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DEPARTMENT OF
WATER RESOURCESSTATE 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.

★ Please direct inquiries to Ed Squires at 342-8369.

A. GENERAL INFORMATIONPermit No. 63-31281Phone No. (208) 898-55001. Owner: The City of Meridian, IdahoCurrent Address: 33 East Idaho Street, Meridian, Idaho 836422. Examiner's name: Edward Squires, CWRE No. 14-125EXAM DATE: December 22, 20113. Accompanied by: J. Allen, W. Perry (City) & L. Pearson, C. Parker (HLI)Email ed@hydrologicinc.netAddress: Meridian Water Department, 2235 8th Street, Meridian, Idaho 83642Relationship to Permit Holder: Lead Pump Operators – Meridian Water Dept. Phone No. (208) 888-52424. Source: Ground Water – City of Meridian Supply Well #23 tributary to N/A**B. OVERLAP REVIEW**1. Other water rights with the same place of use: The City of Meridian's integrated portfolio of municipal water rights.2. Other water rights with the same point of diversion: 63-31858 – City of Meridian – Supply Well #26**C. DIVERSION AND DELIVERY SYSTEM**

1. Point(s) of Diversion:

Ident. No.	Govt Lot	¼	¼	¼	Sec	Twp.	Rge.	County	Method of Determination/Remarks
City Well #23		NE	NW	NW	21	3N	1E	Ada	Site visit, USGS 7½-minute Topographic Series maps and GPS
									GPS N 43° 35' 19.3" W 116° 20' 59.2" IDWR Well Tag D0019264

2. Place(s) of Use: City of Meridian's Service Area Indicate Method of Determination As approved by the Meridian City Council

TWP	RGE	SEC	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	

City of Meridian Water Delivery Service Area

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size / ditch size / pipe I.D. as applicable. Use space provided or ☒ see attached.

See attached annotated photographs,
diagrams, and aerial photographic maps

Scale: 1" = _____

- ☒ Copy of USGS Quadrangle (Figure 1) Attached showing location(s) of point(s) of diversion and place(s) of use
- ☒ Aerial Photo (Figure 2) Attached (required for irrigation of 10+ acres).
- ☒ Photos 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
City Well # 23	U.S. Electrical Motors – HT (Emerson)	200	F04-AA68-M C1	FlowWay Pumps Model: 14DKH	14-inch bowls to 10-inch column and discharge piping

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

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calibration Date
McCrometer Flow-meter	Propeller	MW500	E7000-000	E02-00826-10	10-inch	6/21/2002

2. **Measurements** Discharge measurements for this examination were made using the installed propeller flow-meter listed above (Figure 3) which was factory calibrated in June of 2002. The minimum length of straight pipe in the downstream direction is 1 pipe diameter (10-inches in this case). The minimum length of straight pipe in the upstream direction is 5 pipe diameters (50-inches in this case). The minimum piping installation recommendations of the manufacturer (Appendix A) are met because a 18-inch length of straight-run pipe, without obstructions, is available downstream of the meter and 53.5-inches upstream (Figures 4 and 5, Appendix B). The instantaneous flow rate needle was observed to be steady at all discharge rates and the observed flow-rates match well with the pump performance curve (for a worn 10-year old pump) and, therefore, it is generally believed likely that the flow-meter was reading correctly (Figure 3).

E. NARRATIVE/REMARKS/COMMENTS

The field examination for this permit was carried out on December 22, 2011 by Ed Squires, Loren Pearson, and Carlton Parker (hydrogeologists with Hydro Logic, Inc), accompanied by Mr. Jamie Allen and William Perry (lead operators with the Meridian Water Department). The Meridian Well #23 is housed inside of a 28-foot by 16-foot cinder block pump house (Figure 6). The 20-inch diameter well (Figure 7) is equipped with a FloWay Pumps Company 4-stage, Model 14DKH deep well turbine pump (Figure 8) set on 170-feet of 10-inch pump column with a 17.5-foot long pump/ intake assembly (includes 10-feet of suction pipe). This pump assembly has a design point of 2,000 gpm at 316 feet of total dynamic head but the pump performance curve (Figure 9) shows the installed pumping equipment can produce considerably less or more water by adjusting system pressure and/or motor speed. The pump is driven by a 200 hp, 460 volt, 1785 rpm, U.S. Electrical Motors – High Thrust motor (Figures 4 & 10). The 10-inch diameter discharge- piping is comprised of a series of 10-inch plumbing fittings and fixtures, including check-valve, tees, couplings, flow-meter, and control valve (Figures 4 & 5, Appendix B) prior to exiting through the pump-house floor where it joins with the mainline running down South Silverstone Way. The pumping plant is equipped with a variable speed drive (VSD) unit designed to pump directly to the pressurized water distribution system (Figure 11). The flow-meter on the 10-inch discharge piping records all pumped water from Well # 23. According to the system operators, the well pump is set to operate within a predetermined pressure range in the distribution system that varies with demand; typically 50-to-72 psi. Of course the pump produces more water against less system pressure compared to when system pressure is higher.

When we arrived on-site, the Well #23 pump was not operating and we measured the non-pumping water level in the well. Water-level measurements are facilitated through a 3-inch diameter measuring port protruding from the thrust block (Figure 4). Non-pumping water level in the well was measured at 24.27 feet below measuring point (bmp) which is 2.5 feet above finished pump house floor, which calculates into 21.77 feet below ground level; similar to the measured non-pumping water level of nine years earlier on February 28, 2002 of 19.90 feet bgl (Figures 7 & 12). The non-pumping water level remained essentially the same for the half hour prior to activating the well pump (Appendix B). The volume-pumped totalizer read-out of the flow-meter was 13,676,000 gallons when we arrived at the site for the licensing exam (Figure 3). We had the system operators activate the pumping plant and we measured pumping water level and line pressure for about a half hour when the water level was drawn down to 158.94 feet bmp (155.94 bgl) at a discharge of 2,250 gpm and a system pressure of 37 psi, and full speed on the pump, an observed frequency of 60 Hertz (Hz) out of 60 Hz available. Because the water system could not accept this amount of water during winter, we simulated the system pressure by valving the discharge using the installed gate valve (Figure 5). In other words, the pump motor was running at full speed, an important distinction because we do not need to compensate for motor speed in the determination of maximum yield; i.e. one less variable. The observed measurements show that the pump was not operating on its "full speed" performance curve (Figure 9). Either the installed pressure gage was somewhat inaccurate or the pump assembly was worn after 10 years of use resulting in a 44-foot (19 psi) discrepancy in the total dynamic head (or perhaps a combination of the two). Assuming only the gage was inaccurate, this would equate to a

difference in system pressure between 37 psi to 56 psi. In any case, the installed pumping plant was able to produce the diversion rate of 2,250 gpm against a useable pressure head almost double that required for fire flows. Indeed, examination of the pump performance curve shows that the pumping plant can be "run out on its curve " to produce 2,500 gpm with a TDH of 240 feet (Figure 9). The calculated pumping water level at 2,500 gpm, at the 2-hour fire-flow requirement and specific capacity of 16.4, is ~177 feet leaving ~63 feet of head that equates to ~27 psi; still 7 psi above the minimum fire flow hydrant pressure head of 20 psi (see example calculations). The short-term (32 minute) constant-rate discharge test accomplished during this field examination (Figure 11) demonstrates that the Well #23's productivity has increased over the specific capacity determined from the original hydraulic testing of the well in 2002. Remarkably, the well's productivity was higher even at an increased pumping rate after a similar pumping period (Figure 9) with both tests conducted during winter months with almost identical starting non-pumping water levels. The field examination was conducted during the winter low-demand season when system pressures are higher. This evaluation relies on in-well measurements which are, fortunately, quite good.

Loren Pearson and Carlton Parker conducted hydraulic testing of the Well #23 on December 22, 2011. The resulting hydrograph from this test is shown as Figure 9. According to the, obtained measurements, previous drawdown tests of the well, pump performance curves (Figures 9 & 11), installed HP (Figures 8 & 10), available water level drawdown (well depth and pump setting), and the available discharge piping, Well #23 was capable of the instantaneous discharge rate of Permit No. 63-31281 during the proof of beneficial use period (5 cfs or 2,244 gpm) pumping against reasonable summertime system pressures in the range of 50-to-72 psi. The pumping water levels and calculated specific capacity measured during the field-licensing examination correspond to those measured during the initial hydraulic testing of the new well in 2002. Therefore, the installed capacity (pumping plant) and the well itself are both easily capable of the instantaneous discharge rate requested. The well does produce short-term discharge rates in excess of the water right diversion rate during flushing operations or in a fire-flow situation (pumping against zero-to-27 psi) but these instances are not considered typical or a beneficial use of the water right. Proof of Beneficial Use was submitted by the City on September 29, 2006 (Appendix C).

Available records are sparse but the pumphouse chart for April, 2004 was obtained from the City (Figure 13) showing hand-written entries during daily site visits by pump operators. The maximum recorded instantaneous diversion rate was 1,750 gpm. In speaking with the Water Department personnel, April is typically neither a high or low water production month and the time of day when operators visit the well houses (mid morning to mid afternoon) is the lower-demand part of any given day. The highest demand time of day is the period from about 5:30 A.M.-to-7:30 A.M. with residents preparing to go to work and virtually all automatic sprinkler systems watering at the same time. According to the City Public Works Department (Kyle Radek, personnal communication) the "peak hour" multiplier from "peak day" water demand is approximately three times and they use the same multiplier for this morning peak compared to average day water demand. From Figure 13, the averaged 24-hour pumped water volumes, show averaged day pumping rates in April of about 1,067 gpm with pumping averaged over 24 hours per day and then over 30 days. Using the City's multipliers, both cases would put the peak instantaneous diversion rate from Well #23 well above the water right diversion rate. Certainly, it stands to reason that the recorded mid-day pumping rates of Figure 13, of 1,500-to-1,750 gpm, would easily equate to the water right diversion rate during peak

demand periods. We have also been made to understand that each water distribution pressure zone within the City has its own group of supply wells that pump into it and each pressure zone wellfield has a designated "lead well" that is "first on and last off" depending on demand. Of course the lead well almost never shuts off because the City is always using water. The lead well ramps up its production until it reaches its maximum capacity (or at least near it's maximum) before the next well in succession is activated to share the water demand. In the beneficial use period of this water right, the City only had two pressure zones and Well #23 was the lead well in its pressure zone. Therefore, it is almost certain that the instantaneous diversion rate of the water right was achieved with some regularity (probably on a daily basis) during this period.

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?

- a. All conditions except Condition No. 9 of the Permit No. 63-31281 (Figure 14) have been met. Condition No. 9 states "Water bearing zone to be appropriated is 350 to 800 feet." As shown on Figure 7, the Meridian Well #23 has a completion interval open to the aquifer of 200-to-285 feet below ground level above and outside of the water-bearing zone stated in Condition No. 9. The reasons for the change in the depth of the water-bearing zone to be appropriated are apparently two fold. First, the ground water quality of the deeper aquifers, as sampled from a depth zone of the initial pilot bore for the supply well (Figure 7), was found to be undesirable for municipal drinking water due to elevated concentrations of dissolved manganese (0.19 mg/L) in excess of the secondary maximum contaminant limit set by the USEPA of 0.05 mg/L. This dissolved naturally-occurring metal causes dark brown-to-black staining in appliances, fixtures, and on outside surfaces wherever the ground water is applied at concentrations above about 0.10 mg/L. The second reason for the higher (shallower) completion interval is that the drilling contractor apparently encountered artesian conditions within the deeper bore causing caving of the borehole wall during drilling that jeopardized the geologic section and nearly trapped the installed drill steel such that emergency procedures were taken to use weighted drilling mud and overboring of the initial bore in order to place adequate grout seals within the drilled geologic section to prevent waste and commingling of ground waters of different head and chemistry in the abandoned bore.
- b. Therefore, in response to the conditions described above, the completion interval of the Well #23 was changed during construction of the well but the IDWR was apparently not contacted and the water right permit never amended to include the current completion interval. Similarly, the submission of the Well Driller's Report for the well was never cross-referenced with the water right to have uncovered this discrepancy with the water right permit conditions. The potential underlying problem with the non-advertised and non-approved change in completion interval is of course that the water right was advertised as a well that would draw from aquifers deeper than 300 feet but was actually completed as a well that draws from 200-to-285 feet bgl. In other words, there may be existing senior water right owners that may have protested when the water right was advertised had it been apparent that the completion interval was going to be higher in the aquifer section but who did not protest because of the advertised deeper completion interval (I.C. §42-211). It is the City's opinion that pumping of it's Well #23 has not injured senior water rights and that water-bearing zone to be appropriated can be modified in the licensing of Permit No. 63-31281 without re-advertising to amend the permit. This is IDWR's decision but I put forward the following information to assist the Department in considering the City's request for licensing. First, Well #23 produced large volumes of ground water during the beneficial use period beginning when it was first brought on line in November of 2002 (Figure 13) but has never in the eleven year history of the well received a complaint of well interference or of associated water level decline. In 2004, the City produced 471,306,000 gallons from Well #23. Averaged over the 365-day year, this equates to 897 gpm continuous water production. Secondly, when we conducted the field licensing examination we measured a non-pumping water level in Well #23 of 21.27 feet bgl, just 1.37 feet lower than we measured 9 years earlier in the newly completed well (19.90 ft bgl) documenting that there has

been negligible water level decline in the pumped aquifer (Figure 12). Thirdly, HLI had taken a look at all existing wells within a one mile radius of Well #23 in 2001 (Figure 15 and Appendix D). Only ten wells within a mile of the Well #23 were completed into the same depth zone and only two wells to the same depth were located within a half mile. The "Anderson" domestic well located about one quarter mile southeast was drilled in 1984 in a location that is nowadays inside the Silverstone Corporate Center such that the Anderson well is most likely no longer in use. Tabulated well information of Appendix D indicates that most wells in this area of the City are shallow (less than 150 feet in depth) owing to high ground water levels in the area. Finally, during the hydraulic pump testing of the City's Well #23, HLI measured the non-pumping water level in the Turfco irrigation well located approximately 500 feet away to the north (Figure 15). This well is completed shallower in the aquifer system with an open interval of 72-to-152 feet bgl (Figure 16). Our measurements indicate that the Turfco well sustained 2.1 feet of water level drawdown during the 380-minute, 2,000 gpm, constant-rate discharge testing of the Well #23 in 2002 (Figures 17 & 18). Because of these four lines of evidence, we believe there is little concern for water level interference effects to pre-existing wells and water rights owners from Well #23. HLI measured a similar circumstance in the nearby "Sundance Investment" irrigation well located 1,100 feet away to the south (Figures 15 and 18). Although the water right for this well is senior in priority to Well #23 by about 3 months (Permit No. 63-31258), the well was constructed and developed just *after* the Well #23 was constructed and tested. Therefore, it was not available for measurement during the 380-minute constant-rate hydraulic test of Well #23. However, after the Sundance well was completed, HLI did conduct a shorter (130-minute) drawdown test in cooperation with Sundance where we observed about ½-foot of water level interference effect to the Sundance well from, pumping Well #23 at 2,000 gpm. This short-term test with very few measurements supports all previous measurements and hydraulic tests that the drawdown cone of depression from Well #23 is very shallow causing minimal interference effects away from the well. The Sundance well is a supplemental irrigation well (supplemental to its surface water source).

- c. In summary, I recommend that the water bearing zone to be appropriated for City Well #23, under water right Permit No. 31281, be changed in the transition to a License to reflect 200-to-800 feet to bring it into compliance with the as-built well construction and to preserve the City's right to deepen the well if necessary in the future or to add additional points of diversion for deeper wells through future transfer applications. This change would bring Well #23 in alignment with the water-bearing zones of other City wells and water rights.

F. FLOW CALCULATIONS

☒ Additional Computation Sheets Attached

Measured Method:

Instantaneous flow rates are based on field-observed readings of a high-quality, calibrated, impeller flow-meter installed within manufacturer's specifications. These readings are supported by: **1)** discussions with the pump operators responsible for operation of the well, **2)** by the operating conditions and pump performance curves, and **3)** by the well-documented capacity of the City's #23 groundwater well during previous pumping tests. Pumping and non-pumping water levels were measured with calibrated (with chalked steel tapes) high quality electric water level sounders. According to Mr. Allen, the Well #23 is currently in "stand-by" mode due to undesirable ground water chemistry. The well remains connected to the City's water distribution system and, in that sense is "on-line" and available for use, but the City operates the well in a "last on, first off" mode while the ground water quality issues are actively being investigated and addressed to bring Well #23 back into daily usage. Therefore, the requested, observed, calculated, and recommended maximum flow rates for the well appear to be justified.

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{\hspace{10em}}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = \underline{\hspace{10em}}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \underline{\hspace{10em}}$$

2. Volume Calculations for Other Uses:

Not applicable to a municipal water right.

CALCULATIONS AND DESIGN DATA		PREPARED BY C PARKER
SUBJECT	MERIDIAN SUPPLY WELL # 23	DATE 5-9-2013
PROOF OF BENEFICIAL USE CALCULATIONS		SHEET 1 OF 2

NON-PUMPING WATER LEVELS (NPWL)

12-22-2011 - 21.27 FEET BELOW GROUND LEVEL

2-28-2002 - 19.90 FEET BELOW GROUND LEVEL

SPECIFIC CAPACITIES FOR WELL # 23

12-22-2011 2,250 gpm, 32 minutes, 155.94 FEET BELOW GROUND LEVEL
(155.94 FT - 21.27 NPWL = 134.67 FT DD).

$$2,250 \text{ gpm} / 134.67 \text{ FT DD} = \underline{16.7 \text{ gpm/ft DD}}$$

2-28-2002 2,000 gpm, 32 minutes, 141.90 FEET BELOW GROUND LEVEL
(141.90 FT - 19.90 NPWL = 122.00 FT DD)

$$2,000 \text{ gpm} / 122.00 \text{ FT DD} = \underline{16.4 \text{ gpm/ft DD}}$$

TOTAL DYNAMIC HEAD (TDH)

2,250 gpm @ 37* psi AT PWL = 158.94 FEET BELOW MEASURE POINT 12-22-11

$$37 \text{ psi} \times 2.31 \text{ ft/psi} =$$

$$\begin{array}{r} 85.47 \text{ FEET} \\ + 158.94 \text{ FEET} \end{array}$$

$$244.4 \text{ FEET TDH AT } 2,250 \text{ gpm}$$

* IF GAUGE WAS READING ACCURATELY, THEN THIS INDICATES WEAR OF IMPELLORS, BUT PUMP PERFORMANCE CURVE DOES SUPPORT FULL DIVERSION OF 5 CFS @ 50-60-70 PSI.

