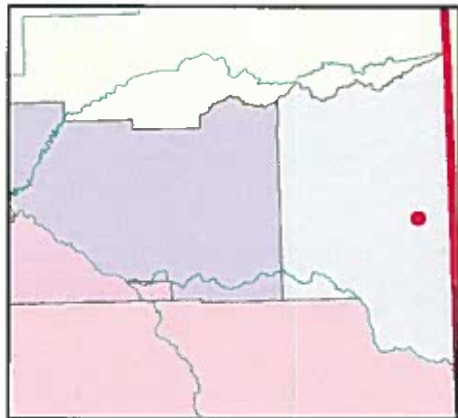
SEAL



Idaho Department of Water Resources

Water Right
22-14041
(HEATING)

-  Place of Use
-  Point of Diversion
-  State Outline
-  Townships
-  PLS Sections



Teton County
IDWR Basin 22

Prepared by Jones, Cass

Background: 2015 Aerial Photography

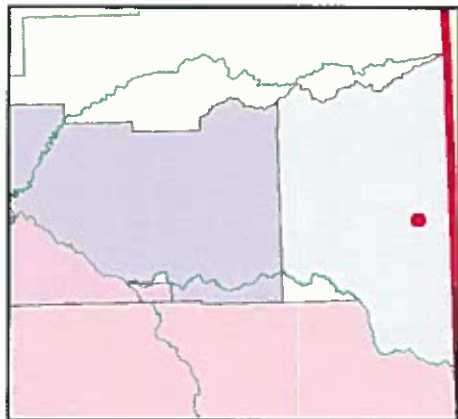




Idaho Department of Water Resources

Water Right
22-14041
(COOLING)

-  Place of Use
-  Point of Diversion
-  State Outline
-  Townships
-  PLS Sections



Teton County
IDWR Basin 22

Prepared by Jones, Cass

Background: 2015 Aerial Photography





Start of system. Well water comes out of wall into a red elbow and is measured by a ABB flow meter above it.



Pressure tank



Picture is to the left of the picture above.



Water going into boiler #1



Boiler #2 on the left and return flow to injection well.
Red flowmeter can be seen in the middle of pipe.



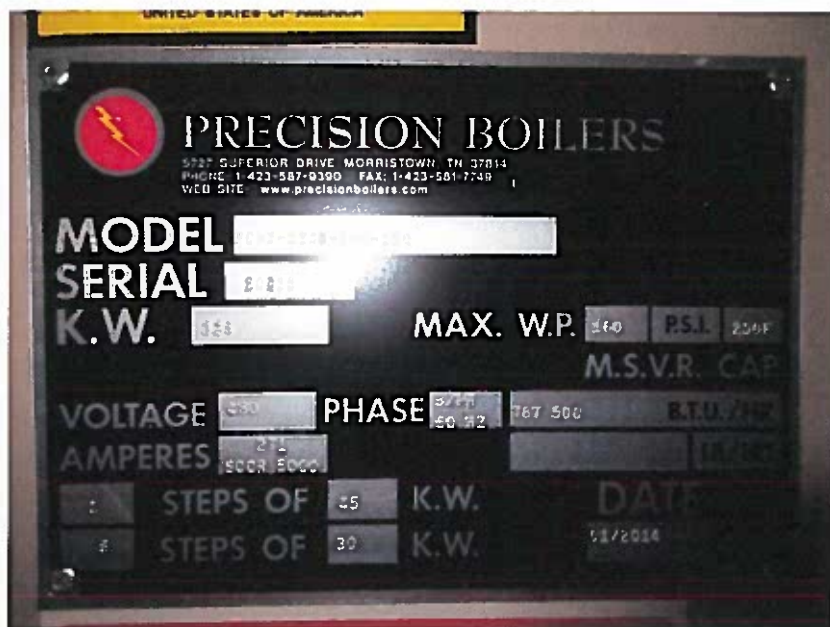
Hot water holding tank



Temp gauge on hot water holding tank



Thermostats for heated floors and sidewalk



Tag off of Boiler



Supply well



Injection well



Pump Performance Datasheet

Customer	:	Quote number	:
Customer reference	:	Size	: 6TS7.5-115
Item number	:	Stages	: 4
Service	:	Based on curve number	: 6TS7.5-115 Ph2 New
Quantity	: 1	Date last saved	: 06 Aug 2012 9:21 PM

Operating Conditions

Flow, rated	: 135.6 USgpm
Differential head / pressure, rated (requested)	: 162.2 ft
Differential head / pressure, rated (actual)	: 162.2 ft
Suction pressure, rated / max	: 0.00 / 0.00 psi.g
NPSH available, rated	: Ample
Frequency	: 60 Hz

Liquid

Liquid type	: -Water
Additional liquid description	:
Solids diameter, max	: 0.00 in
Solids concentration, by volume	: 0.00 %
Temperature, max	: 68.00 deg F
Fluid density, rated / max	: 1.000 / 1.000 SG
Viscosity, rated	: 1.00 cP
Vapor pressure, rated	: 0.00 psi.a

Performance

Speed, rated	: 3,450 rpm
Impeller diameter, rated	: 3.96 in
Impeller diameter, maximum	: 3.96 in
Impeller diameter, minimum	: 3.96 in
Efficiency	: 71.20 %
NPSH required / margin required	: - / 0.00 ft
nq (imp. eye flow) / S (imp. eye flow)	: N/A Metric units
MCSF	: 20.00 USgpm
Head, maximum, rated diameter	: 246.4 ft
Head rise to shutoff	: N/A %
Flow, best eff. point (BEP)	: 135.6 USgpm
Flow ratio (rated / BEP)	: 100.00 %
Diameter ratio (rated / max)	: 100.00 %
Head ratio (rated dia / max dia)	: 100.00 %
Cq/Ch/Ce [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 1.00
Selection status	: Acceptable