IF GAUGE WAS INACCURATE:

$$\text{NPWL} = -24.3 \text{ FT BELOW MEASURE POINT}$$

PUMPING WATER LEVEL @ 2,250 gpm @ SPECIFIC CAPACITY 16.7 gpm/ft DD

$$2,250 \text{ gpm} \div 16.7 \text{ gpm/ft DD} = 134.7 \text{ ft DD}$$

$$\text{PWL} = 134.7 \text{ ft DD} + 24.3 \text{ ft NPWL} = \underline{159 \text{ FT BHP}}$$

TOTAL DYNAMIC HEAD AVAILABLE FROM PUMP PERFORMANCE CURVE @ 2,250 gpm = 288 FT.

$$\text{SYSTEM PRESSURE AVAILABLE} = 288 \text{ FT}_{\text{TDH}} - 159 \text{ FT}_{\text{PWL}} = \underline{129 \text{ FEET}}$$

$$129 \text{ FT} \div 2.3 \text{ ft/psi} \approx \underline{56 \text{ PSI SYSTEM PRESSURE (ON GAUGE)}}$$

$$\begin{array}{r} 2500 \text{ gpm} \\ - 2250 \text{ gpm} \\ \hline 250 \text{ gpm} \end{array}$$

Calculation of 2 hour fire flow
for Merid ~~23~~ Well #23 as equipped
(not part of water right)

$$250 \text{ gpm} \div 16.4 \text{ gpm/ft} = 15.24 \text{ ft}$$

$$\begin{array}{r} 160 \text{ ft PWL} \\ + 15 \text{ ft additional drawdown at } 2500 \text{ gpm} \\ \hline 175 \text{ ft PWL at } 2500 \text{ gpm after } 120 \text{ minutes} \\ \text{(pump intake at } 185 \text{ ft)} \end{array}$$

$$2500 \text{ gpm} = 240 \text{ ft TDH from performance curve and 4 stages}$$

$$\begin{array}{r} 240 \text{ ft TDH} \\ - 175 \text{ ft PWL @ } 2500 \text{ gpm after } 120 \text{ minutes} \\ \hline 65 \text{ ft remaining head} \end{array}$$

$$65 \text{ ft} \div 2.31 \text{ ft/psi} = 28.1 \text{ psi at a discharge rate of } 2500 \text{ gpm}$$

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use From	To	Rate of Diversion Q (cfs)	Annual Volume V (afa)
<u>Municipal</u>	<u>Jan 1</u>	<u>Dec 31</u>	<u>5.00 cfs</u>	<u>N/A</u>
Totals:			<u>5.00 cfs</u>	<u>N/A</u>

2. Recommended Amendments

- ☒ Change P.D. as reflected above ☐ Add P.D. as reflected above ☐ None

*Remove 1 point of diversion
(2nd well never drilled)*

- ☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☒ Other - *Change water-bearing zone
of appropriation to 200-to-800 feet bgl*

I. AUTHENTICATION

Field Examiner's Name Edward Squires, RPG, CWRE No. 13-125 Date April 25, 2014

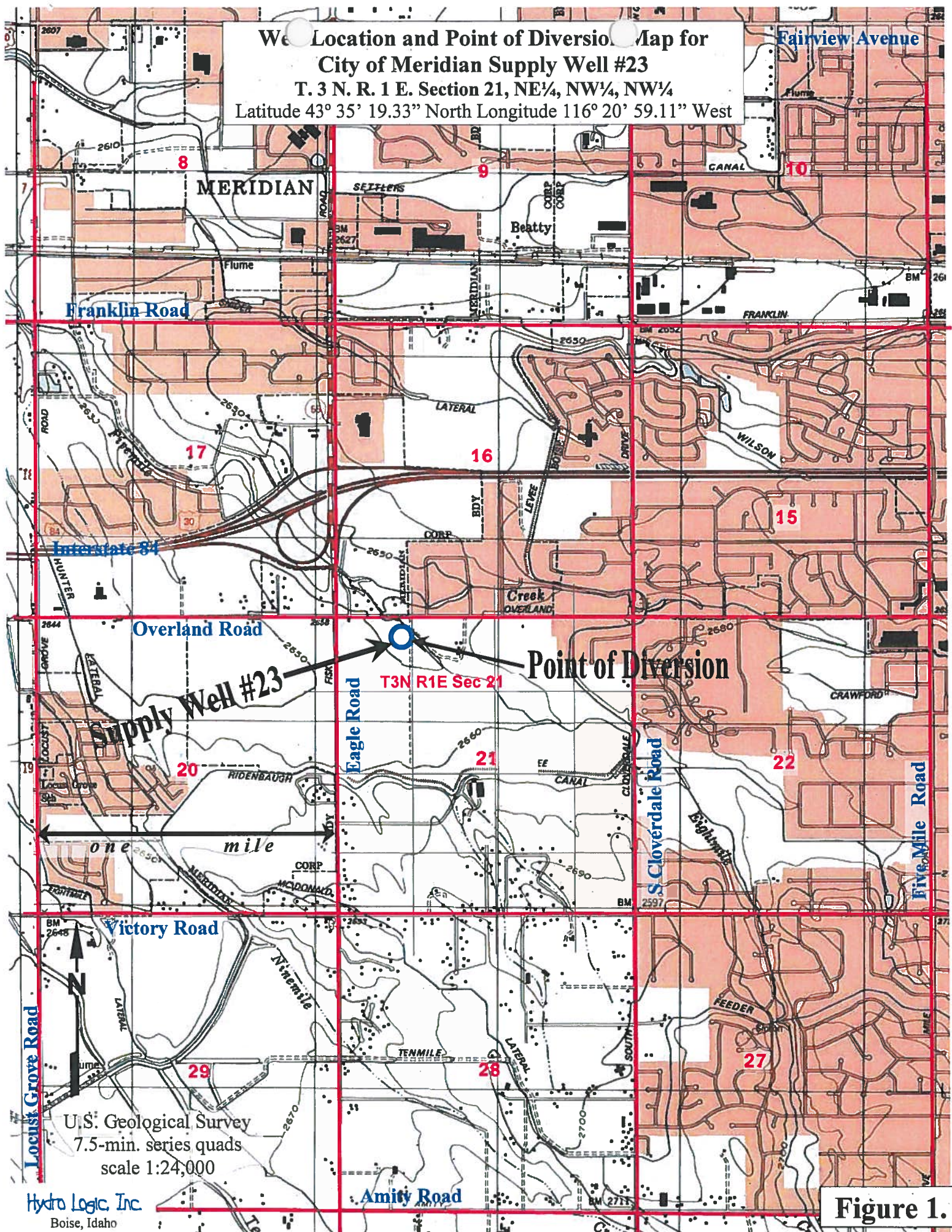
Reviewer _____ Date _____



FIGURES

**Well Location and Point of Diversion Map for
City of Meridian Supply Well #23**

T. 3 N. R. 1 E. Section 21, NE $\frac{1}{4}$, NW $\frac{1}{4}$, NW $\frac{1}{4}$
Latitude 43° 35' 19.33" North Longitude 116° 20' 59.11" West



Supply Well #23

T3N R1E Sec 21

Point of Diversion

one mile

U.S. Geological Survey
7.5-min. series quads
scale 1:24,000

Hydro Logic, Inc.
Boise, Idaho

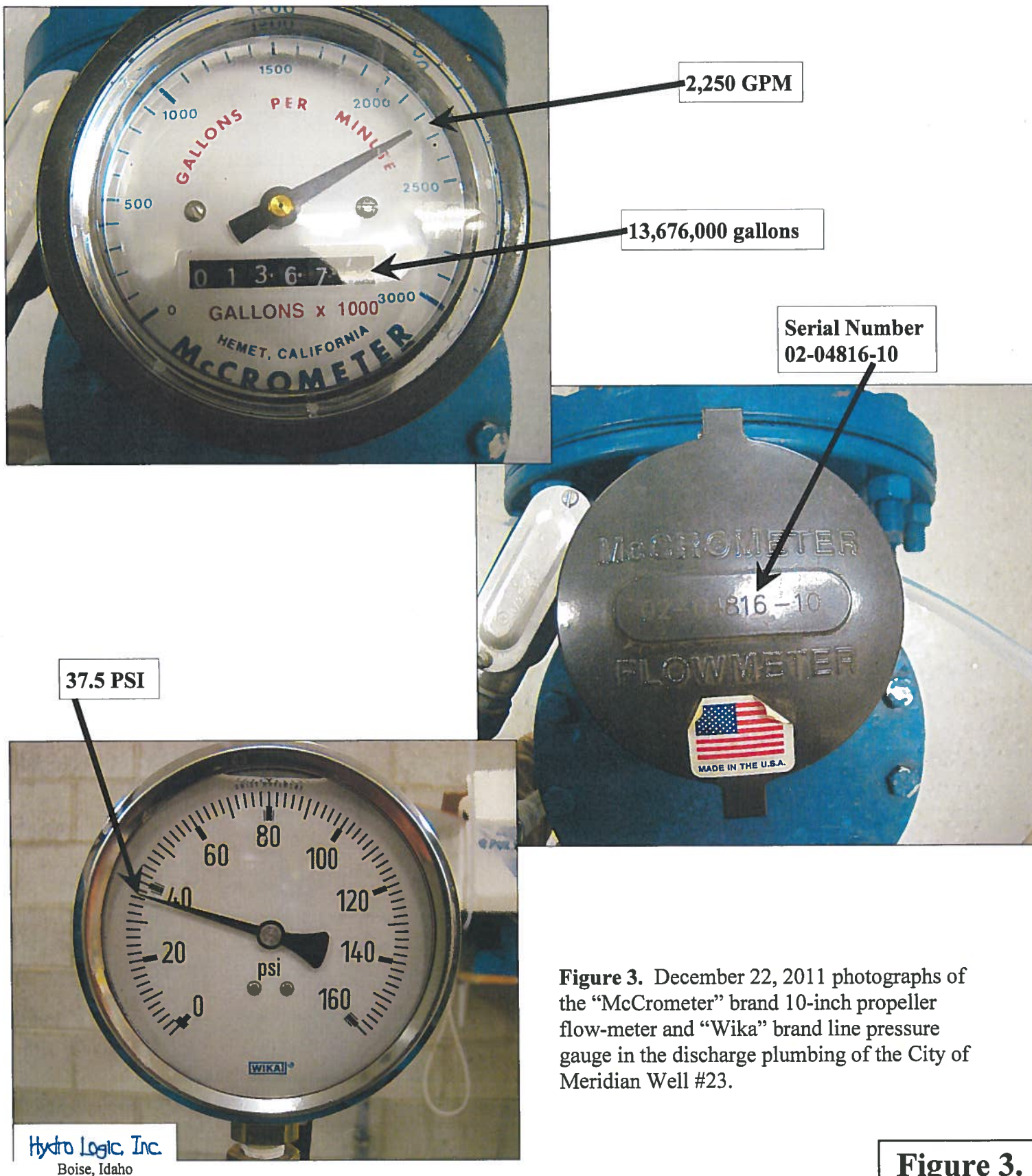
Figure 1.

Site Map for City of Meridian Supply Well #23
T. 3 N. R. 1 E. Section 21, NE $\frac{1}{4}$, NW $\frac{1}{4}$, NW $\frac{1}{4}$
Latitude 43° 35' 19.33" North Longitude 116° 20' 59.11" West

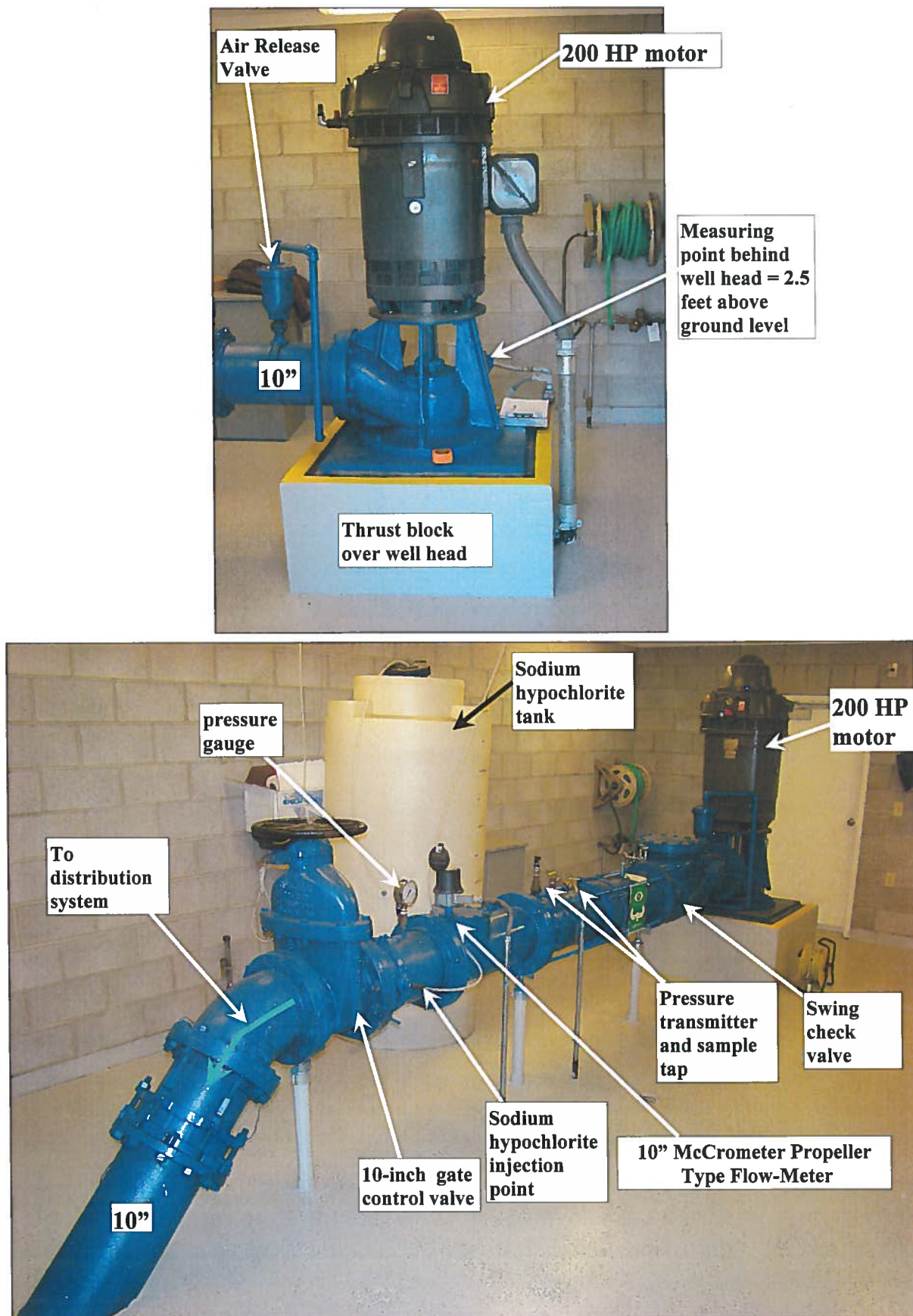


Figure 2. Annotated aerial photograph of the Meridian #23 well site showing the location of Meridian Supply Well #23 with respect to other area facilities, roads, and drain.

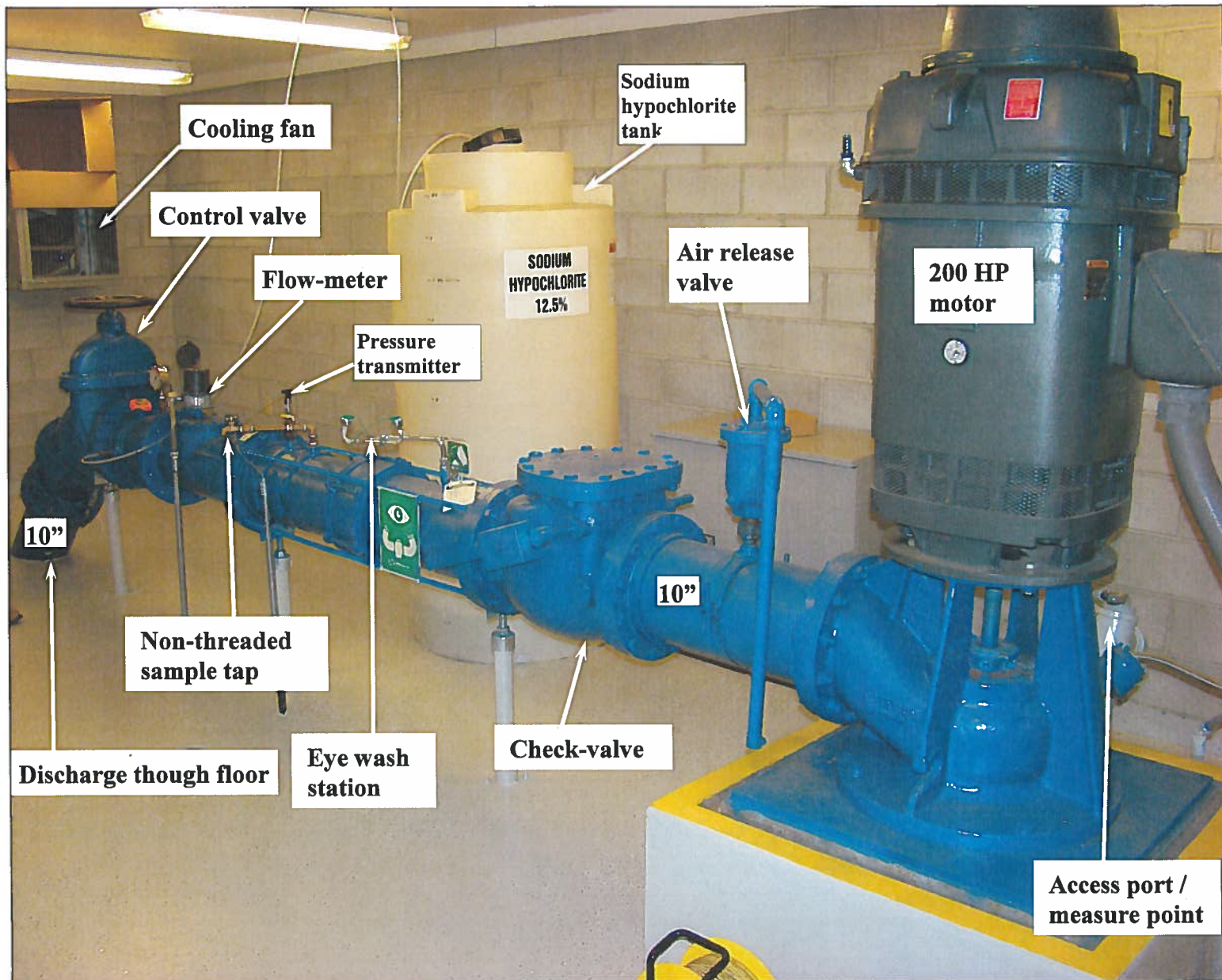
Photographs (12-22-2011) of the 10-inch totalizing flow meter and system-pressure gauge for Meridian Supply Well #23



Photographs (12-22-2011) of the Well Head and Discharge Piping for Meridian Supply Well #23



Photographs (12-22-2011) of Wellhead and Discharge Piping During Beneficial Use Exam of Meridian Well #23



Photographs (12-22-2011) of Meridian Well #23 Pump/Control House

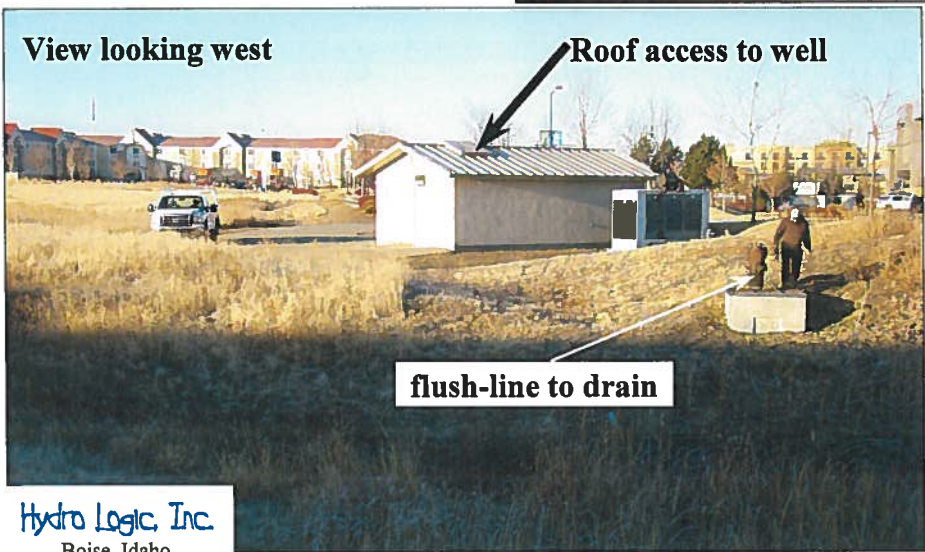
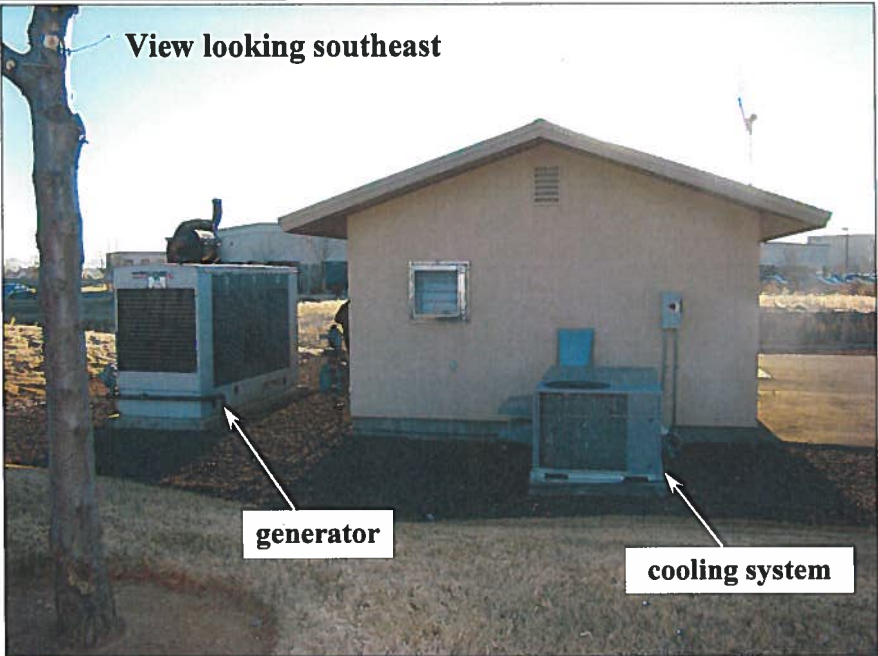
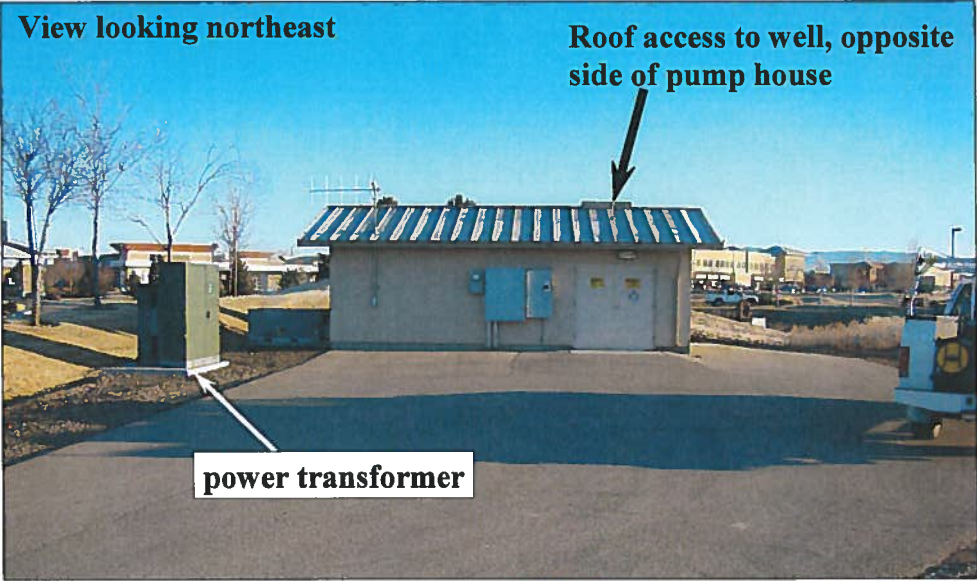
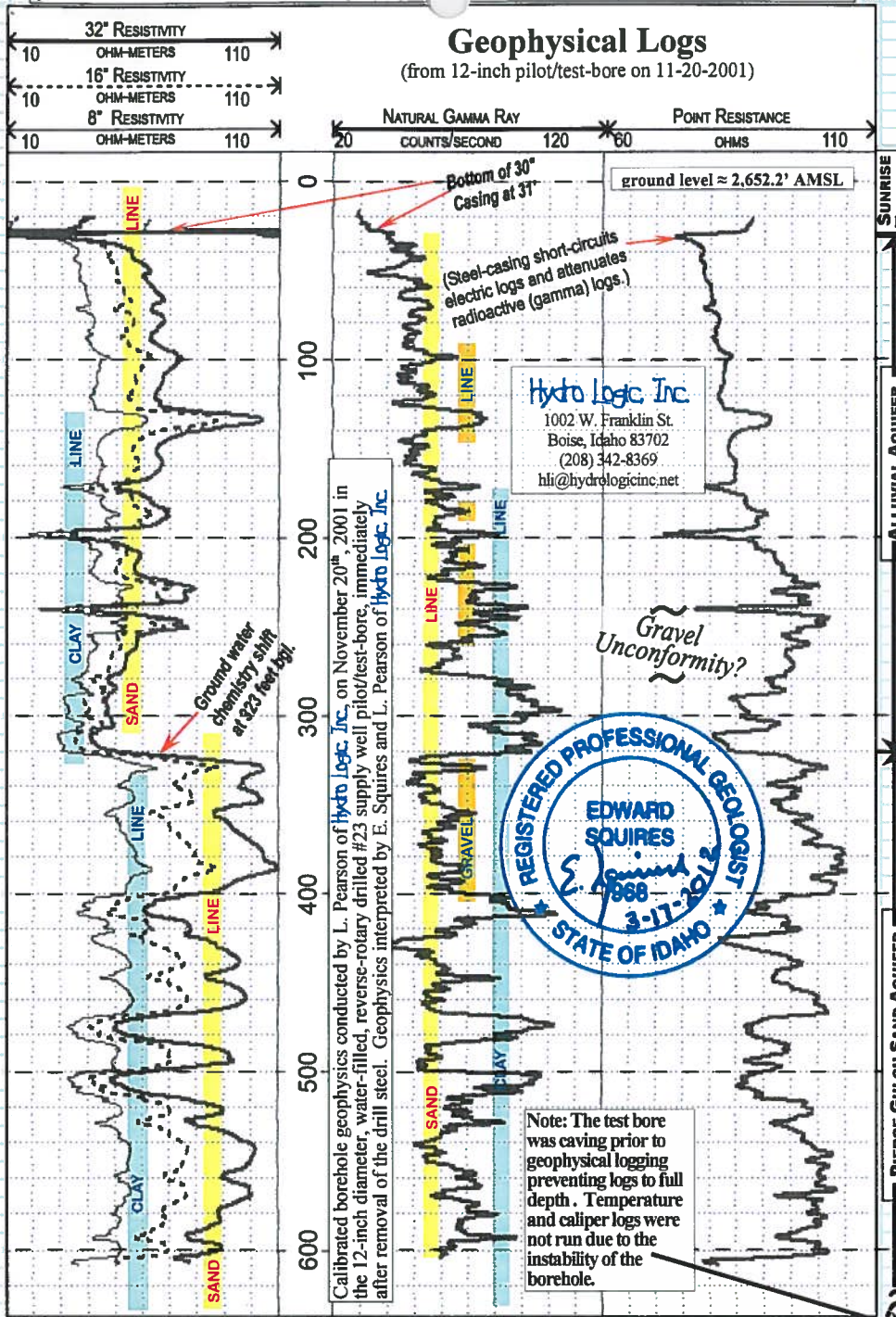


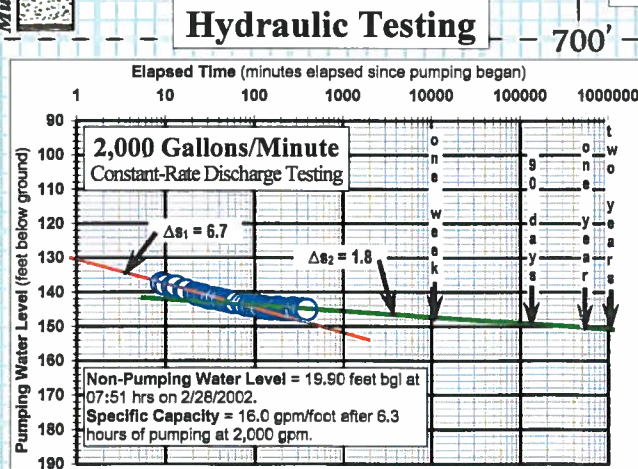
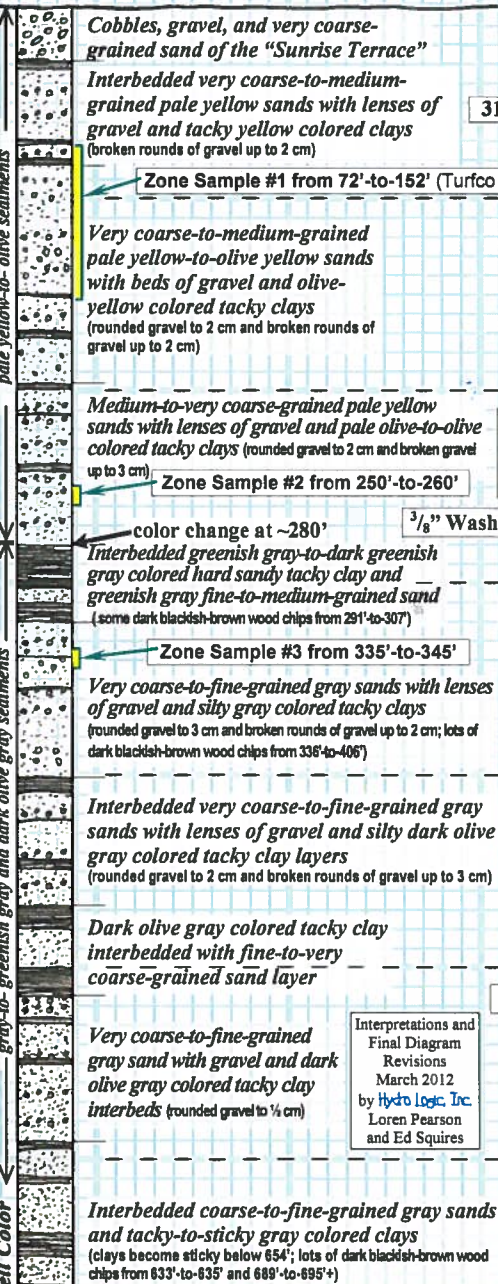
Figure 6.



- Project administration by Gary Smith, P.E., Director and Brad Watson, P.E., Public Works Department, Meridian, ID.
- Well design, hydraulic testing design, final review of diagram, and project management by Ed Squires, R.P.G.
- On site inspection, documentation, water level measurement and water quality sampling by Hydro Logic, Inc., Boise, ID.
- Auger drilling by Anderson & Wood Construction Co., Inc., Meridian, ID.
- Flooded reverse-rotary drilling, zone-sampling, well construction, test pump installation, discharge line setup and test operation by Riverside, Inc. Parma, ID.
- Zone sampling water quality samples were obtained from three selected zones based on interpretation of the subsurface geology using the borehole geophysical analyses and interpretation and analysis of the drill cuttings. Only two zones within the #23 test bore were sampled: Zone 3 (335'-345' bgl) and Zone 2 (250'-260' bgl), because of caving conditions within the reverse-rotary bore. Samples were also obtained from a shallower portion of the aquifer (Zone 1) using a nearby irrigation well ("Turfco") which is located about 500 ft to the north-northeast from Meridian #23 and is screened between 72'-152' bgl. The Turfco well (Zone 1) supplied the drilling water for the #23 test and supply well drilling projects so the Turfco water "lost" to the formation during reverse-circulation rotary drilling had to be purged by pumping for several days prior to sampling. A temporary 10.5-foot section of casing, placed within the selected zones of the test bore, was perforated with ten sets of torch cut slots, four to the round for a total of 40 slots. The slotted temporary casing was enveloped with a gravel pack (and a bentonite chip cap) prior to being pumped at approximately 60 gpm with the test bore kept full of drilling mud to prevent the overlying bore from collapsing during pumping. Each zone was air-lift pumped to "develop" clays and residual drilling muds from the sands and then pumped with a submersible pumping plant to eliminate aeration of the pumped water. Each zone was pumped until field-measured parameters were stable prior to sampling. The ground water was field-filtered with all sampling protocols observed.
- The supply well development program designed by HLI, consisted of evacuating all of the mud by air-lift purging from the top of the well until the water was mostly clear. The well was then air-lift pumped at 250+ gallons/minute twice from the bottom of the screen assembly to above the headpipe at 160' below ground using a perforated pipe at the end of drill steel to clear remaining sediment and mud from the well. For 16-hours the aquifer/screen section of the well was swabbed with a cable-tool swab/surge block to remove fines and settle the filter-pack. Following these procedures a test pump was installed and the well was further developed by over-pumping the well up to 2,000 gpm and backwashing until the well water was clear and sand-free.
- Supply Well #23 water samples were on February 28, 2002 after pumping for about six-hours at 2,000 gallons/minute during constant-discharge pump testing of the well.

Lithology

Hydro Logic, Inc. lithologic log is interpreted and drawn from geophysical logs and analysis of flooded reverse-rotary drill cuttings, sampled by the on site geologists (B. Cavanagh and L. Pearson) during drilling of the #23 pilot/test-bore.



Hydro Logic, Inc.

Depth

(feet below ground level)

36-inch Auger Drilled Bore

31' = Bottom of 30" Casing

145.3' PWL 2-28-2002
Specific Capacity = 16.0 gpm/foot at 2,000 gpm after 6.3 hours

"Birdseed" Brand Sand Graded Filter #6-#12 195'-to-259'; 3.3 yd³ #8-#16 259'-to-285'; 1.1 yd³

3/8" Washed Chip Gravel in Thick Mud (1.4 yd³)

"Teague Mineral Products" Brand 5/8" Bentonite Chip Seal (1.4 yd³)

17-inch Flooded Reverse-Rotary (with some mud) Drilled Bore

3/8" Washed Chip Gravel in Thick Mud (12.0 yd³)

518' = Bottom of 18" Bore

"Teague Mineral Products" Brand 5/8" Bentonite Chip Seal (0.9 yd³)

Caved Clays and Sands in Thick Mud (~5.0 yd³)

12-inch Flooded Reverse-Rotary (with some mud) Drilled Test Bore

695' = T.D.

As-Built Well Construction

(horizontal scale 0.1"=1' and vertical scale 1"=100')
all measurements to ground level = pumphouse floor

"Teague Mineral Products" Brand 5/8" Bentonite Chip Seal (2.5 yd³)

19.9' NPWL 2-28-2002
Water Right No. 63-31281

Interior details of construction inspected with Hydro Logic, Inc. depth-calibrated camera survey on March 12th, 2002.