Material

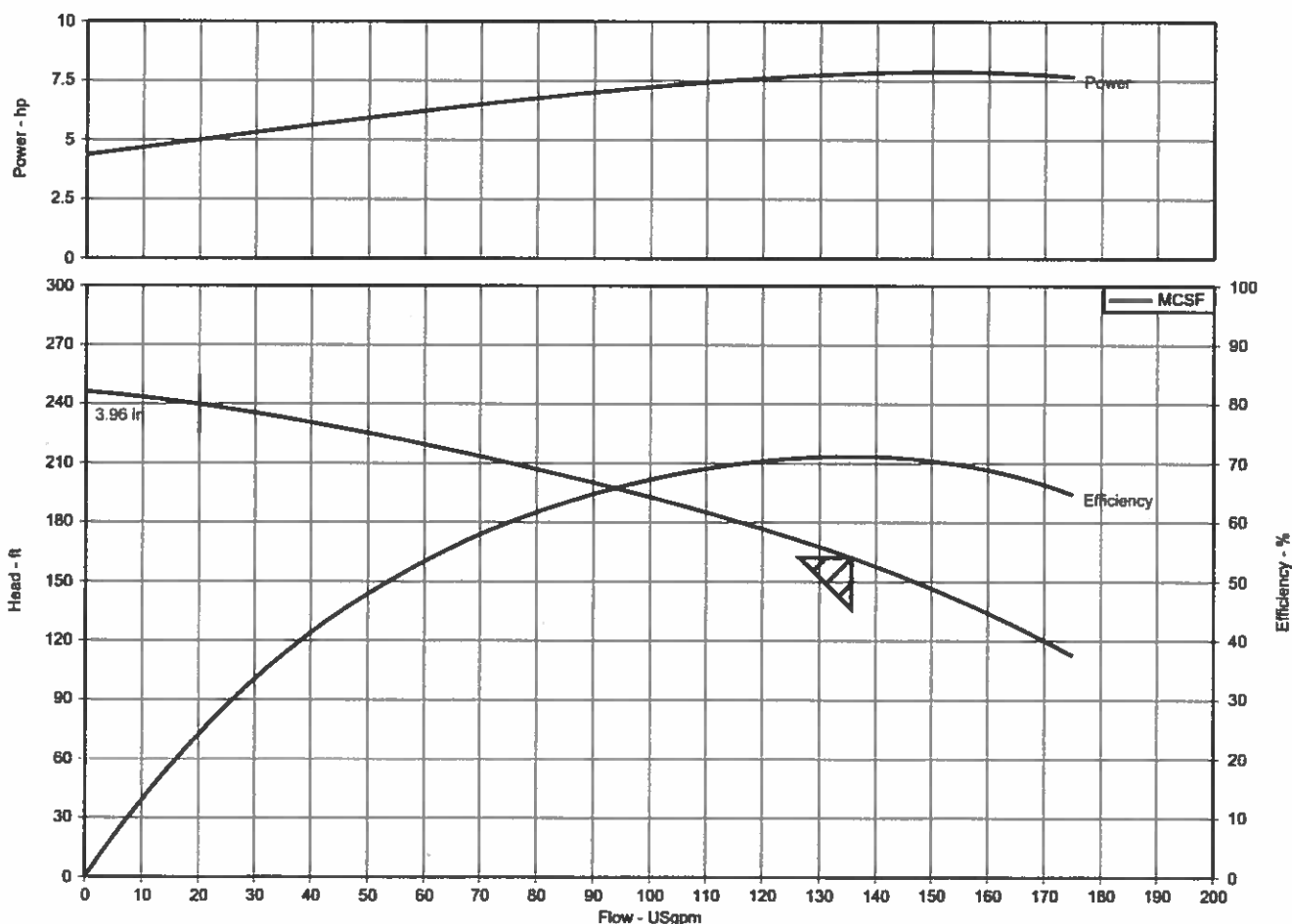
Material selected	: Not specified
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Pressure Data

Maximum working pressure	: 106.6 psi.g
Maximum allowable working pressure	: 650.0 psi.g
Maximum allowable suction pressure	: N/A
Hydrostatic test pressure	: N/A

Driver & Power Data

Driver sizing specification	: Rated power
Margin over specification	: 0.00 %
Service factor	: 1.15 (used)
Power, hydraulic	: 5.55 hp
Power, rated	: 7.80 hp
Power, maximum, rated diameter	: 7.88 hp
Minimum recommended motor rating	: 7.50 hp / 5.59 kW (Fixed)



IDAHO DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

1. WELL TAG NO. D 0062718

Drilling Permit No. 518

Water right or injection well # 22-14041

2. OWNER: Huntsman Springs Inc.

Name _____

Address 501 Huntsman Springs Dr.

City Driggs State ID Zip 83422

3. WELL LOCATION:

Twp. 5 North ☒ or South ☐ Rge. 45 East ☒ or West ☐

Sec. 23 SW 1/4 SW 1/4 1/4

Gov't Lot _____ County _____

Lat. _____ (Deg. and Decimal minutes)

Long. _____ (Deg. and Decimal minutes)

Address of Well Site Huntsman Springs Dr.

City Driggs

Lot _____ Blk. _____ Sub. Name _____

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection

☒ Other Cooling & Heating

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well

☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft)	Placement method/procedure
<u>Neat cement</u>	<u>0</u>	<u>40</u>	<u>4 yards</u>	<u>12" cen pipe</u>

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/Schedule	Material	Casing Liner	Threaded	Welded
<u>8"</u>	<u>+1</u>	<u>200</u>	<u>350</u>	<u>steel</u>	☒	☐	☒
					☐	☐	☐
					☐	☐	☐
					☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 200

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method _____

Manufactured screen ☒ Y ☐ N Type Ally. stainless

Method of installation burred to bottom 8" pulled back

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
<u>200</u>	<u>220</u>	<u>.050</u>		<u>8" x 5</u>	<u>stainless</u>	

Length of Headpipe 3 1/2 Length of Tailpipe 1

Packer ☒ Y ☐ N Type Triple K

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 37 Static water level (ft) 37

Water temp. (°F) _____ Bottom hole temp. (°F) _____

Describe access port _____

Well test:

Test method:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
<u>37</u>	<u>100 +</u>	<u>30 min</u>

Pump ☐ Bailer ☐ Air ☒ Flowing artesian ☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dit. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water	
				Y	N
<u>12</u>	<u>0</u>	<u>37</u>	<u>compacted rock base</u>		☒
<u>12</u>	<u>37</u>	<u>40</u>	<u>cobbles</u>	☒	
<u>5</u>	<u>12</u>	<u>160</u>	<u>cobbles + sediment</u>		
<u>5</u>	<u>160</u>	<u>200</u>	<u>cobbles + sediment</u>		
<u>5</u>	<u>200</u>	<u>220</u>	<u>cobbles + sediment</u>		

Completed length (Measurable): 220

Date started: 8-3-12 Date Completed: 8-31-12

14. DRILLER'S CERTIFICATION:

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

Company Name Driggs Drilling Co. No. 518

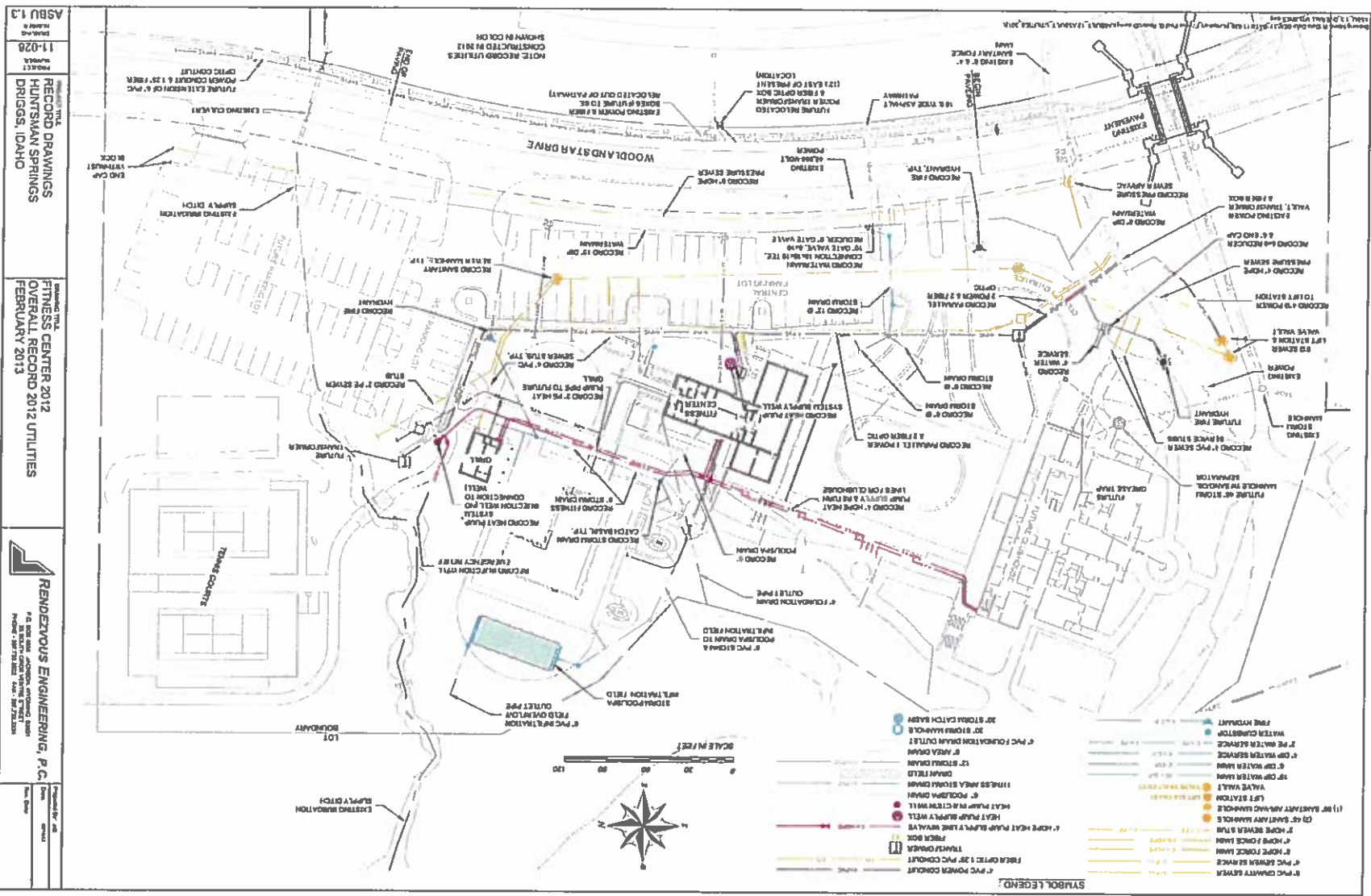
*Principal Driller Donald McQuinn Date 9-18-12

*Driller Driggs Date 9-5-12

*Operator II _____ Date _____

Operator I _____ Date _____

* Signature of Principal Driller and rig operator are required.



ASB 1.3
 11-028
 RECORD DRAWINGS
 HUNTSMAN SPRINGS
 DRIGGS, IDAHO
 PROJECT TITLE
 FITNESS CENTER 2012
 OVERALL RECORD 2012 UTILITIES
 FEBRUARY 2013
 RENDEZVOUS ENGINEERING, P.C.
 415 S. 200 W. STE. 200, HUNTSMAN SPRINGS, UT 84303
 PHONE: 435-733-3333 FAX: 435-733-3334
 Project No. 11-028
 Date: 02/20/2013
 Drawn By: [blank]
 Check: [blank]
 Title: [blank]

RENDEZVOUS ENGINEERING, P.C.