Removable 18"-to-10" Packer-Reducer Seal (see diagram below)

Note: A 12-inch diameter pilot-bore was drilled to obtain drill cuttings and geophysical logs. The drill had great difficulty with the artesian pressures at depth. The reverse circulation coupled with watered-down drill mud resulted in continuous caving of the bore that could not be stopped. These problems prevented the planned zone sampling of the deeper section and hampered efforts to properly abandon the pilot bore. Because of the associated voids (from caving) the bore had to be resumed to the seal depth below 500 feet at 17-inch diameter to stabilize the bore and build a wall cake against caving. Two deep bentonite chip seals were placed to prevent comingling of the ground waters of different chemistry and pressure head. Chipped gravel was used to fill the majority of the 17-inch bore for economy, to provide a tight base for the proposed well, and so that 12 cubic yards of bentonite were not poured down the bore past the upper aquifer sands that the well would be completed into and/or the lower sands that the well might be deepened into owing to water quality issues.

Stainless Steel End Plate (0.375" thick; continuous welded)

"Johnson" Brand "Hi-Flow, Hi-Q" #304 Stainless Steel (SS) Wire-Wrap Screen Assembly (with 6-inch long SS weld-rings at each end of the screen)

10" x 0.005"-Slot SS Screen 194'-to-205'
10" x 0.040"-Slot SS Screen 205'-to-225'
10" x 0.040"-Slot SS Screen 225'-to-245'
10" x 0.040"-Slot SS Screen 245'-to-265'
10" x 0.035"-Slot SS Screen 265'-to-275'
10" x 0.035"-Slot SS Screen 275'-to-285'

188' = Top of Packer/Reducer
195' = Top of Sand Filter (tagged)
200' = Bottom of 20" Casing

30" X 0.250"-Wall Low-Carbon Steel Casing (pushed into clay; ~33 feet long total)

28-inch Flooded Reverse-Rotary (with some mud) Drilled Bore

High-Solids (≥65% Solids-By-Weight) Cement Grout Seal (10.0 yd³)

"Teague Mineral Products" Brand 5/8" Bentonite Chip Seal (2.1 yd³)

20" X 0.375"-Wall Low-Carbon Steel Casing (centralized 4-to-the-round, every 40'-to-80'; ~202 feet long total; large casing to facilitate future deepening)

188' = Top of Packer/Reducer
195' = Top of Sand Filter (tagged)
200' = Bottom of 20" Casing

10" x 0.005"-Slot SS Screen 194'-to-205'
10" x 0.040"-Slot SS Screen 205'-to-225'
10" x 0.040"-Slot SS Screen 225'-to-245'
10" x 0.040"-Slot SS Screen 245'-to-265'
10" x 0.035"-Slot SS Screen 265'-to-275'
10" x 0.035"-Slot SS Screen 275'-to-285'

(● = centralizers, 4-to-the-round, every 10'-to-40'; 91 feet long total)

188.3' = Top of Packer/Reducer
194.9' = Top of Sand Filter (tagged)
200' = Bottom of 20" Casing

City of Meridian Supply Well #23

T. 3 N. R. 1 E. Section 21, NE 1/4, NW 1/4, NW 1/4
Latitude 43° 35' 19.31" Longitude 116° 20' 59.17"
Well Completed February 2002

Geochemistry

(in mg/L unless noted)
(200-285 ft bgl)

Analyte	Result
Alkalinity	316.0
Aluminum	<0.01
Ammonia as N	0.06
Antimony	<0.002
Arsenic	0.008
Barium	<0.10
Beryllium	<0.0002
Calcium	<0.0005
Calcium as CaCO ₃	49.4
Chloride	17.1
Chromium	<0.002
Color (apparent)	<1
Conductivity (µS)	797.0
Copper	<0.01
Corrosivity	+0.14
Cyanide (total)	<0.005
Fluoride	0.67
Hardness	164.0
Iron (total)	<0.01
Iron (dissolved)	<0.01
Lead (total)	<0.002
Magnesium	9.98
Manganese (dissolved)	0.03
Manganese (total)	0.03
Mercury	<0.0002
Nickel	<0.003
Nitrate NO ₃ as N	4.04
Nitrite NO ₂ as N	<0.01
Odor	<1.0
Orthophosphate	0.036
pH - Lab (S.U.)	7.72
Potassium	3.03
Selenium	0.026
Silica	32.5
Silver	<0.002
SOC's	none detected
Sodium	91.6
Sulfate	67.6
Sulfide	<0.05
Surfactant	<0.025
Suspended Solids	<1.0
Thallium Graphite	<0.01
Total Coliform	absent
Total Dissolved Solids	478.0
Total Kjeldahl Nitrogen	0.16
Total Organic Carbon	1.09
Turbidity (N.T.U.)	0.10
VOC's	none detected
Zinc	<0.001

Radiology (in pCi/L unless noted)

Gross Alpha 37.4 ± 7.2
Gross Beta 18.6 ± 7.2

Field Measured (by Hydro Logic, Inc.) Parameters

Field Conductivity (µS) 777
Field Dissolved Oxygen +4.0
Field O.R.P. (mV) -14
Field pH (S.U.) 8.12
Field Temperature (°F) 55.0
Sampled February 28th, 2002 by Hydro Logic, Inc. Analyses by Alchem Laboratories, Inc.

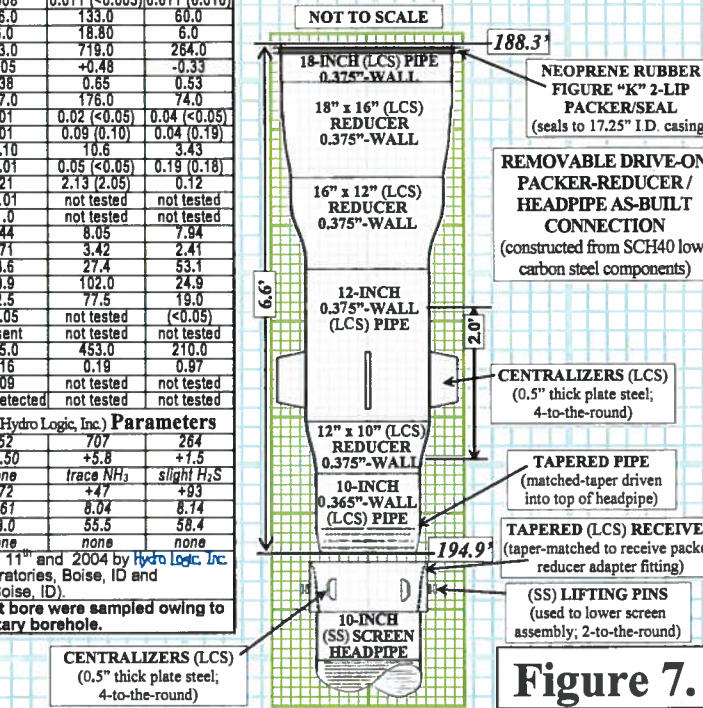


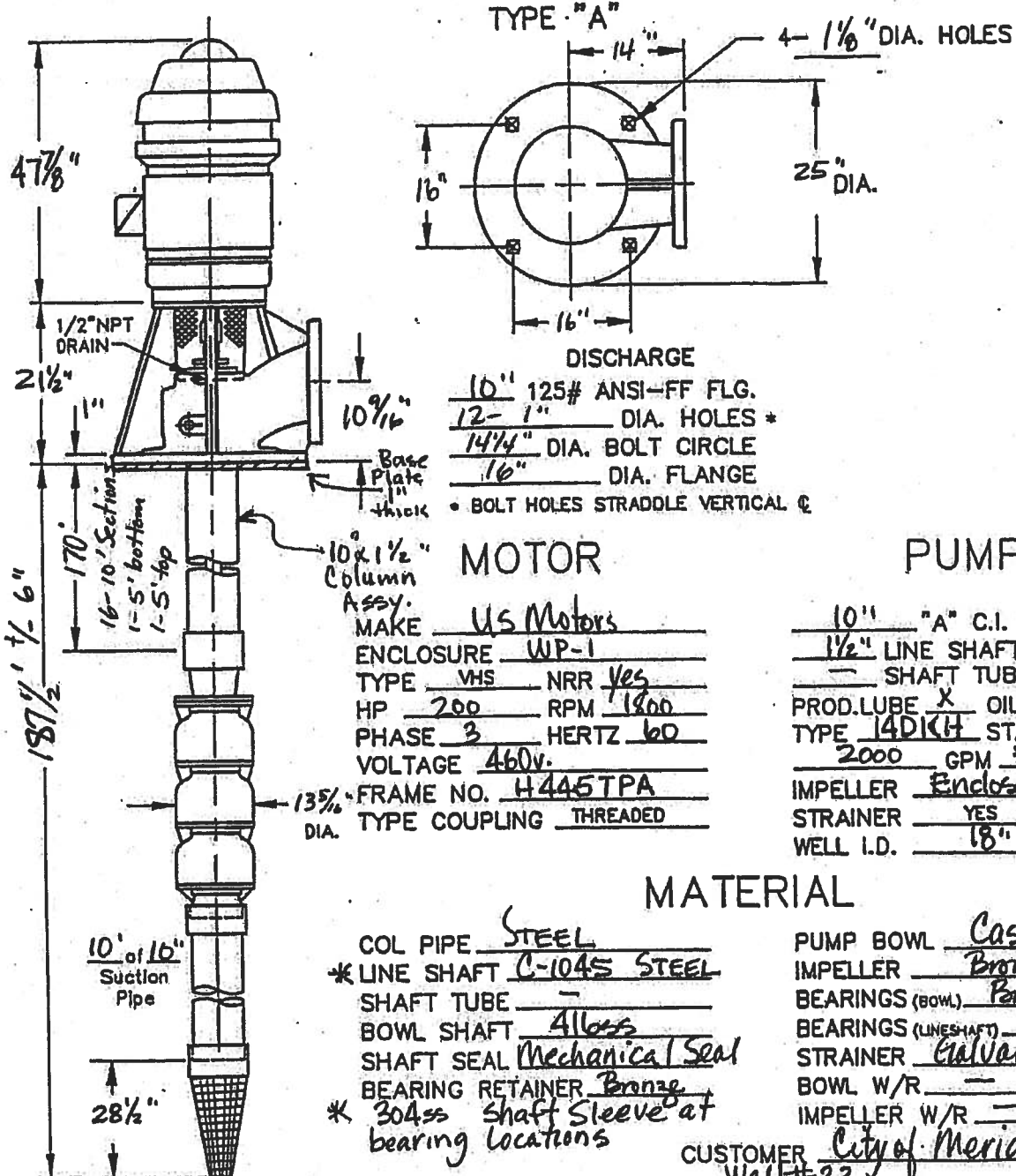
Figure 7.

Diagram of Installed Pumping Plant at Meridian Supply Well #23

23

FLORWAY PUMPS
ERESNO, CALIFORNIA

VERTICAL TURBINE PUMP



- REMARKS
- NO. UNITS REQ'D. 1
- Base plate welded to well casing
 - Mech. Seal

FLUID Water

SPEC. GRAVITY 1.0

VISCOSITY

TEMPERATURE 60°F

PH

CUSTOMER City of Meridian, Idaho

Well #23

ORDER NO.

SUPPLIER Pump Tech Co. Inc

Idaho Falls, Idaho

DWG. NO.

SERIAL NO.

5/1/96

VI-59

Hydro Logic, Inc.
Boise, Idaho

NO. OF STAGES	EFF. CHANGE (NO. OF POINTS)
1	-3
2	-1
3	-0

HORSEPOWER WILL BE EFFECTED
BY CHANGE IN EFFICIENCY

PERFORMANCE FOR:

Bowl Pattern No.: 542434-C-R7

Imp. Pattern No.: 542424-B-R2

PUMP DATA

Shaft Dia. (IN.)	1 15/16
Maximum Sphere (IN.)	1 1/4
Maximum Head (FT.)*	767
Min. Submergence (IN.)**	24
Impeller Wt. (LBS.)	26.9
Thrust Constant (K)	16.5
Bowl O.D. (IN.)	13 1/4

NOTES

Performance indicated based on cold water with a specific gravity of 1.0.

* Standard construction.

** Minimum submergence over lip of bell to prevent vortexing.

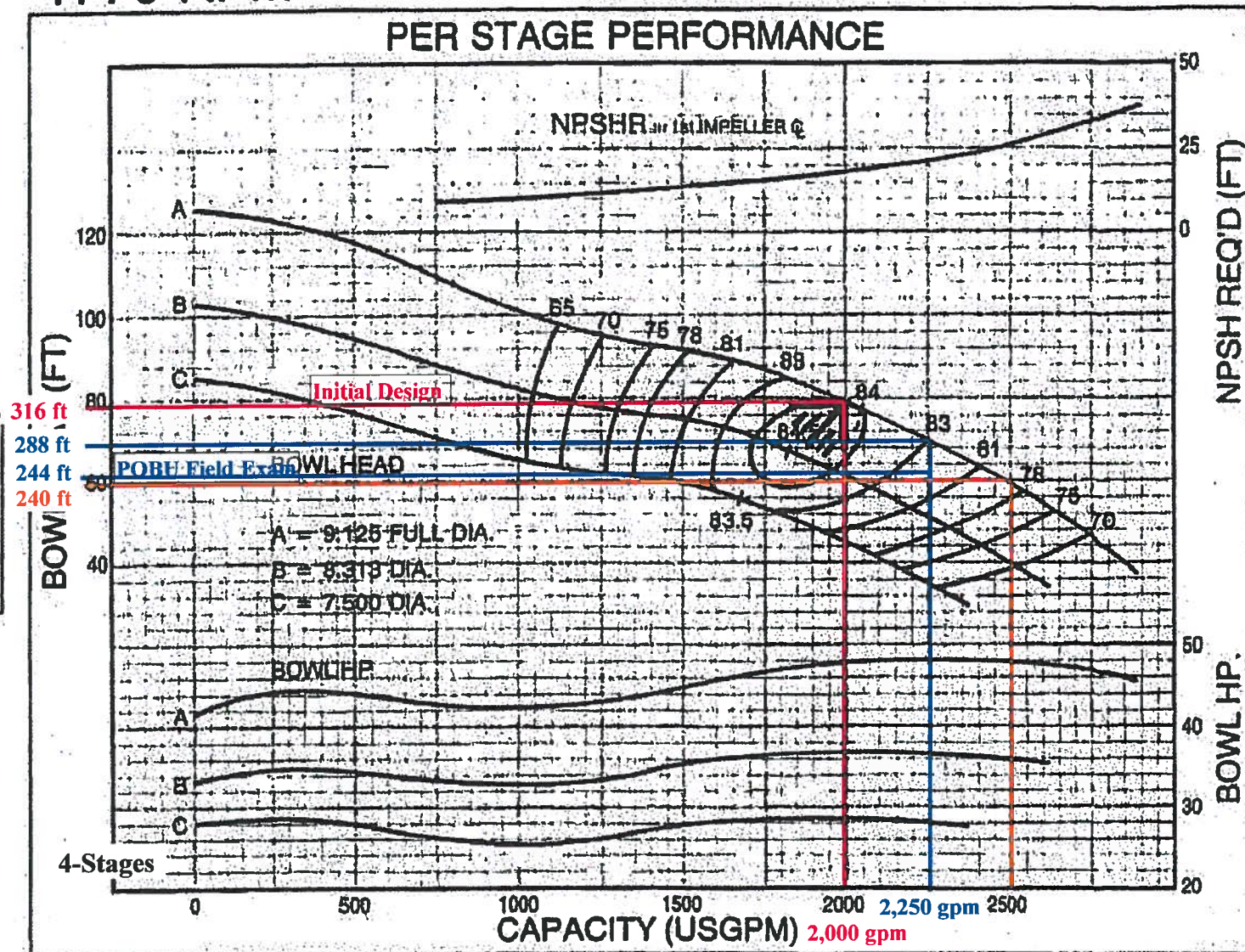
Efficiency improvements are available in certain instances. Please contact the factory.

1770 RPM

ENCLOSED TYPE IMPELLER

14DKH

PER STAGE PERFORMANCE

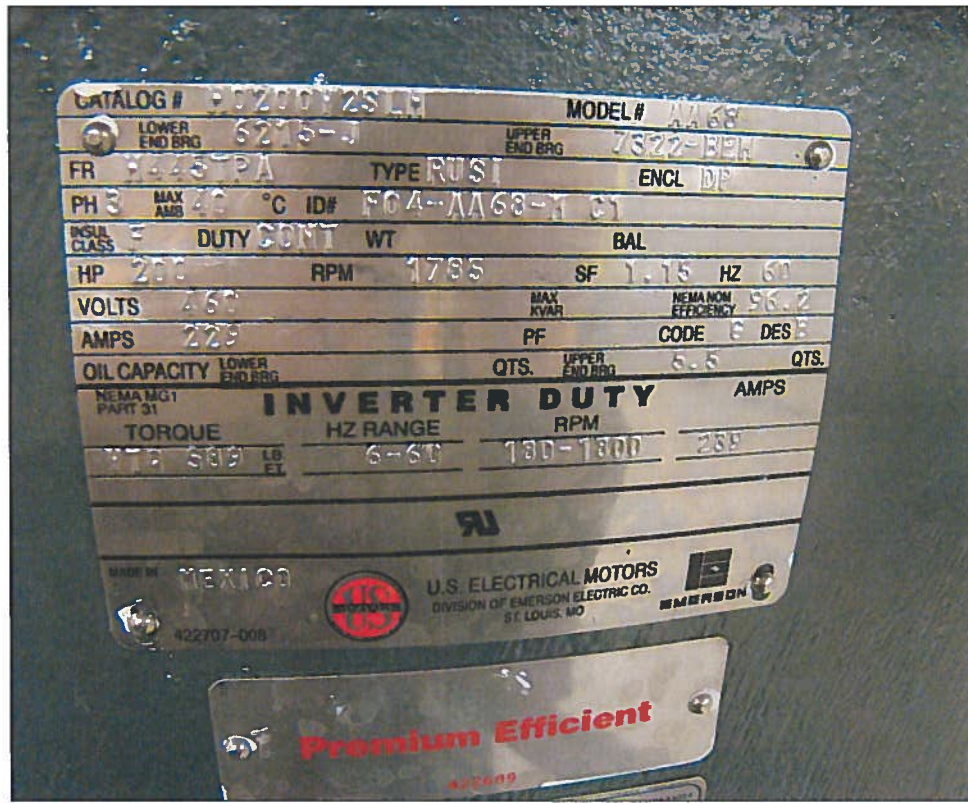


2000 GPM @ 316' TDH

4 STAGES

Figure 9. Pumping plant performance curve. The design point for Meridian Supply Well #23 is 2,000 gpm with 316 ft head (red lines). On the field exam date (blue lines) pumping plant performance was 2,250 gpm with 244 feet of head (assuming pressure gauge was accurate). Difference in observed head versus theoretical head may be due to pump wear. This pumping plant is capable of putting out full diversion rate against system pressure.

Photographs (12-22-2011) of the Pump Motor Name Plate and IDWR Well ID Tag for Meridian Supply Well #23

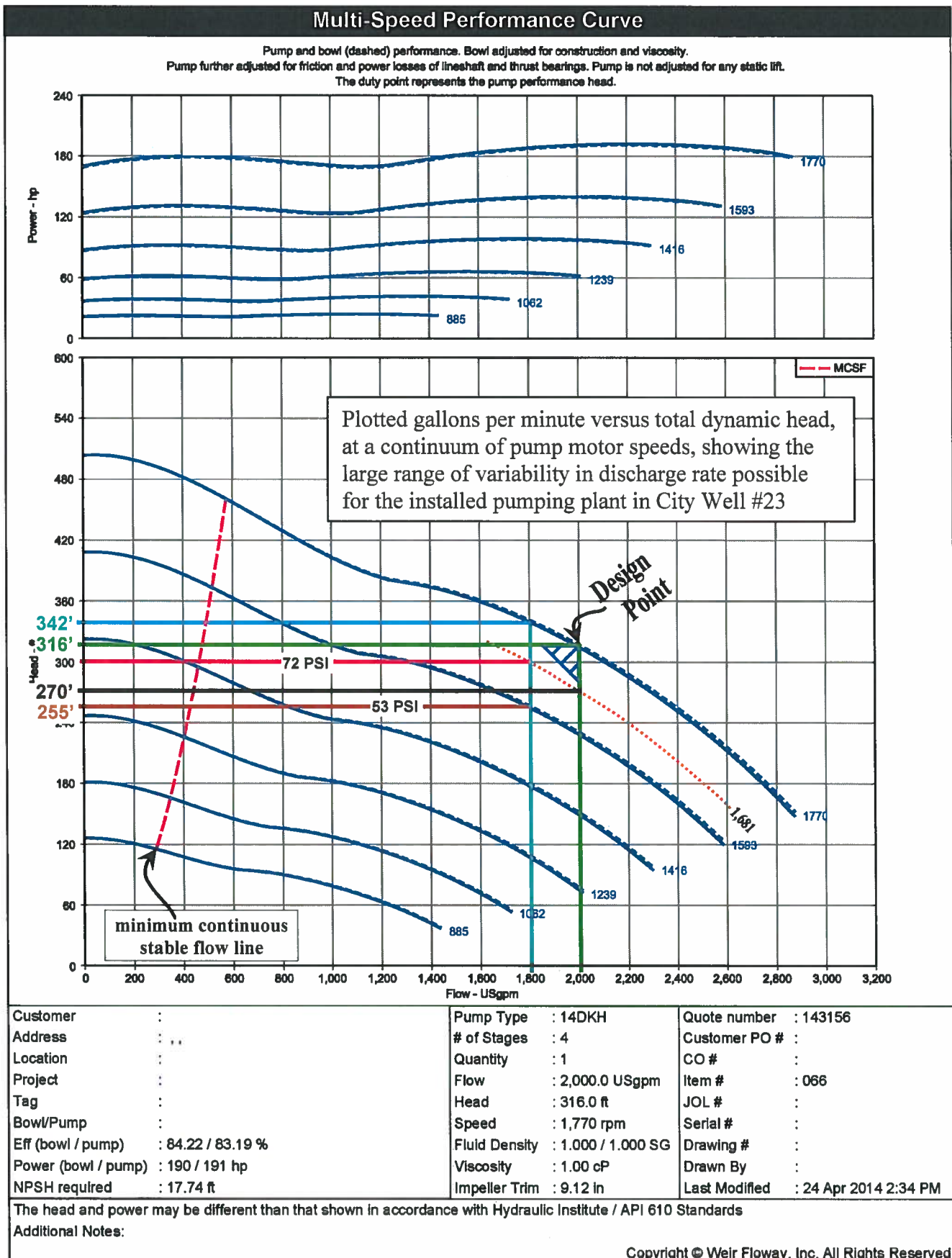


Meridian Well #23 hollow-shaft turbine pump motor nameplate.

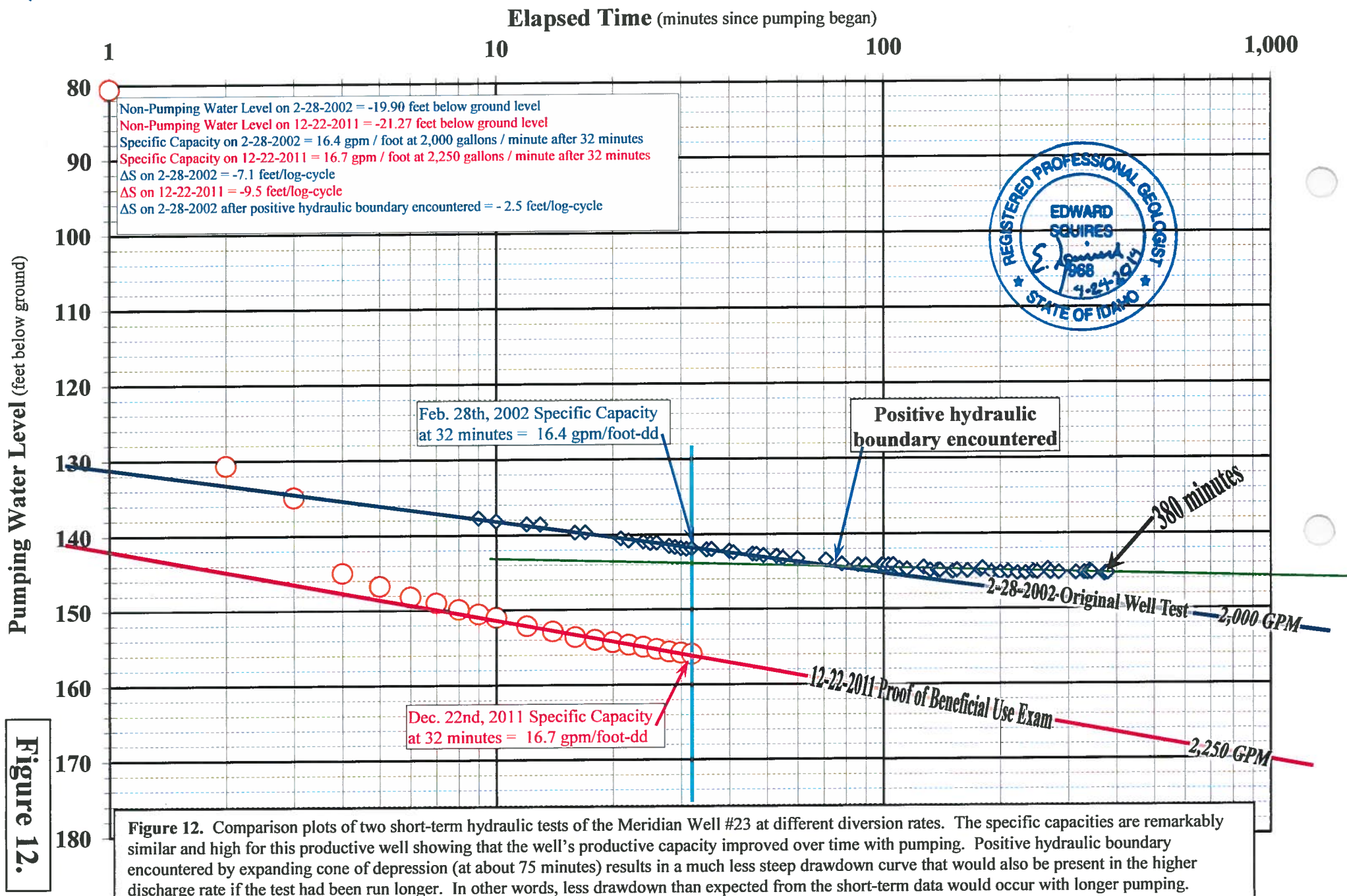


City of Meridian Well #23 IDWR Well ID Tag No. D0019264

Variable Speed Pump Performance Curve for Meridian Well #23



Short-Term Pumping Water Levels Measured During Meridian Supply Well #23 Constant-Rate Discharge Test Pumping of Newly Built Well in 2002 and During Proof of Beneficial Use Field Exam on December 22, 2011



Pumphouse Chart from April 2004 for Meridian Well #23

MONTH April YEAR 2004 WELL # 23

DATE	READING	STATIC LEVEL	DRAWDOWN	OPH	MAINTENANCE NOTES
1					
2	407367000				
3	X				
4	X				
5	411737000				
6	413158000		86.5	1250	
7	X		95.6	1750	
8	X				
9	418125000		91.8	1200	
10	X				
11	X				
12	424045000		102.3	1500	
13	425528000		96.8	1500	
14	X				
15	429194000		94.5	1200	
16					
17	X				
18	X				
19	436316000		82.5	1000	
20	437542000		73.6	700	50 gpm
21	X				
22	440155000		74.2	700	
23	441172000		78.0	1000	
24	X				
25	X				
26	445789000		85.2	1000	
27	447360000		91.9	1250	
28	448809000		93.5	1200	
29	450423000		85.0	1000	
30	451970000			1100	
31					
THORNO					
WATERS	404912000				
TOT	47,058,000				

1,067 gallons / minute
30-day average

Figure 13. – Daily averaged pumping rates based on hand-entered daily flow-meter totalizer readings in the City's Well #23 from Water Department personnel during the April 2004. Neither the averaged pumping rates or the recorded instantaneous pumping rates record the maximum or minimum rates over the twenty-four hour period.

State of Idaho
Department of Water Resources
Permit to Appropriate Water

NO. 63-31281

Priority: 08/10/2001

Maximum Diversion Rate: 5.00 CFS

This is to certify, that CITY OF MERIDIAN
33 E IDAHO
MERIDIAN ID 83642

has applied for a permit to appropriate water from:

Source: GROUND WATER

and a permit is APPROVED for development of water as follows:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>RATE OF DIVERSION</u>
MUNICIPAL	01/01 to 12/31	5.00 CFS

LOCATION OF POINT(S) OF DIVERSION:

GROUND WATER	NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$	Sec. 21, Twp 03N, Rge 01E, B.M.	ADA County
GROUND WATER	NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$	Sec. 21, Twp 03N, Rge 01E, B.M.	ADA County

CONDITIONS OF APPROVAL

1. Proof of application of water to beneficial use shall be submitted on or before **October 1, 2006**.
2. Subject to all prior water rights.
3. Project construction shall commence within one year from the date of permit issuance and shall proceed diligently to completion unless it can be shown to the satisfaction of the Director of the Department of Water Resources that delays were due to circumstances over which permit holder had no control.
4. The issuance of this right does not grant any right-of-way or easement across the land of another.
5. Right holder shall comply with the drilling permit requirements of Section 42-235, Idaho Code.
6. The Director retains jurisdiction to require the right holder to provide purchased or leased natural flow or stored water to offset depletion of Lower Snake River flows if needed for salmon migration purposes. The amount of water required to be released into the Snake River or a tributary, if needed for this purpose, will be determined by the Director based upon the reduction in flow caused by the use of water pursuant to this permit.
7. After specific notification by the Department, the right holder shall install a suitable measuring device or shall enter into an agreement with the Department to determine the amount of water diverted from power records and shall annually report the information to the Department.
8. The right holder shall not provide water diverted under this right for the irrigation of land having appurtenant surface water rights as a primary source of irrigation water except when the surface water rights are not available for use. This condition applies to all land with appurtenant surface water rights, including land converted from irrigated agricultural use to other land uses but still requiring water to irrigate lawns and landscaping.
9. Water bearing zone to be appropriated is 350 to 800 feet.
10. Place of use is located within the service area of the City of Meridian municipal water supply.

This permit is issued pursuant to the provisions of Section 42-204, Idaho Code. Witness the signature of the Director, affixed at Boise, this 28th day of September, 2001.

MICROFILMED

Karl J. Dreher
for **KARL J DREHER, Director**

Figure 14.

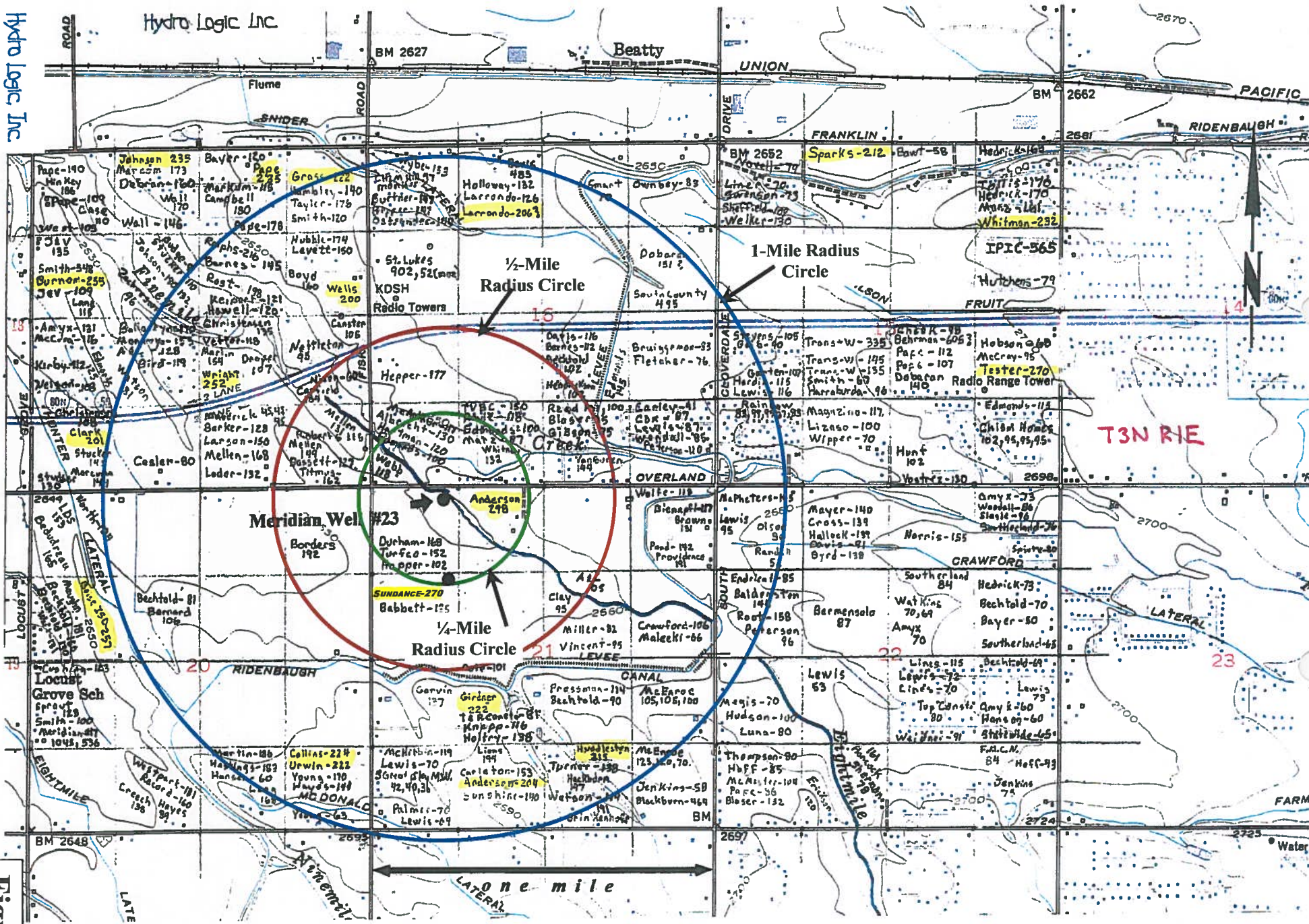


Figure 15.

Location map of selected wells within one mile of the City of Meridian Well #23 Municipal supply well. Wells are plotted to the nearest ¼, ¼ section by name followed by total depth of the well. Owing to space consideration, the four deepest wells are plotted in each ¼, ¼ section. If less than four wells exist in a 10 acre tract, then the wells plotted are the only wells listed. Some well logs may be missing and some may be mislocated by drillers. USGS 7 ½ minute topographic maps used for base map.