25 South Gros Ventre Street
P.O. Box 4858
JACKSON, WY 83001
307.733.5252 Fax 307.733.2334

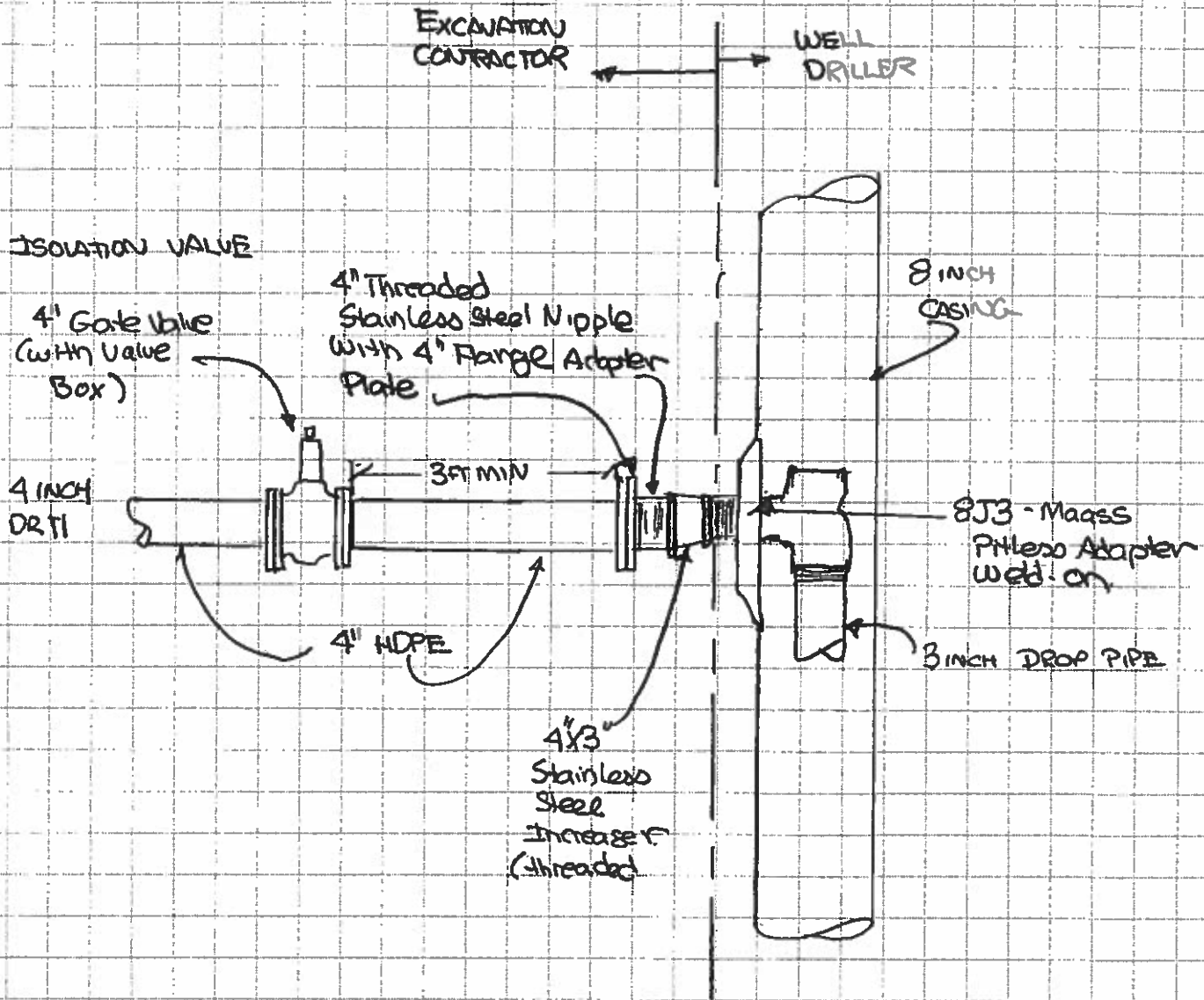
JOB HUNTSMAN SPRINGS / HEAT PUMP
WELL

SHEET NO. _____ OF _____

CALCULATED BY RA DATE 8/8/12

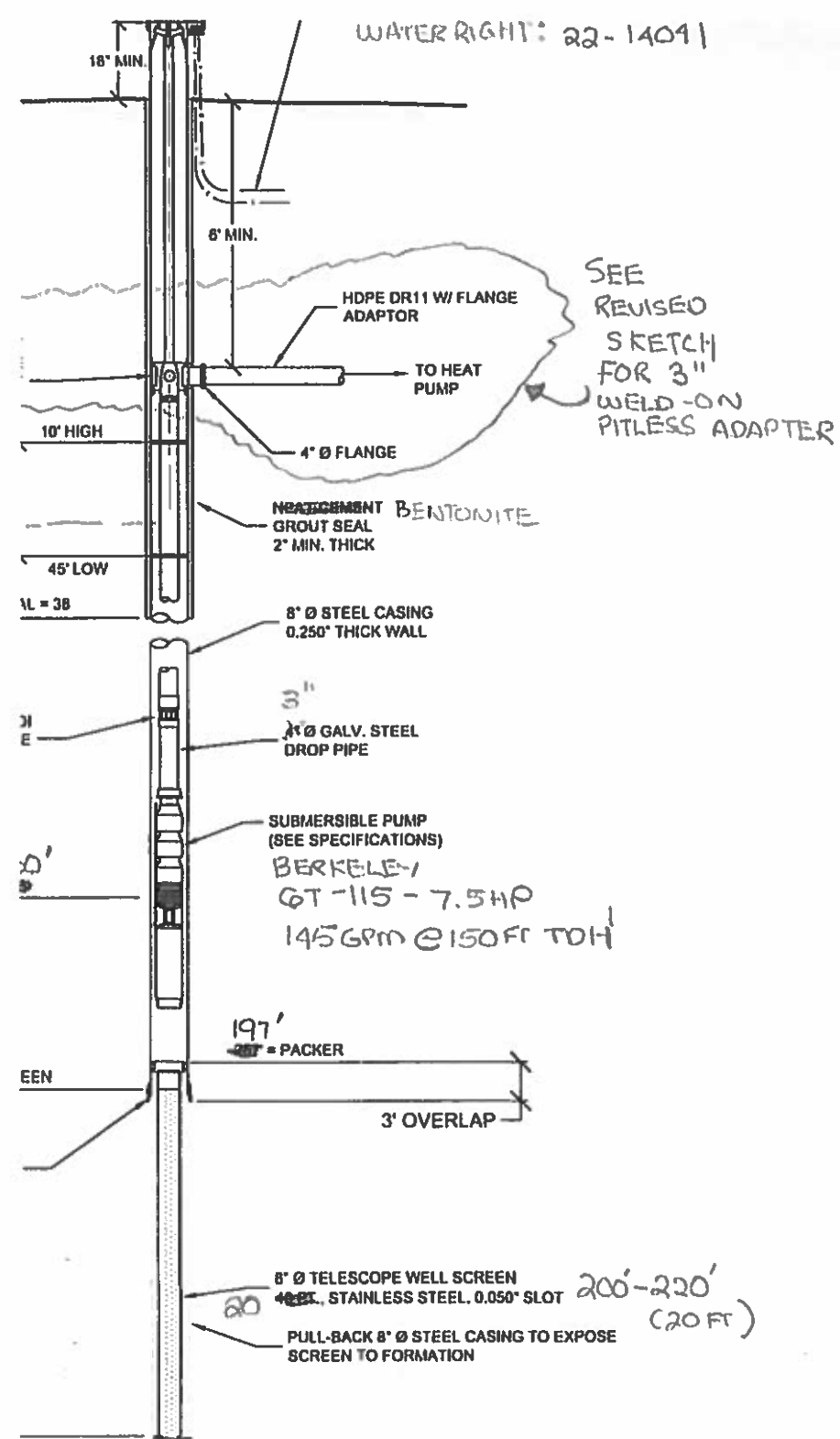
CHECKED BY _____ DATE _____

SCALE NO-SCALE

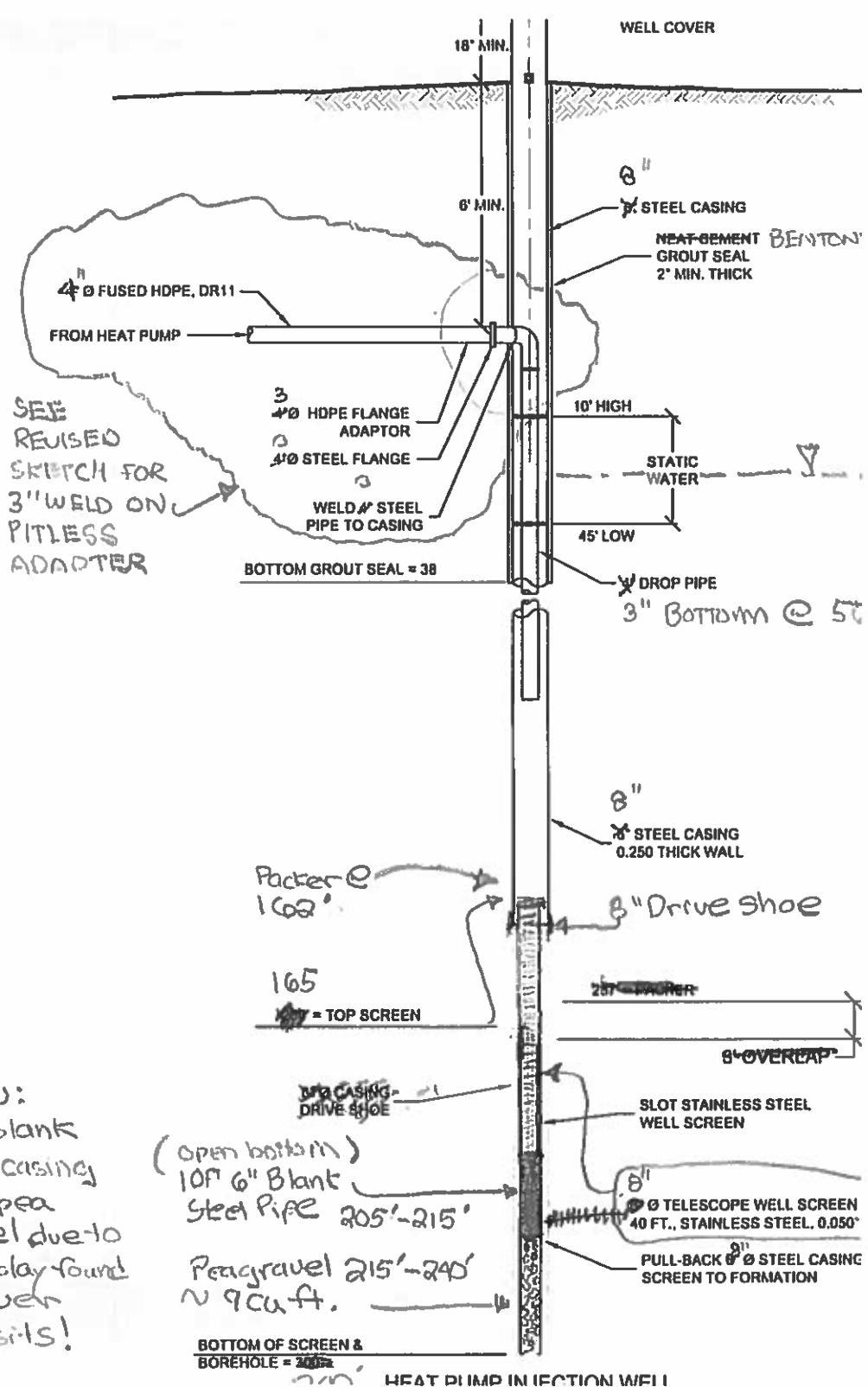


WELL CONNECTION DETAIL
(MODIFICATION FOR 3\"/>

WATER RIGHT: 22-1401



NEW:
Add blank steel casing and pea gravel due to silt/clay found in lower deposits!



Todd Woolstenhulme

To: Mike Cook
Subject: RE: Fitness Building

Todd,

I looked in our files and we do not have an estimated gallons of water per year.

I would estimate that the heating hours would be about 1920 hours, and the cooling hours about 540 hours. This is not a very scientific calc. but just an estimate.

So $1920 + 540$ is 2640 hours per year.

$47.7\text{gpm} \times 60\text{min} \times 2640\text{ hours}$ is 7,555,680 gallons per year.

Michael J. Cook P.E.

CN Engineers | 410 S. Cache Street | P.O. Box 4195 | Jackson WY 83001 | P 307 733 8765 | F 307 733 1580 | mcook@CNengineers.net

ELECTRIC BOILER (EB)			
NO	CAPACITY	ELECTRICAL DATA	MANUFACTURER & MODEL
EB-4	768,000 BTU/H	480 V, 3 PH, 225 KW	PRECISION COMPAC PCMB-225

NOTES:

- ONE-PIECE CAST IRON BOILER SECTION BUILT IN ACCORDANCE WITH ASME BOILER AND PRESSURE VESSEL CODE, AS LISTED
- WIREDED ACCESS PANEL FOR ACCESS TO ALL INTERNAL COMPONENTS
- BOILER SHALL BE SUPPLIED WITH FACTORY WIREDED CONTROLS INCLUDING: 24 VOLT CONTROL RELAY, ONLY THE REQUIRED ELEMENTS SHALL BE ACTIVATED.
- HEAVY-DUTY CONTACT TERMINAL, INDEPENDANT TERMINAL, BLOCK CONNECTION OPERATING AND HIGH LIMIT CONTROL, THE 24 V CONTROL TRANSFORMER MUST BE USED TO STAGE DR EACH BOILER ACCORDING TO THE HEATING LOAD
- HEATING ELEMENTS INCLAY-ANDED LOW-DENSITY ELEMENTS
- BOILER SHALL BE PROVIDED WITH PIPES FOR EACH LBO
- PROVIDE 90 PSI ASME SAFETY RELIEF VALVE AND PRESSURE/TEMPERATURE GAUGE

HEATING WATER PUMP (P)						
NO	SERVING	GW/PUMP HEAD	HP	VOLTS	PHASE	MANUFACTURER & MODEL
P-1	BOILER	40/3	1/8	120V	1	GRANPO'S UP 43-TSF
P-2	BOILER	40/3	1/8	120V	1	GRANPO'S UP 43-TSF
P-3	POOL HEAT EX	73/0	1/2	120V	1	GRANPO'S UP 33-TSF
P-4	HOT TUB HEAT EX	20/8	1/2	120V	1	GRANPO'S UP 30-B-4H
P-5	HOT TUB HEAT EX	13/8	3/4	120V	1	GRANPO'S UPS 13-SBP
P-6	SHOWELT	72/8	1/23	120V	1	GRANPO'S UP 13-SBP
P-7	SHOWELT	113/24	1/8	120V	1	GRANPO'S UP 43-TSF
P-8	RADIANT PLE	3/11	1/23	120V	1	GRANPO'S UPS 13-SBP
P-9	WATER MTR	5/8	1/23	120V	1	GRANPO'S UP 13-SBP

NOTES:

- HORIZONTAL SHUTT PUMP FOR IN-LINE MOUNTING AND RATED FOR A MINIMUM OF 145 PSI WORKING PRESSURE. MAXIMUM WORKING TEMPERATURE OF 250 DEG F
- ALUMINUM ALLOY MOTOR HOUSING WITH STAINLESS STEEL IMPELLER SHAPT, SEAL RING AND BEARING PLATE.
- ROTATING PARTS TO BE STATICALLY AND DYNAMICALLY BALANCED.
- PROVIDE FLANGE OR UNION ISOLATION VALVE SETS WITH TWO BALL VALVES, GASKETS, NUTS ETC.