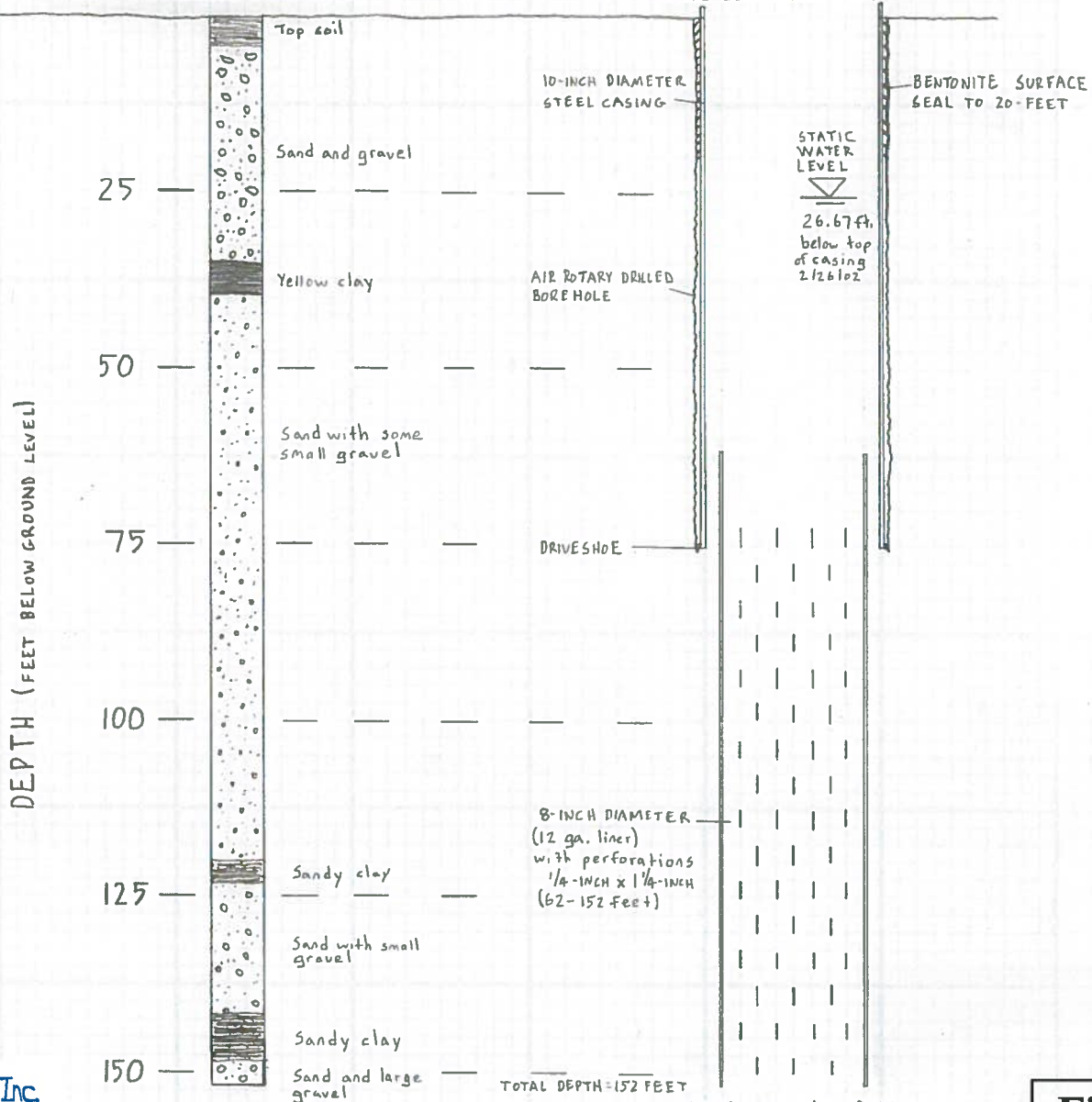
Turfco Driller's As-Built Well Construction



TURFCO INC. - DARWIN MCKAY

DRILLER'S LITHOLOGY

WELL CONSTRUCTION



Turfco Well Monitored Water Level During Constant-Rate Discharge Test of Meridian Supply Well #23 at 2,000 Gallons/Minute for 380 Minutes

Test Conducted February 28th, 2002

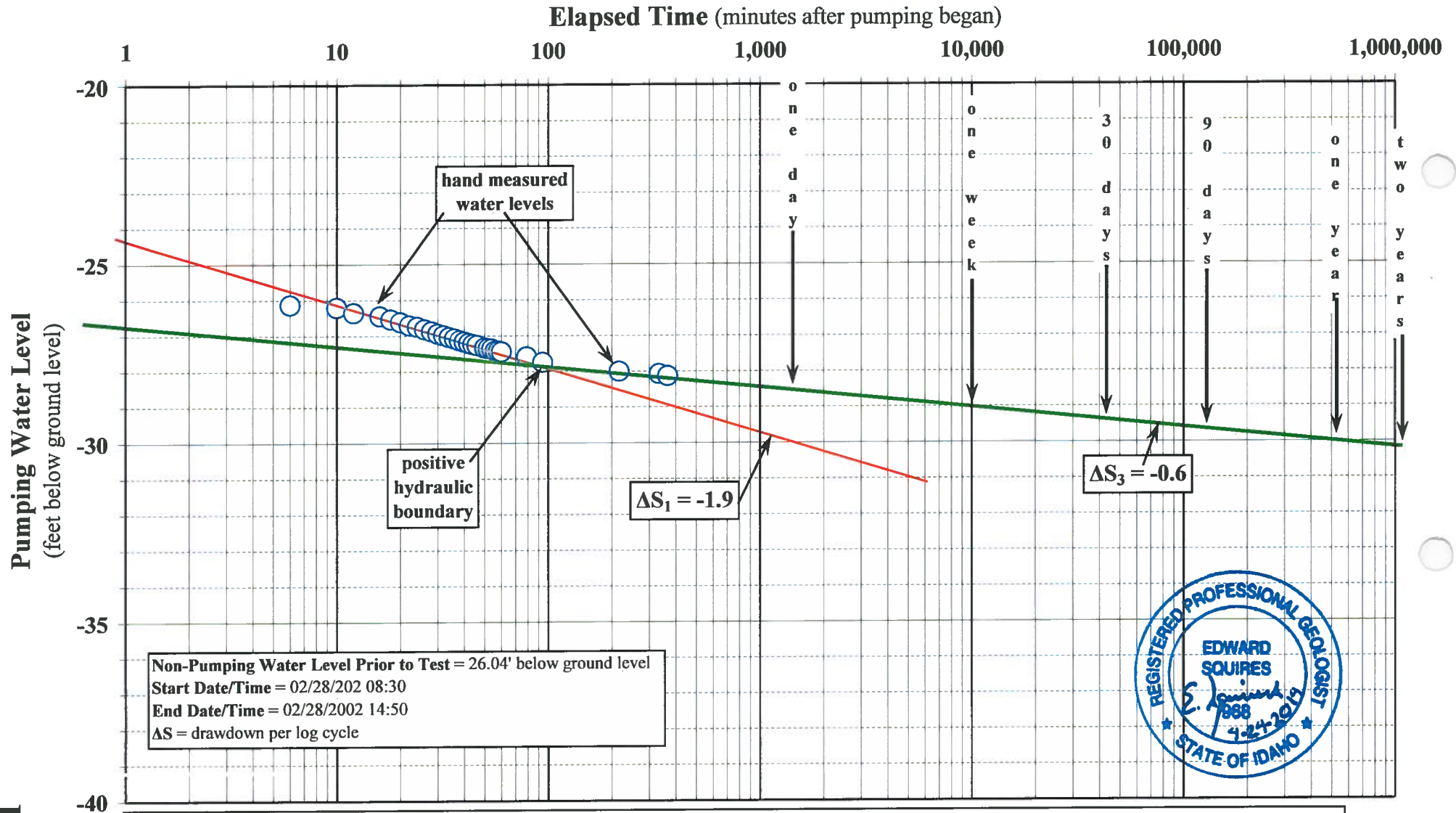


Figure 17. Non-pumping water levels measured in the Turfco irrigation well during pumping of the Meridian Well #23 showing approximately two feet of water level interference effect. As would be expected, the same positive hydraulic boundary shown in the Well #23 draw down plot is evident in the monitoring well data. Plot shows relatively little interference effect between wells.



February, 2002 photograph of the Sundance Well located 1,100 feet south of the Meridian Supply Well #23. The well was still being drilled during the February 28, 2002 hydraulic testing of the Well #23.



February, 2002 photograph of the cable-tool drill-cuttings pile for the Sundance irrigation well. This well was completed to similar depths as the City's Well #23.



Photograph of the Sundance Well wellhead taken March, 2003. Photo looks north toward Meridian Well #23 with Silverstone Corporate Center construction in background.



Photograph of the Turfco Well wellhead located 500 feet north of the Meridian Supply Well #23. The photograph was taken March, 2003.

APPENDICES

Appendix A.

**Installation Requirements for the 10-inch Diameter McCrometer Flow-Meter
Installed in the Well Head Discharge Plumbing of the City of Meridian Well #23**



CONFIGURATION SHEET MAIN LINE FLOWMETER

MODEL MW500 / MZ500

DESCRIPTION

Model MW500 and MZ500 Main Line Propeller Flowmeters are manufactured to comply with the applicable provisions of the American Water Works Association Standard No. C704-02 for propeller type flowmeters. The model MW500 is designed for a maximum continuous working pressure of up to 150 psi and is fitted with AWWA Class D flanges. The model MZ500 is designed for a continuous working pressure of up to 300 psi and is fitted with ANSI B16.5 Class 300 flanges. The impeller and drive assembly are easily removed through the top flange connection. The meter flow tubes are coated with fusion-bonded epoxy for maximum corrosion protection, and integral flow straightening vanes reduce upstream flow turbulence. As with all McCrometer propeller flowmeters, standard features include a magnetically coupled drive, instantaneous flowrate indicator and straight reading, six-digit totalizer.

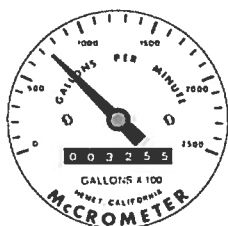
Impellers are manufactured of high-impact plastic, capable of retaining their shape and accuracy over the life of the meter. Each impeller is individually calibrated at the factory to accommodate the use of any standard McCrometer

register. The MW500 and MZ500 can be field-serviced without the need for factory recalibration. Factory lubricated, stainless steel bearings are used to support the impeller shaft. The shielded bearing design limits the entry of materials and fluids into the bearing chamber providing maximum bearing protection.

The instantaneous flowrate indicator is standard and available in gallons per minute, cubic feet per second, liters per second and other units. The register is driven by a flexible steel cable encased within a protective vinyl liner. The register housing protects both the register and cable drive system from moisture while allowing clear reading of the flowrate indicator and totalizer.

INSTALLATION

Standard installation is horizontal mount. If the meter is to be mounted in the vertical position, please advise the factory. A straight run of full pipe the length of five diameters ahead and one diameter behind the meter is the minimum normally recommended.



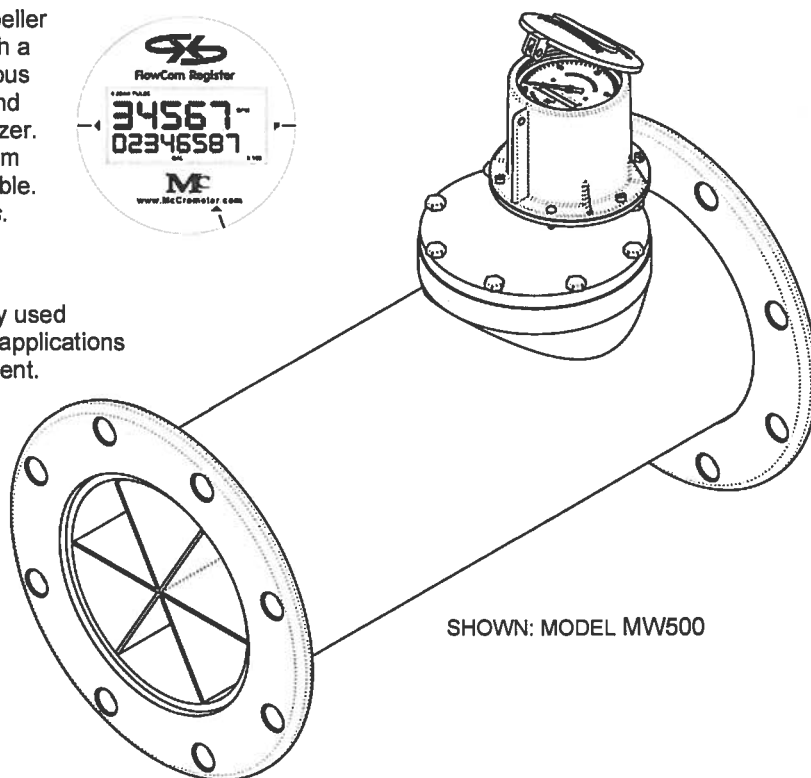
The McCrometer Propeller flowmeter comes with a standard instantaneous flowrate indicator and straight-reading totalizer. An optional FlowCom register is also available.
Typical face plates.



APPLICATIONS

The McCrometer propeller meter is the most widely used flowmeter for municipal and wastewater treatment applications as well as agricultural and turf irrigation measurement. Typical applications include:

- Water and wastewater management
- Center pivot systems
- Sprinkler irrigation systems
- Drip irrigation systems
- Golf course and park water management
- Gravity turnouts from underground pipelines
- Commercial nurseries



SHOWN: MODEL MW500

MAIN LINE FLOWMETER MODEL MW500 / MZ500

SPECIFICATIONS

PERFORMANCE

ACCURACY: $\pm 2\%$ of reading guaranteed throughout range.

RANGE: See dimensions chart below

HEAD LOSS: See dimensions chart below

MAXIMUM TEMPERATURE: (Standard Construction)
160°F constant

PRESSURE RATING: Model MW500: 150 psi
Model MZ500: 300 psi

MATERIALS

BEARING ASSEMBLY: Impeller shaft is 316 stainless steel.
Ball bearings are 440C stainless steel.

MAGNETS: (Permanent type) Cast or sintered Alnico

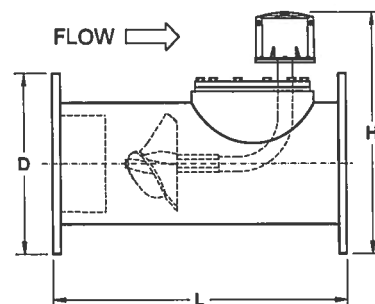
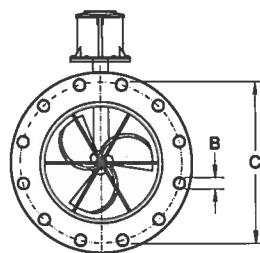
BEARING HOUSING: Brass; Stainless Steel optional

REGISTER: An instantaneous flowrate indicator and six-digit straight-reading totalizer are standard. The register is hermetically sealed within a die cast aluminum case. This protective housing includes a domed acrylic lens and hinged cover with locking hasp.

IMPELLER: Impellers are manufactured of high-impact plastic, retaining their shape and accuracy over the life of the meter. High temperature impeller is optional.

OPTIONS

- International flange standards available
- Other than standard laying lengths available
- Register extensions available
- Forward/reverse flow measurement
- All stainless steel construction
- High temperature construction
- "Over Run" bearing assembly for higher-than-normal flowrates
- Electronic propeller meter available in all sizes of this model
- A complete line of flow recording/control instrumentation
- Certified calibration test results



McCROMETER reserves the right to change design or specifications without notice.

MW500/MZ500	DIMENSIONS														
Meter and Nominal Pipe Size	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	30	36
Maximum Flow U.S. GPM	250	250	250	600	1200	1500	1800	2500	3000	4000	5000	6000	8500	12,500	17,000
Minimum Flow U.S. GPM	40	40	40	50	90	100	125	150	250	275	400	475	700	1200	1500
Approx. Head Loss in Inches at Max. Flow	29.50	29.50	29.50	23.00	17.00	6.75	3.75	2.75	2.00	1.75	1.50	1.25	1.00	1.00	1.00
MW500															
Approx. Shipping Weight-lbs.	36	36	43	54	115	135	197	325	465	530	744	890	1,293	1450	1650
B (Inches)	3/4	3/4	3/4	3/4	7/8	7/8	1	1	1 1/8	1 1/8	1 1/4	1 1/4	1 3/8	1 3/8	1 5/8
C (Inches)	4 3/4	5 1/2	6	7 1/2	9 1/2	11 3/4	14 1/4	17	18 3/4	21 1/4	22 3/4	25	29 1/2	36	42 3/4
D (Inches)	6	7	7 1/2	9	11	13 1/2	16	19	21	23 1/2	25	27 1/2	32	38 3/4	46
H (Inches)	11 3/4	12 1/4	12 1/2	15 1/4	16 1/4	18 1/2	21 3/4	24 1/4	25 1/4	28 1/2	29 1/4	32 1/2	36 3/4	42 3/4	49 1/4
L (Inches)	14	16	16	20	22	24	26	28	42	48	54	60	60	60	60
No. of Bolts per Flange	4	4	4	8	8	8	12	12	12	16	16	20	20	28	32
No. of Topplate Bolts	6	6	6	6	8	8	12	12	12	12	16	16	16	16	16
MZ500															
Approx. Shipping Weight-lbs.	50	55	62	90	145	220	340	430	650	820	1,315	1,508	2,165		
B (Inches)	3/4	7/8	7/8	7/8	7/8	1	1 1/8	1 1/4	1 1/4	1 3/8	1 3/8	1 3/8	1 5/8		
C (Inches)	5	5 7/8	6 5/8	7 7/8	10 5/8	13	15 1/4	17 3/4	20 1/4	22 1/2	24 3/4	27	32		
D (Inches)	6 1/2	7 1/2	8 1/4	10	12 1/2	15	17 1/2	20 1/2	23	25 1/2	28	30 1/2	36		
H (Inches)	12	12 1/2	12 7/8	15 3/4	17	19 1/4	22 1/2	25	26 1/4	29 1/2	32 3/4	34	38 3/4		
L (Inches)	20	20	20	24	26	28	30	32	42	48	54	60	60		
No. of Bolts per Flange	8	8	8	8	12	12	16	16	20	20	24	24	24		

Note: Flanges meet ASTM-A-181 specs. Larger flowmeters on special order.

REPRESENTED BY:

Appendix B.

**Hand-Written Field Notes from the Proof of Beneficial Use Field Licensing
Examination for City of Meridian Water Right Permit No. 63-31281.**

Meridian Supply Well #23

12-22-2011

1 OF 4

onsite 09:20hrs

9:42hrs Jamie Allen and William Perry arrive
(Operator) (Operator)

Well Location
43° 35' 19.3" W
116° 20' 59.2" N
Well is ~ 10' northwest

How long has well been off? Jamie thinks it was run last month.

- Well is currently under evaluation for water quality issues and is in stand-by mode. (Can be turned into system, but City prefers not to.)
- What is the normal system pressure? 72 PSI (Jamie Allen)
- Well is not currently pumped to the system due current low demand in this pressure zone plus water quality issues.
- When we arrived the gate valve between distribution system and well was closed. (= 0 pressure)

10:48hrs Pump on to the Flush line; controlling pressure with gate valve.

11:01hrs Flow meter needle is very steady at 2,250 gallons/minute.

11:20hrs Pump off after 32 minutes.

11:30hrs Offsite

Summary: Loren Pearson and Carlton Parker conducted a "Proof of Beneficial Use Field Exam" with Ed Squires and City of Meridian Water Department employees Jamie Allen and William Perry. Loren and Carlton took photographs of pump house and plumbing along with drawings and notes.

A pump test was conducted at 2,250 gallons/minute using the 10" Flush-line controlled with a gate-valve. The Flush-line was used for pump testing, because the well can not be pumped to the system at this time. The test was conducted with the motor at maximum power (60Hz) and then the 10" gate-valve was used to adjust the flow rate to 2,250 gallons/minute.