EXPANSION TANK (ET)				
NO	MANUFACTURER AND MODEL NO	TOTAL VOLUME	ACCEPTANCE VOLUME	SIZE DIAMETER
ET-1	ETROL X1	14 GAL	8.3 GAL	15.75"Ø
ET-2	AMTROL J001	20 GAL	8.3 GAL	15.75"Ø

NOTES:

- WELDED STEEL CONSTRUCTION WITH COMPOSITE RUBBER DIAPHRAGM COMPATIBLE WITH PROPYLENE AND ETHYLENE GLYCOL.
- MAXIMUM WORKING PRESSURE OF 80 PSI AND MAXIMUM WORKING TEMPERATURE OF 200 DEGREES F

ELECTRIC WATER HEATER (WH)					
NO	LOCATION	MANUFACTURER AND MODEL NO	DATE	ELECTRICAL DATA	COMMENTS
WH-1	MEN ROOM	A.O. SMITH DSE-120	120 GAL	460V, 3 PH, 54KVA 60A	

NOTES:

- HEATER SHALL BE LISTED BY UNDERWRITERS LABORATORIES
- HEATER SHALL HAVE A MAXIMUM WORKING PRESSURE OF 150 PSI WITH A SEPARATE 3/4" TAPING FOR RELIEF VALVE INSTALLATION AND ANODE ROD FOR CATHODIC PROTECTION
- ALL INTERNAL SURFACES OF THE HEATER EXPOSED TO WATER SHALL BE GALVANIZED ELECTRICAL HEATING ELEMENT SHALL BE LOW WATT DENSITY HEATCO SHEATH SCRATCH-PROOF DESIGN.
- ELEMENT OPERATION SHALL BE TRIPLE ELEMENT. THE CONTROLS SHALL INCLUDE A THERMOSTAT WITH EACH ELEMENT AND A HIGH TEMPERATURE CUT-OFF
- THE JACKET SHALL PROVIDE CLOUT COMPARTMENTS FOR MAINTENANCE THROUGH FRONT PANEL. ELEMENTS AND TUBES SHALL BE TANK WITH POLYM INSULATION. OUTER JACKET SHALL BE BAKED ENAMEL FINISH.
- SEE PUMPING DETAILS ON DRAWINGS.

INDIRECT STORAGE TANK (ST)			
NO	MANUFACTURER AND MODEL NO.	TANK VOLUME (GAL.)	SIZE DIAMETER
ST-1	LOCHINVAR BETH	84	28" x 60 1/2"
NOTES:			

GRILLES AND REGISTERS	
TYPE	MANUFACTURER AND MODEL
HALL RETURN AIR GRILLE	HART AND COOLEY 66A
FLOOR SUPPLY REGISTER	HART AND COOLEY 33H

NOTES

- ALL SUPPLY REGISTERS SHALL HAVE OPPOSED BLADE DAMPERS
- SIZE AND CFM AS SHOWN ON DRAWINGS
- CLEAN ANODIZED FINISH ON ALUMINUM GRILLES AND REGISTERS
- PRIME FINISH ON STEEL REGISTERS
- IF REGISTER MANUFACTURER & MODEL IS CHANGED, BOOT SIZE MAY CHANGE. VERIFY REGISTER TYPE WITH OWNER
- PAINT THE WEDGE OF DUCTS PLAT BLACK BEHIND SUPPLY REGISTERS AND RETURN AIR GRILLES

WSHP (WSHP)				
NO.	SERVING	SEMI-COOLING BTU/H	ELECTRICAL DATA	MANUFACTURER AND MODEL NO.
WSHP-1	MAIN LEVEL	112,800	480V, 3 PH, 4 A	WESTBROOK PORT-1000TH-4-A
NOTES				
- SEE SPECIFICATIONS 230000				

NOL	SERVING	CHW TOTAL 3 P * 40	COOLING BTU * 43 F	HEATING BTU * 40 F	ELEC. DATA 200V, 1 PH	MANUFACTURER METHODS
FC-1	FITNESS 6.2	13040 S	40,000	34,000	2.23 AMP	PEPT-ROBINAU
FC-2	HEPS LOCKER	83040 S	8,000	9,000	1.05 AMP	PEPT-ROBINAU
FC-3	TREATHER 105	1040 S	8,000	6,700	1.05 AMP	PEPT-ROBINAU
FC-4	BATHING RECEPTION	10040 S	30,000	34,000	2.30 AMP	PEPT-ROBINAU
FC-5	HANDICAP FEDURE	21040 S	8,000	6,700	1.05 AMP	PEPT-ROBINAU
FC-6	TREATHER 105	1040 S	8,000	6,700	1.05 AMP	PEPT-ROBINAU
FC-1	HEPS LOCKER	83040 S	8,000	9,000	1.05 AMP	PEPT-ROBINAU

NOTES

- * COOLING CAPACITIES @ 80° DB, 57° MB, 43° FA
- * HEATING CAPACITIES @ 70° DB, 40° FA
- * SIZE SPECIFICATIONS 730800

BC CONTROLLER (BC)				
NO	SERVING	# OF BRANCHES DOWN	ELECTRICAL DATA	MANUFACTURER AND MODEL NO
BC-1	PCU-1	10	200V, 1 PH, 1 A	MTS1809 CNS-PC004-0

NOTES
- SEE SPECIFICATIONS 230800

HYDRONIC HEAT EXCHANGER (HHE-1)					
NO.	SERVING	FLOOR/ATE	HEATING BTU/H @ 40 F	ELEC. DATA 300V, 1 PH	MANUFACTURER METHODS
HHE-1	HOT WATER/ RADIANT FLOOR	2-4 6PH	99,000	12.9 AMP	PHOT-F33044-E-A
NOTES					
• SEE SPECIFICATIONS 230800					

SOURCE WATER EXCHANGER (SWHE)									
NO	SERVING	CAPACITY GPM	HEATPUMP SIDE			GROUNDWATER SIDE			MANUFACTURER AND MODEL
			SPF	ST	TR	SPF	ST	TR	
SWHE	HEAT PUMP	100,000	5'	--	23	62'	10'	--	ALFA LAVAL M6

NOTES
CONTACT MAINT. DEPT. FOR SPECIFIC HEAT EXCHANGER PERFORMANCE SPECIFICATIONS
AND MODEL #.

SOURCE WATER PUMP (SWP)						
NO	SERVING	GPM/FEET HEAD	HP	VOLTS	PHASE	MANUFACTURER / MODEL
SWP-1	HEAT PUMP	2542	10	120V	1	GRUNDFOS LP 43-TSP

NOTES:

- HORIZONTAL SHAFT PUMP FOR IN-LINE MOUNTING AND RATED FOR A MINIMUM OF 45 PSI WORKING PRESSURE. MAXIMUM WORKING TEMPERATURE OF 230 DEG F
- ALUMINUM ALLOY MOTOR HOUSING WITH STAINLESS STEEL IMPELLER SHAFT, SEAL RING AND BEARING PLATE
- ROTATING PARTS TO BE STATICALLY AND DYNAMICALLY BALANCED
- PROVIDE FLANGE OR UNION ISOLATION VALVE SETS WITH TWO BALL VALVES, BASKETS, NUTS ETC.

SOURCE WATER EXPANSION TANK (SWET)				
NO.	MANUFACTURER AND MODEL NO.	TOTAL VOLUME	ACCEPTANCE VOLUME	SIZE DIAMETER
SWET-1	EXTROL IS	2 GAL	0.9 GAL	8"IN

NOTES:

- WELDED STEEL CONSTRUCTION WITH COMPOSITE RUBBER DIAPHRAGM COMPATIBLE WITH PROPYLENE AND ETHYLENE GLYCOL.
- MAXIMUM WORKING PRESSURE OF 80 PSI AND MAXIMUM WORKING TEMPERATURE OF 300 DEGREES F

M-7

FLOOR DRAIN (FD)		
NO.	MANUFACTURER & MODEL	
FD-1	MADE H-100	-CAST IRON DRAIN WITH ADJUSTABLE NICKLE BRONZE STRAINER AND PL-TRAP
FD-2	MADE H-2360	-CAST IRON DRAIN WITH 16" SQUARE TOP AND LOOSE GRATE
FD-3	MADE H-2370	-CAST IRON DRAIN WITH 12" SQUARE TOP, SECONDARY STRAINER AND LOOSE GRATE
NOTES:		

ELECTRIC WALL HEATER (EWH) *				
NO.	LOCATION	MANUFACTURER AND MODEL NO.	ELECTRICAL DATA	COMMENTS
EWH	ENTRY	Q-MARK QWP2022	200V, 300W, 3.3A	
THERMOSTAT: INTEGRAL				
* PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR				

AIR FILTER (AF)				
NO.	SERVING	MANUFACTURER AND MODEL NO.	SIZE	S.P. DROP/MAX. AIR
AF-1	FITNESS	HONEYWELL FMP2036	30X20	0.25" @ 1400 CPM
NOTES:				
- HIGH EFFICIENCY AIR FILTER MOUNTED IN RETURN DUCT				
- GALVANIZED STEEL FRAME WITH ACCESS DOOR - PROVIDE DUCT TRANSITION AS NECESSARY				
- EFFICIENCY TEST USING ASHRAE STANDARD TEST PROCEDURE NO. 52.2b OF 478 WITH PARTICLES RANGING FROM 0.1 MICRON TO 2500 MICRON IN SIZE				

GLYCOL FEEDER (GF)				
NO.	MANUFACTURER AND MODEL NO.	TOTAL VOLUME	ELECTRICAL DATA	SIZE L / W / H
GF-1	STP 642-Q-2-1	13 GAL	120V, 30W	16" W6" / 20"
NOTES:				
SYSTEM SHALL INCLUDE STORAGE / MIXING TANK WITH LEVEL GAUGE, PUMP, Suction HOSE WITH STRAINER AND CHECK VALVE, PRESSURE PUMP, LOW FLUID LEVEL FLOAT SWITCH, MANUAL DIVERTER VALVE AND PRESSURE SWITCHES ADJUSTABLE FROM 8PSI TO 10PSI.				
FEEDER SHALL BE COMPATIBLE WITH GLYCOL SOLUTIONS UP TO 50% CONCENTRATION. PUMP SHALL BE CAPABLE OF PUMPING DRY WITHOUT DAMAGE.				
PUMP SHALL BE SELF PRIMING UP TO 4 FEET AND HAVE CAPACITY OF 0.10 GPM AT FREE FLOW.				
POWER SUPPLY PLUGS INTO STANDARD 15V HALL OUTLET.				
AUXILIARY DRY CONTACTS FOR REMOTE LOW PRESSURE ALARM.				

RECIRCULATING PUMP (RP)						
NO.	GPM/FEET HEAD	HP	VOLTS	PHASE	MANUFACTURER & MODEL	COMMENTS
RP-1	24	1/25	120	1	GRANFOS UP 10-1000 ATLC	
NOTES:						
-HORIZONTAL SHAFT PUMP FOR IN-LINE MOUNTING AND RATED FOR A MINIMUM OF 145 PSI WORKING PRESSURE.						
-ALUMINUM ALLOY MOTOR HOUSING WITH STAINLESS STEEL IMPELLER, SHAFT, SEAL RING AND BEARING PLATE.						
-ROTATING PARTS TO BE STATICALLY AND DYNAMICALLY BALANCED						
-BUILT IN THERM AND AQUASTAT						

HOSE BIBB (HB)		
NO.	MANUFACTURER & MODEL	
HB-1	HOOFFORD MODEL 29	(FREEZELESS)
HB-2	HOOFFORD MODEL 101	
NOTES:		
-WALL FAUCET WITH 3/4" HOSE THREAD AND VACUUM BREAKER, HOSE, HANDLE AND BRASS BODY		

WASHING MACHINE BOX (WB)	
NO.	MANUFACTURER & MODEL
WB-1	BUT GRAY MODEL NO WB-200
NOTES:	
-PROVIDE CLOTHES WASHER ROUGH-IN BOX FOR HOT AND COLD WATER LINES AND WASTE LINE.	
-ROUGH-IN BOX SHALL HAVE HOT AND COLD WATER SHUT-OFF AND SHALL BE EQUIPPED WITH AN OVERFLOW GUARD	
-FABRICATED OF 16 GAUGE STEEL WITH EPOXY FINISH	
-2" WASTE CONNECTION, 1/2" COLD AND HOT WITH BRASS SHEAT CONNECTION	

AIR-TO-AIR HEAT EXCHANGER (AHE)			
NO.	CAPACITY CPM	MANUFACTURER AND MODEL	ELECTRICAL REQUIREMENTS
AHE-1	1000	0.5'	PANTECH SHR 11004
NOTES:			
- HEAT RECOVERY VENTILATOR WITH REMOTE CONTROL PANEL WITH LOW-OFF-HIGH PAN CONTROL, WITH PILOT LIGHTS AND AUTOMATIC-MANUAL DEFROST.			
- UNIT SHALL RUN CONTINUOUSLY IN "OCCUPIED" SETTING			

DUCT HEATER (DH)				
NO.	SERVING	DIMENSION	ELECTRICAL DATA	MANUFACTURER
DH-1	DH-1	30X10	480V, 3PH, 65W	HARRIS TECHNOLOGY SL23TA
NOTES:				
- PROVIDE SCR CONTROL AND AIR PROVING SWITCH				
- HEATER SHALL BE UL LISTED AND MEET ALL NEC REQUIREMENTS				
- HEATER SHALL BE 16-18" TYPE WITH GALVANIZED TERMINAL BOX AND HEATING ELEMENT FRAME. HEATING ELEMENTS SHALL BE OPEN COIL IRON-FREE (DOE MODEL 308 CARBON)				
- HEATER SHALL BE PROVIDED WITH AUTOMATIC RESET THERMAL CUTOUT IN THE CONTROL CIRCUIT AND HEAT LIMITERS IN THE POWER LINES. PROVIDE FAN INTERLOCK RELAY AND FUSED DISCONNECT SWITCH				
- PROVIDE WIRING DIAGRAM SHOWING INTERNAL WIRING AND ALL NECESSARY FIELD WIRING REQUIRED BY THE CONTRACTOR				