CALCULATIONS AND DESIGN DATA

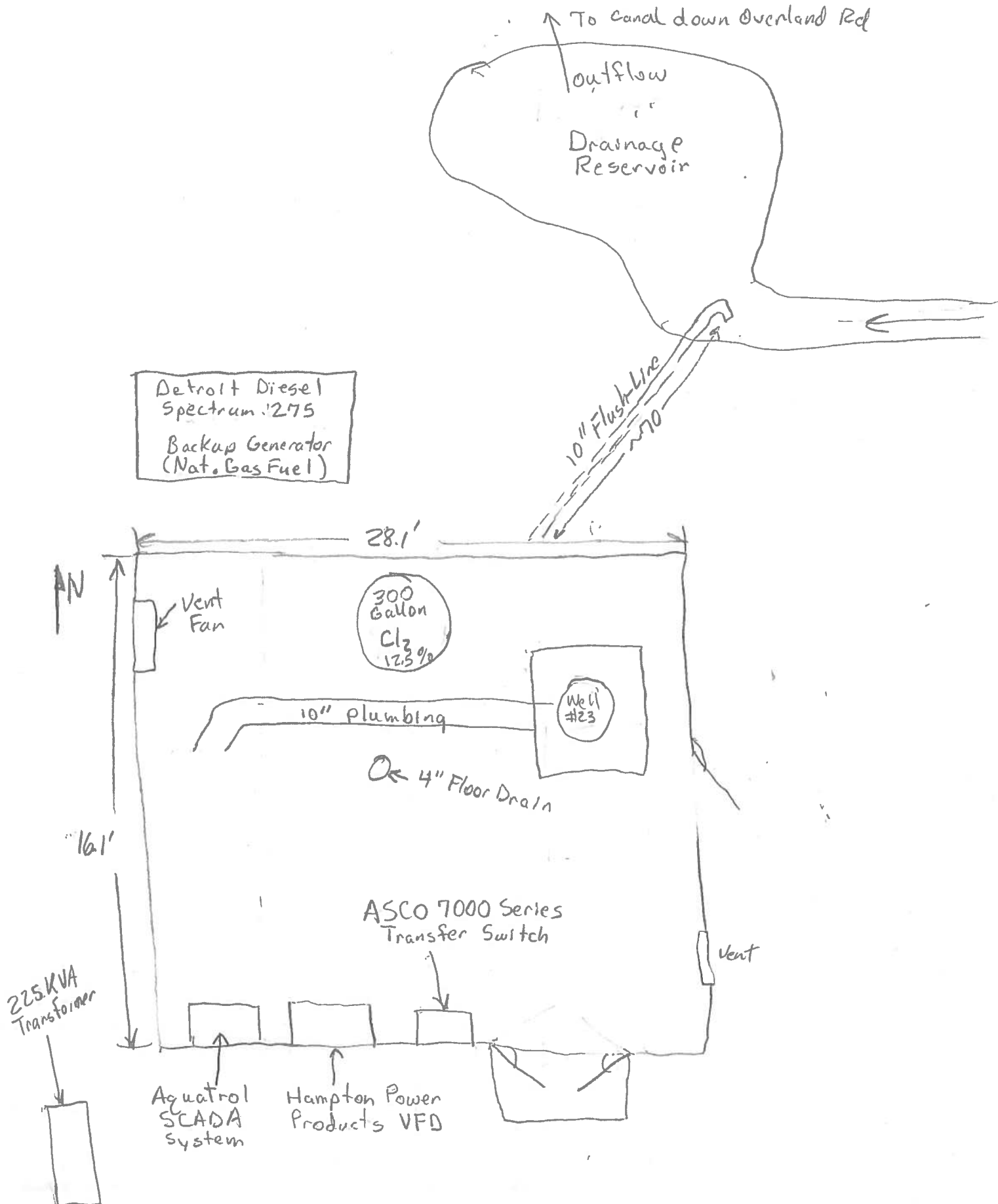
PREPARED BY L. Pearson

SUBJECT Meridian Supply Well #23

DATE 12-22-2011

Sketch of Pumphouse and Component Locations

SHEET 2 OF 4



CALCULATIONS AND DESIGN DATA

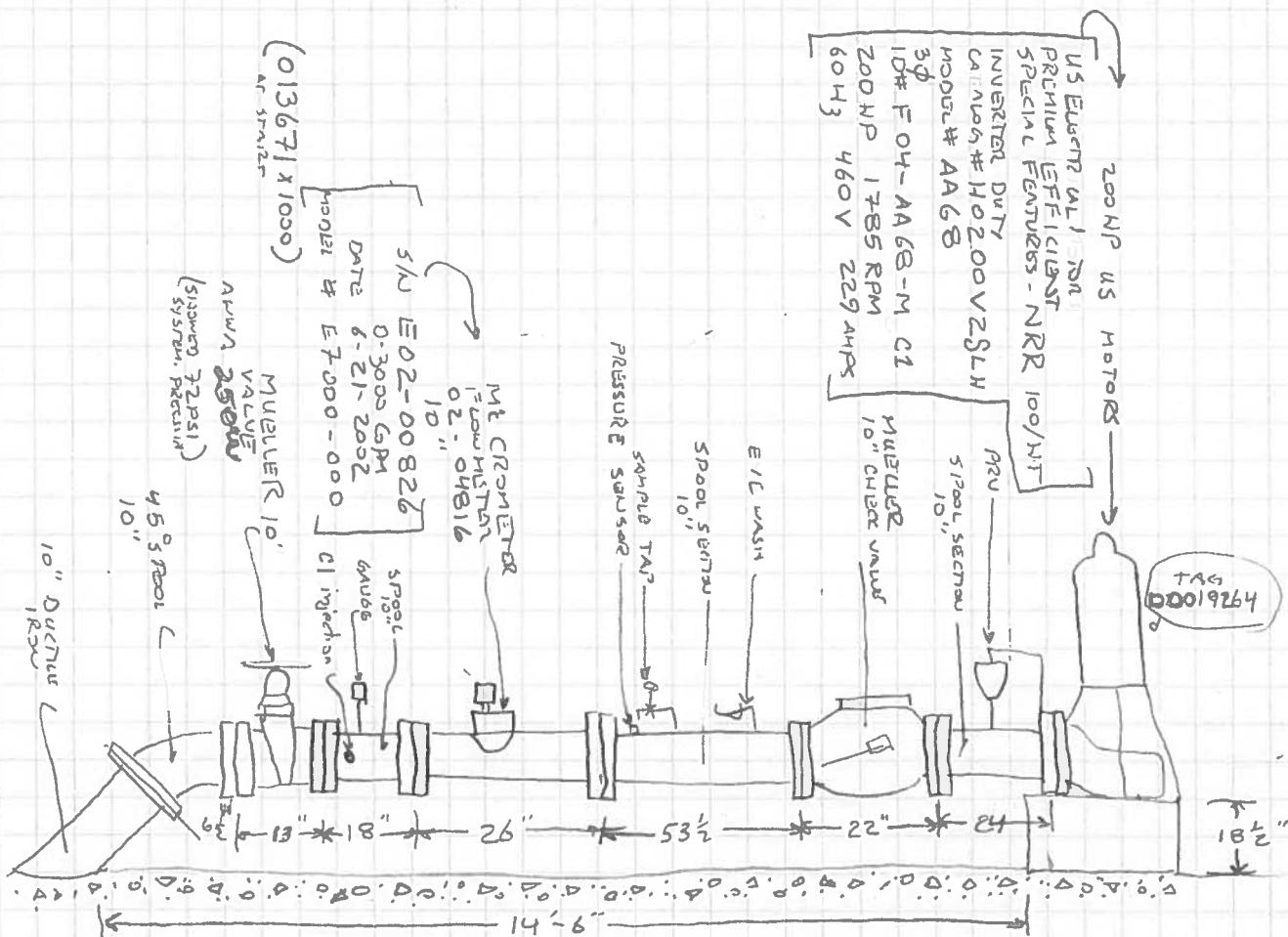
PREPARED BY C PARKER

SUBJECT

MERIDIAN SW # 23

DATE 22 Dec 2011

PROOF OF BENEFICIAL USE FIELD EXAM PIPE SCHEDULE 3 OF 4



CALCULATIONS AND DESIGN DATA

PREPARED BY E. Squires / C. PARKER

SUBJECT

MERIDIAN SW #23

DATE 22 Dec 2011

PROOF OF "BENEFICIAL USE FIELD EXAM" PUMP TEST

SHEET 4 OF 4

MP = 2.5 FT ABOVE PUMP HOUSE FLOOR. (13" PRT)

NPWL = 24.27 @ 10:17 B.M.P.

TOTALIZER AT START OF TEST (013671 x 1,000)

START 10:14

ELAPSED TIME	WATER LEVEL	FLOW	PSI		H ₂
-0-	24.27 FBMP	-0-	-0-	TOTALIZER 013671,000	0
0:50	84. - .45	2100	63		58
2:10	134. - .36	2260	44		60
3:05	135. - .11	2250	43		60
4:10	148. - .05	2250	41		60
5:05	150. - .27	2250	41		60
6:00	151. + .17				
7:00	151. + .99	2240	41		60
8:00	152. + .88	2250	40		60
9:00	153. + .53	2250	40		60
10:00	153. + .99	2240	40		60
12:00	155. + .12	2250	39		60
14:00	156. - .13	2240	38		60
16:00	156. + .63	2250	38		60
18:00	157. + .01	2250	38		60
20:00	157. + .34	"	"		60
22:00	157. + .69	"	"		60
24:00	158. - .05	"	37 1/2		60
26:00	158. + .29	"	37		60
28:00	158. + .62	"	37		60
30:00	158. + .78	"	"		60
32:00	159. - .06	"	"		60
32:30 4A	Recamp	-0-	-0-	TOTALIZER 013746,000	0
33:30	87 + .2				
34:20	53				
34:35	46				
35:25	40				
35:55	38				
36:32	36				
37:33	34				

1133 offsite

Appendix C.

Proof of Beneficial Use Form Submitted 9/29/2006 by the City of Meridian for Well #23

Amt. Of Fee \$: 200.00
Receipt No. C082283
Receipt By: RAW
Date Received: 09/29/06

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

★ Please direct inquiries to Ed Squires at 342-8369.

PROOF OF BENEFICIAL USE

The Idaho Department of Water Resources considers this form a statement that the permit holder(s) has/have completed all development that will occur under this permit and that water has been applied according to the provisions of the permit for the beneficial use(s) described below. This form must be accompanied by a license examination fee, when necessary, or be accompanied by a completed field examination report prepared by a certified water right examiner.

1. Permit No. 63 - 31281 Telephone No. (208) 898-5500
2. Name(s) of Permit Holder(s): The City of Meridian, Idaho
3. Mailing Address: 33 East Idaho Street, Meridian, Idaho 83642
4. Source of Water: Groundwater (Well #23) If GROUNDWATER (well), Date Drilled: mo. 3 /yr. 2002
 - a. Well Driller: Riverside, Inc. Drilling Permit Number: Metal Tag No. D0019264
5. Use(s) (as authorized by the water right permit): * *Please refer to attached cover letter and field report*
Domestic (No. of households): _____ Stockwater (No. and type of stock): _____
Irrigation (no. of acres): _____ Other: Municipal
6. Total rate of diversion and / or volume for which proof is submitted: 5 cfs OR N/A acre feet
7. Measuring Device Requirement: (refer to the approval conditions on your permit and respond accordingly)
(This question is not optional. Please check either yes or no. Proofs returned not checked accordingly, will be considered incomplete)
Measuring Device: Is a measuring device required? Yes _____ or No X
Has the measuring device been installed? Yes X or No _____
* *a measuring port has been provided*
Flow Measurement Port: Is a flow measurement port required? Yes _____ or No X
Has the measurement port been installed? Yes X or No _____
8. Fee Enclosed: \$ 200.00 (See Fee Schedule on back of the instructions for the filing proof of beneficial use)
9. Person to contact to accompany the Department representative during field examination of the water system.
Name: Mr. Chip Hudson, Assistant Water Department Superintendent Telephone Number: 888-5242
Address: 2235 N.W 8th Street, Meridian, Idaho 83642
10. The information given on this form is my true statement of the extent to which the above numbered permit has been developed and I relinquish any undeveloped portion of the permit to the State of Idaho.

Signature of permit holder:

Brad Watson
Public Works Director

Date: September 28th, 2006

Appendix D.

**Tabulated Selected Information from Driller's Reports in the Vicinity of Meridian Well
#23 and the Driller's Reports for the City of Meridian Well #23, the Sundance
Investments Irrigation Well, and the Turfco Well**

T 3 N R 1 E Sec. 15

Prepared

by:

L. Pearson

Date:

7/25/01

Name	Year	Depth (ft)	SWL (ft)	Method	Driller	Seal Depth (ft)	Seal Type	Use	Yield/DD (gpm) / (ft)	1/4 1/4	Casing Diameter (in)	Casing Depth (ft)	Opening	Comments
Whitman	88	232	60	cable	Phipps	18	pc	dom	40 / 20	NE NE	6/5	231	ss scr	Int 226-231
Hedrick	87	170	43	cable	Clayville	-	wc	dom	-	NE NE	4	156	oh	
Tollis	54	170	40	cable	Clayville	-	-	dom	-	NE NE	4	-	oh	
Hedrick	86	163	40	cable	Clayville	-	wc	dom	-	NE NE	4	163	scr	Int 159-163
Marz	86	161	48	cable	Clayville	-	wc	dom	-	NE NE	4/3	161	perf	Int 156-161
Andress	74	154	39	cable	Engleman	19	wc	dom	-	NE NE	6/5	154	ss scr	Int 146-151
Hedrick	87	151	38	cable	Clayville	-	-	dom	-	NE NE	4/3	151	perf	Int 141-151
Marz	87	150	37	cable	Clayville	-	wc	dom	-	NE NE	4/3	150	scr	Int 146-150
Pape	87	145	38	cable	Clayville	17	wc	dom	-	NE NE	6/5	145	perf	Int 139-145
Ewing	72	136	40	cable	Phipps	18	pc	dom	-	NE NE	6	136	perf	Int 128-136
Hedrick	88	138	37	cable	Clayville	25	wc	dom	-	NE NE	4/3	138	perf	Int 133-138
Hedrick	86	131	35	cable	Clayville	-	-	dom	-	NE NE	4/3	131	scr	Int 127-131
Rife	86	130	36	cable	Clayville	-	wc	dom	-	NE NE	4/3	130	scr	Int 126-130
W.W. Hedrick Construction	88	129	33	cable	Clayville	24	ben	dom	-	NE NE	4/3	124	perf	Int 124-129
Hedrick	86	128	40	cable	Clayville	-	wc	dom	-	NE NE	4/3	128	scr	Int 124-128
Stieger	81	127	43	cable	Randall	18	wc	dom	-	NE NE	6	125	ss scr	
C & B Construction	86	126	41	cable	Clayville	-	wc	dom	-	NE NE	4/3	126	scr	Int 122-126
Hedrick	87	122	31	cable	Clayville	28	wc	dom	-	NE NE	4/3	122	perf	Int 117-122
Hedrick	87	121	40	cable	Clayville	29	wc	dom	-	NE NE	4/3	121	perf	Int 116-121
Worham	79	116	16?	cable	Bunn	18	wc	dom	-	NE NE	6	116	ss scr	
Bews	88	114	45	cable	Randall	-	-	dom	-	NE NE	4	99	oh	
Rife	87	111	42	cable	Clayville	-	-	dom	-	NE NE	4/3	111	perf	Int 107-111
Fredrick	70	107	40	cable	Witt	18	pc	dom	13 / 28	NE NE	6	107	ss scr	Int 95-107
Bews	86	100	46	cable	Randall	-	-	dom	-	NE NE	4	97	oh	
Nicholson	84	96	43	cable	Stevens	20	ben/pc	dom	50 / 1	NE NE	6/5	-	ss scr	
Wilson	78	75	35	ar	Treasure Valley	-	wc	irr	-	NE NE	6	63	oh	
Idaho Power RW1	91	32	8	ar	Hiddleston	3	ben	recovery	-	NE NE	8	32	ss scr	
Idaho Power RW2	91	28	7	ar	Hiddleston	3	ben	recovery	-	NE NE	8	28	ss scr	
Bawtt	89	58	11	cable	Randall	18	wc	dom	-	NW NE	6	53	oh	
Idaho Properties Investment Co.	76	565	20	reverse	Cope	306	cem	mun	1029 / 39?	SE NE	12/10	560	ss scr	Int 479-529, 540-550
Hutchens	89	79	27	cable	Boise River	24	pc	dom	70 / 3	SE NE	6	69	oh	
Sparks	73	212	35	cable	Cowe	25	pc	dom	-	NE NW	10	175	oh	
Welker	74	130	55	cable	Nicholson	20	ben	dom	30 / 45	NW NW	6	130	oh	
Sheffield	92	109	50	cable	Phipps	18	ben/pc	dom	-	NW NW	6/5	109	ss scr	
Novell	86	79	18	cable	Phipps	18	pc	dom	-	NW NW	6	79	oh	
Swenson	59	73	6	cable	Kelsey	-	-	dom	-	NW NW	4	73	oh	
Liner	70	70	29	cable	Hudson	23	pc	dom	-	NW NW	4	70	oh	
Burton	71	62	12	cable	Boise River	22	pc	dom	22 / 14	NW NW	6	61	oh	
Allen	54	56	14	cable	Clayville	-	-	dom	-	NW NW	4	47	oh	
Lachlonds	86	45	6	rotary	Can-Ada	19	pc	dom	60 / 34	NW NW	-	-	-	