EXHAUST FANS (EF)						
NO.	SERVING	CPH	ELECTRICAL DATA	BOXES	MANUFACTURER AND MODEL NO.	COMMENTS
EF-1	SEE PLANS	10	120V, 21 W	13	PANASONIC FV-15V03	
EF-2	SEE PLANS	30	120V, 21 W	13	PANASONIC FV-15V03	
EF-3	SEE PLANS	10	120V, 21 W	13	PANASONIC FV-15V03	
EF-4	SEE PLANS	300	120V, 18 W	1.1	PANASONIC FV-304LPT	
NOTES:						
-CENTRIFUGAL FORWARD CURVE FAN IN SOUND INSULATED CABINET WITH AREA LABEL FOR AIR PERFORMANCE AND UL LISTED.						
-MOTOR MOUNTED IN BEZEL MOUNTINGS OR OTHER SUITABLE METHOD OF VIBRATION ISOLATION						
-FACE GRILLE SHALL BE PROVIDED WITH UNIT						
-PROVIDE IN-LINE CONFIGURATION FOR DUCTED INLET AND OUTLET WHERE SHOWN						
-FAN WITH INTEGRAL BACKDRAFT DAMPER						
-PROVIDE HALL OR SORPIT CAP AS SHOWN ON DRAWINGS						
- SEE SPECIFICATIONS 230300						

BOOSTER FAN (BF)					
NO.	SERVING	CPH	ELECTRICAL DATA	BOXES	MANUFACTURER AND MODEL NO.
BF-1	CLOTHES DRYER EXHAUST	100 BUL ESP	120V, 45W	13	PAN TECH DEF-10
NOTES:					
-BACKWARD INCLINED FAN BLADES SUITABLE FOR HIGH PRESSURE, DUST OPERATION					
-TOTALLY ENCLOSED, UL LISTED MOTOR WITH CLASS B INSULATION, PERMANENTLY SEALED BALL BEARINGS, THERMAL OVERLOAD PROTECTION WITH AUTOMATIC RESET, AND SUITABLE FOR HIGH HUMIDITY, DUST AND LIGHT LOADING CONDITIONS.					
-PROVIDE IN-LINE CONFIGURATION FOR DUCTED INLET AND OUTLET WHERE SHOWN					
-FAN WITH INTEGRAL BACKDRAFT DAMPER					
-PROVIDE HALL OR SORPIT CAP AS SHOWN ON DRAWINGS					
-FAN SHALL BE CONTROLLED BY PANTECH DB-10 PRESSURE SENSOR SWITCH					

HEAT EXCHANGER (HE)					
NO.	SERVING	BOILER GPM	CAPACITY BTU/H	PRESSURE DROP FT.	
				BOILER SIDE	HEATING SIDE
HE-1	POOL	75.0	1300,000	2'	2'
HE-2	HOT TUB	30.0	400,000	2'	2'
HE-3	HOT TUB	12.5	250,000	2'	2'
HE-4	SHOW-HEAT	1.2	144,000	2'	2'
NOTES:					
- MAXIMUM OPERATING PRESSURE: 400 PSIG; MAXIMUM OPERATING TEMPERATURE: 350°F					
- CHANNEL PLATES AND 316 STAINLESS STEEL COVER PLATES AND 316 STAINLESS STEEL BRAZED WITH 98 WRE COPPER					
- HEAT EXCHANGER SHALL BE INSULATED WITH FIBERGLASS INSULATION AND ALUMINUM CLADDING					

ELECTRIC RADIANT FLOOR (ERF) *				
(ELECTRIC CABLES IN TILE THINSET)				
NO.	LOCATION	MANUFACTURER AND MODEL	FLOOR AREA	ELECTRICAL DATA
ERF-1	MEM'S BATHROOM	NUHEAT NCU16-200	200 SQ.FT. (APPROX.)	240V, 3000W, 0.5
ERF-2	WOMEN'S BATHROOM	NUHEAT NCU16-200	200 SQ.FT. (APPROX.)	240V, 3000W, 0.5
NOTES:				
-INSTALL MATS IN TILE THINSET COORDINATE WITH THE TILE INSTALLER AND THE GENERAL CONTRACTOR.				
-THERMOSTAT SHALL BE HEAT TENDO WITH FLOOR SENSOR				
-COORDINATE THERMOSTAT LOCATION WITH THE GENERAL CONTRACTOR AND/OR THE ARCHITECT.				
-PROVIDE GROUND FAULT PROTECTION (GFI CIRCUIT)				
-RADIANT FLOOR SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS				
* PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR				

LIMITED POWER OF ATTORNEY

HUNTSMAN SPRINGS, INC, DALE S. PROWS, President, of 97 North Highway 33, Driggs, Idaho, 83422, designate and appoint HARVEY WALKER of 2338 North 2930 West, Arco, ID 83213, as our attorney in fact and agent (subsequently called "agent") to act in our name and for our benefit. We grant to our agent full power and authority to do everything necessary in exercising any of the powers herein granted as fully as we might or could do if personally present and fully competent, hereby ratifying and confirming all that our agent shall lawfully do or cause to be done by virtue of this power of attorney and the powers herein granted.

Specific Powers

Our agent shall have and may exercise the following specific powers:

- a. To handle all affairs and do all that needs done, including signing of documents, pertaining to water rights, wells and all water issues.

Revocability

This power of attorney is revocable, provided, that insofar as any governmental agency, bank, trust company, insurance company, transfer agent, or other person shall rely upon this power, this power may be revoked only by a notice in writing executed by us or our agent and delivered to such person or institution.

Interpretation

This instrument is to be construed and interpreted as a limited power of attorney.

Disability of Principal

This Limited Power of Attorney shall not be affected by disability of the principal.

Third-Party Reliance

Third parties may rely upon the representations of our agent as to all matters relating to any power granted to our agent, and no person who may act in reliance upon the representations of our agent or the authority granted to our agent shall incur any liability to us or our estate as a result of permitting our agent to exercise any power.

Expiration

Unless sooner revoked in the manner above provided, this Limited Power of Attorney shall expire at midnight on February 28, 2019.

Governing Law

This Limited Power of Attorney is executed and delivered in the State of Idaho and the laws of the State of Idaho shall govern all questions as to the validity of this power and as to the construction of its provisions.

IN WITNESS WHEREOF, we have executed this Limited Power of Attorney this 26th day of January, 2016.

HUNTSMAN SPRINGS, INC., Principal

By Dale S. Prows
DALE S. PROWS, President

STATE OF Idaho)

) SS.

County of Teton)

On this 26 day of January, 2016, personally appeared before me DALE S. PROWS, who, being by me first duly sworn, declared that he is the President of HUNTSMAN SPRINGS, INC. that he signed the foregoing documents as President of the corporation, and that the statements therein contained are true.



Teresa K. Mangum
Notary Public of Idaho

My Commission Expires: 07-24-20