T 3 N R 1 E Sec. 15

Prepared
by: L. Pearson
Date: 7/25/01

Name	Year	Depth (ft)	SWL (ft)	Method	Driller	Seal Depth (ft)	Seal Type	Use	Yield/DD (gpm) / (ft)	1/4 1/4	Casing Diameter (in)	Casing Depth (ft)	Opening	Comments
McClure	86	44	12	rotary	Can-Ada	-	pc	dom	30 / 28	NW NW	6	40	oh	
Trans-Western Construction	77	335	25	cable	Boise Valley	20	wc	mun	-	NE SW	12/10	335	ss scr	Int 301-326
Transwestern Inc. L22 B1	74	145	30	cable	Randall	-	cem/wc	mun	-	NE SW	12/10	141	ss scr	Int 126-141
Transwestern Inc. L22 B1	74	135	30	cable	Randall	-	cem/wc	mun	-	NE SW	6/5	135	ss scr	Int 120-135
Harraburda	96	96	31	ar	SOS	18	ben	dom	100 / 29	NE SW	6/5	96	ss scr	Int 86-96
Smith	69	67	-	cable	S & H	18	ben	dom	-	NE SW	6	67	oh	
Lewis	70	116	19	cable	S & H	18	ben/pc	dom	-	NW SW	6	116	oh	
Hardin	95	115	30	ar	Treasure Valley	28	ben	dom	100 / 100	NW SW	6	110	oh	T=56F
Gartin	93	107	40	cable	Stevens	25	ben	dom	45 / 10	NW SW	6/5	107	ss scr	Int 102-107
Stevens	89	105	26	cable	Stevens	51	ben	dom	25 / 12	NW SW	6	5	ss scr	
Gelb	70	90	28	cable	Nicholson	25	pc	dom	20 / 60	NW SW	6	90	ss scr	Int 85-90
Rowland	71	80	40	cable	R and V?	18	-	dom	-	NW SW	6	74	oh	deepened
Allen Construction	71	75	25	cable	Randall	20	pc	dom	-	NW SW	6	74	oh	
Stout	70	73	30	cable	Randall	20	pc	dom	-	NW SW	6	73	oh	
Allen Construction	71	72	25	cable	Randall	18	pc	dom	-	NW SW	6	71	oh	
Allen Construction M3	71	72	30	cable	Randall	18	pc	dom	-	NW SW	6	72	oh	
Allen Construction M4	72	72	30	cable	Randall	18	pc	dom	-	NW SW	6	72	oh	
Hiner	71	72	27	cable	Randall	20	pc	dom	-	NW SW	6	72	oh	
Jenkins	70	71	35	cable	Randall	20	pc	dom	-	NW SW	6	71	oh	
Liner	70	70	24	cable	Hudson	38	pc	dom	-	NW SW	4	-	-	
Shook	73	70	21	cable	Crescent	19	pc	dom	60 / 6	NW SW	6	68	oh	
Rainbow Estates L4 B2	73	99	25	cable	Steven	24	pc	dom	-	SW SW	6	96	oh	
Rainbow Estates L4 B4	73	99	25	cable	Stevens	24	pc	dom	-	SW SW	6	96	oh	
Rainbow Estates L2 B2	73	87	25	cable	Steven	24	pc	dom	-	SW SW	6	85	oh	
Rainbow Estates L5 B2	73	83	26	cable	Steven	23	pc	dom	-	SW SW	6	79	oh	
Rainbow Estates L5 B4	73	83	26	cable	Stevens	23	pc	dom	-	SW SW	6	79	oh	
Rainbow Estates L1 B2	73	79	24	cable	Steven	22	pc	dom	-	SW SW	6	74	oh	
Rainbow Estates L1 B4	73	79	24	cable	Stevens	22	pc	dom	-	SW SW	6	74	oh	
Rainbow Estates L3 B2	73	79	25	cable	Steven	24	pc	dom	-	SW SW	6	75	oh	
Magazino	99	117	35	ar/cab	Phipps	18	ben	dom	-	SE SW	6/5	117	ss scr	Int 110-115
Lizaso	91	100	30	ar	SOS	20	pc	dom	60 / 10	SE SW	6/5	100	ss scr	
Wipper	77	70	40	cable	Phipps	18	wc	dom	-	SE SW	6	70	oh	
Tester	53	270	18	rotary	Doty	-	-	dom	18 / 15	NE SE	4	233	oh	very soft water
McCray Construction	74	95	38	cable	Hunsperger	22	wc	dom	-	NE SE	6	95	oh	
Hobson	87	60	33	ar	Aqua Masters	18	ben	dom	25 / 3	NE SE	6	60	oh	
Dobaran	72	140	38	cable	Engleman	21	pc	dom	-	NW SE	6	138	oh	
Pape	69	112	26	cable	Baker & Son	18	wc	dom	-	NW SE	6	112	perf	Int 106-112
Pape	76	107	35	cable	O'Leary	18	wc	dom	30 / 10	NW SE	6	106	oh	
Cheek	74	98	16	cable	Gem State	22	pc	dom	15 / 3	NW SE	6	98	oh	
Inselman	71	80	55	cable	Phipps	18	pc	dom	-	NW SE	6	80	oh	

T 3 N R 1 E Sec. 15

Prepared
by: L. Pearson
Date: 7/25/01

Name	Year	Depth (ft)	SWL (ft)	Method	Driller	Seal Depth (ft)	Seal Type	Use	Yield/DD (gpm) / (ft)	1/4 1/4	Casing Diameter (in)	Casing Depth (ft)	Opening	Comments
Meyers	80	80	28	rotary	Hunsperger	20	wc	irr	30 / 2	NW SE	6	80	oh	
Hunt	74	77	33	cable	MyCo	20	wc	dom	20 / 5	NW SE	6	77	oh	
Pape L2	76	59	29	cable	Crescent	-	-	dom	15 / 26	NW SE	6	-	oh	
Vostrez	75	130	+1.5	cable	Hudson	25	pc	dom	-	SW SE	6	-	scr	
Hunt	75	102	20	rotary	MyCo	30	wc	dom	-	SW SE	6	102	oh	
Edmonds	98	115	29	ar	Doty	74	ben	dom	-	SE SE	6	114	oh	
Chlsm Homes Inc. L1 B2	75	102	25	rotary	MyCo	30	wc	dom	-	SE SE	6	95	oh	
Chlsm Homes Inc. L3 B2	75	95	25	rotary	MyCo	30	wc	dom	-	SE SE	6	95	oh	
Chlsm Homes Inc. L6 B3	75	95	25	rotary	MyCo	30	wc	dom	-	SE SE	6	95	oh	
Chlsm Homes Inc. L7 B2	75	95	25	rotary	MyCo	30	wc	dom	-	SE SE	6	90	oh	
Christensen	90	92	-	rotary	Can-Ada	20	pc	dom	-	SE SE	6	91	oh	T=57F; Quality 12?
Chlsm Homes Inc. L10 B2	75	90	20	rotary	MyCo	30	wc	dom	-	SE SE	6	90	oh	
Chlsm Homes Inc. L11 B2	75	90	20	rotary	MyCo	30	wc	dom	-	SE SE	6	95	oh	
Chlsm Homes Inc. L2 B2	75	90	25	rotary	MyCo	30	wc	dom	-	SE SE	6	90	oh	
Chlsm Homes Inc. L6 B2	75	90	20	rotary	MyCo	30	wc	dom	-	SE SE	6	95	oh	
Chlsm Homes Inc. L8 B2	75	90	20	rotary	MyCo	30	wc	dom	-	SE SE	6	90	oh	
Chlsm Homes Inc. L9 B2	75	90	20	rotary	MyCo	30	wc	dom	-	SE SE	6	90	oh	
Gratton	75	90	60	rotary	Treasure Valley	20	wc	dom	-	SE SE	6	90	oh	
Edmonds	98	85	-	-	Doty	85	ben/cem	dom	-	SE SE	-	-	-	abandoned
Clifton Ralphs Construction	73	157	39	-	Kinsey	26	pc	dom	-	?? ??	6	154	scr	Int ??-??
Behrman Brothers	77	605	11	cable	Stevens	30	cem	mun	590 / 60	N? SE	10/6	605	ss scr	Int 573-600
Rainbow Estates L2 B4	73	87	25	cable	Stevens	24	pc	dom	-	S? ?E	6	85	oh	
Behrman Brothers	77	180	26	cable	Stevens	19	pc/wc	dom/mun	230 / 19	S? SE	10/8/5	139	ss scr	
Rainbow Estates L5 B3	73	120	30	cable	Stevens	25	pc	dom	-	S? SE	6/5	121	ss scr	Int 117-121
Rainbow Estates L1 B3	73	96	29	cable	Stevens	23	pc	dom	-	S? SE	6	95	oh	
Rainbow Estates L3 B3	73	87	30	cable	Stevens	23	pc	dom	-	S? SE	6	87	oh	
Rainbow Estates L4 B3	73	85	30	cable	Stevens	22	pc	dom	-	S? SE	6	85	oh	
Rainbow Estates L2 B3	73	83	30	cable	Stevens	24	pc	dom	-	S? SE	6	83	oh	
Rainbow Estates L3 B4	73	79	25	cable	Stevens	24	pc	dom	-	S? SE	6	75	oh	

T 3 N R 1 E Sec. 16

Prepared
by: L. Pearson
Date: 7/26/01

Name	Year	Depth (ft)	SWL (ft)	Method	Driller	Seal Depth (ft)	Seal Type	Use	Yield/DD (gpm) / (ft)	1/4 1/4	Casing Diameter (in)	Casing Depth (ft)	Opening	Comments
Bews	79	485	26	cable	Stevens	29	cem	dom	1660 / 58	NE NW	16/10	485	ss scr	Int 420-471
Ownbey	98	83	38	ar	Adamson	18	ben	dom	-	NE NE	6	75	oh	T=54F; Iron=1, pH=7.8, Gr=9
Smart	75	70	8	rotary	MyCo	30	wc	dom	30 / 10	NW NE	6	52	oh	
South County Water	93	495	20	ar	Cope	0-100; 453-480	ben	mun/irr/fir e	-	SE NE	16/10	495	scr	
Holloway	73	132	40	cable	Hudson	20	pc	dom	30 / 50	NE NW	6/5	132	ss scr	Int 125-132
Larrondo	77	126	60	cable	Philpps	18	wc	dom	-	NE NW	6	126	oh	
Wybe L7 B5	68	153	40	cable	Kinsey	30	ben	dom	-	NW NW	4	151	perf	Int ??-??
Burtner L10 B5	68	147	48	cable	Kinsey	22	ben	dom	20 / 18	NW NW	4	146	oh	
Hepper L6 B5	68	147	40	cable	Kinsey	26	ben	dom	-	NW NW	4	145	perf	Int ??-??
Ostrander	90	144	40	ar	SOS	20	pc	dom	50 / 20	NW NW	6	144	oh	
Loe	65	139	40	cable	Philpps	-	-	dom	-	NW NW	4	135	oh	
Schoen	64	139	45	cable	Doty	-	-	dom	-	NW NW	4	117	oh	
Roland	69	138	40	cable	Clayville	20	ben	dom	-	NW NW	4	138	oh	
Hepper L1 B3	68	135	43	cable	Kinsey	22	ben	dom	27 / 22	NW NW	4	132	oh	
Lewis	63	134	30	cable	Clayville	-	-	dom	-	NW NW	-	-	-	
McKinney	77	134	30	cable	Stevens	-	-	dom	20 / 10	NW NW	6/5	134	ss scr	Int 128-133
Richardson	63	130	40	cable	Veach	-	-	dom	15 / 0	NW NW	-	-	-	
Knapp	65	129	42	cable	Clayville	-	-	-	-	NW NW	-	-	-	
Wortendyke	90	110	38	cable	Boise Valley	20	pc	dom	-	NW NW	6/5	110	ss scr	Int 103-108
CH2M Hill (St. Lukes)	99	97	-	ar	Hiddleston	97	cem	mon	-	NW NW	4.5	97	oh	
Hollingworth	97	91	32	cable	Western	22	ben	dom	25 / 15	NW NW	6	85	ss scr	Int 80-85
Pioneer Homes L6 B1	75	75	49	rotary	Treasure Valley	20	pc	dom	-	NW NW	6	75	oh	
Hoffbauer	83	62	32	ar	Skinner	20	pc	dom	30 / 15	NW NW	6	59	oh	
St. Lukes R.M.C. (Meridian)	95	902	9	mud	Hiddleston	770	cem	com	600 / 23	SW NW	14/8	877	ss scr	Int 792-812, 857-877
St. Lukes R.M.C. (Meridian)	98	52	38	ar	SOS	32	cem/ben	mon	-	SW NW	6/2	50	pvc scr	Int 35-50
Hepper Homes	79	177	60	cable	Boise Valley	20	wc	dom	55 / 70	NW SW	6	177	ss scr	Int 151-177
Albrecht	78	130	21	cable	Kelsey	20	pc/wc	dom	40 / 3	SW SW	6	130	oh	
Hartman	95	120	18	cable	Boise Valley	20	ben	dom	30 / 21	SW SW	6/5	120	ss scr	Int 113-118
Webb	94	118	40	ar	Hiddleston	50	ben	dom	-	SW SW	6/5	118	ss scr	Int 113-118
McArthur	61	117	14	cable	Clayville	-	-	dom	-	SW SW	-	-	-	
Edmonds L12 B2	75	100	25	rotary	MyCo	30	wc	dom	-	SW SW	6	100	oh	
Edmonds L13 B2	75	100	25	rotary	MyCo	30	wc	dom	-	SW SW	6	100	oh	
Edmonds L16 B1	75	100	25	rotary	MyCo	30	wc	dom	-	SW SW	6	100	oh	
Tibbits	78	100	28	ar	H2O	20	pc/wc	dom	-	SW SW	6	100	ss scr	Int 96-100
Lewandowicz	77	93	27	-	Boise Valley	18	pc	dom	18 / 0	SW SW	6	91	oh	
Lewis	66	86	26	cable	Clayville	-	-	dom	-	SW SW	4	86	oh	
Edmonds L14 B2	75	80	25	rotary	MyCo	30	wc	dom	-	SW SW	6	80	oh	

Edmonds L3 B1	75	80	20	rotary	MyCo	30	wc	dom	-	SW SW	6	77	oh	
Edmonds L6 B1	75	80	25	rotary	MyCo	30	wc	dom	-	SW SW	6	80	oh	
Edmonds L8 B1	75	80	25	rotary	MyCo	30	wc	dom	-	SW SW	6	80	oh	
Edmonds L10 B1	75	70	25	rotary	MyCo	30	wc	dom	-	SW SW	6	70	oh	
Devco L10 B1	75	60	20	rotary	MyCo	30	wc	dom	-	SW SW	6	60	oh	
Treasure Valley Baptist Ch.	82	150	11	cable	Boise Valley	18	pc	dom	-	SE SW	6/5	147	ss scr	Int 142-147
Whitney	94	132	17.5	ar	Domestic	25	ben	dom	-	SE SW	6	131	oh	
Rayl	94	118	11	cable	Boise Valley	20	ben	dom	25 / 40	SE SW	6/5	117	ss scr	Int 110-115
Edmonds L12 B1	75	100	15	rotary	MyCo	20	pc/wc	dom	20 / 10	SE SW	6	100	oh	deepened
Marz	68	87	7	cable	Clayville	20	wc	dom	-	SE SW	4	81	oh	
Edmonds L12 B1	75	80	25	rotary	MyCo	30	wc	dom	-	SE SW	6	80	oh	
Driesel	79	76	18	ar	SOS	27	wc	dom	25 / 20	SE SW	6	72	oh	
Cooper L1 B2	75	70	23	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Cooper L11 B1	75	70	24	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Cooper L11 B2	75	70	25	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Cooper L13 B1	75	70	23	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Cooper L15 B1	75	70	21	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Cooper L17 B1	75	70	21	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Cooper L2 B1	75	70	22	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Cooper L3 B2	75	70	21	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Cooper L5 B1	75	70	24	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Cooper L5 B2	75	70	24	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Cooper L7 B1	75	70	23	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Cooper L7 B2	75	70	23	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Cooper L9 B1	75	70	24	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Cooper L9 B2	75	70	21	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Edmonds L1 B?	75	70	28	rotary	Treasure Valley	18	pc	dom	-	SE SW	6	70	perf	Int 50-70
Edmonds L2 B2	75	70	23	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Edmonds L4 B2	75	70	28	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Edmonds L6 B2	75	70	27	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Edmonds L8 B2	75	70	24	rotary	Treasure Valley	20	pc	dom	-	SE SW	6	70	perf	Int 50-70
Cooper L11 B2	75	60	25	rotary	Treasure Valley	20	-	dom	-	SE SW	6	60	oh	
Bruiggemann	65	83	42	cable	Clayville	-	-	dom	-	NE SE	-	-	oh	
Fletcher	61	76	23	cable	Stone	-	-	dom	-	NE SE	4	76	oh	
Edmonds L10 B2	75	145	8	rotary	MyCo	20	wc	dom	-	NW SE	6	130	oh	
Davis	92	116	30	cable	Phipps	18	ben/pc	dom	-	NW SE	6/5	116	ss scr	Int 104-114
Barnes	99	112	45	ar	Coonse	20	ben	dom	80 / 55	NW SE	6	112	oh	T=62F
Bechtold	75	102	30	cable	Randall	18	wc	dom	-	NW SE	6	101	oh	
Hendrickson	86	102	35	cable	Phipps	18	pc	dom	40 / 20	NW SE	6/5	103	ss scr	Int 98-103
Bechtold	75	100	30	cable	Randall	18	wc	dom	-	NW SE	6	99	oh	
Pape	65	92	5	cable	Baker	-	-	-	30 / 12	NW SE	4	87	oh	T=56F
Hepper	70	84	27	cable	Randall	18	pc	dom	-	NW SE	6	83	oh	
Taylor	87	75	31	rot	Can-Ada	19	pc	irr	50 / 39	NW SE	6	66	oh	
Edmonds L10 B2	75	70	20	rotary	MyCo	30	wc	dom	-	NW SE	6	70	oh	
VanBuren	90	144	102	cable	Stevens	20	ben	dom	25 / 8	SW SE	6/5	144	ss scr	Int 134-144
Reed	69	101	7	-	Hosack	-	-	-	-	SW SE	6	97	oh	
Reed	69	100	7	cable	Hosack	20	-	irr	-	SW SE	6	95	oh	
Blaser	64	95	14	cable	Harden	-	-	-	-	SW SE	6	95	oh	

Gibson	76	75	-	cable	Boise Valley	18	pc	dom	100 / 0	SW SE	8	73	oh	
Peterson	84	110	25	cable	Coonse	-	pc	com	20 / 20	SE SE	6/5	110	ss scr	int 105-110
Carley	65	91	18	cable	Clayville	-	-	dom	-	SE SE	-	-	-	
Cox	65	87	30	cable	Clayville	-	-	dom	-	SE SE	4	87	oh	
Lewis	61	87	20	cable	Clayville	-	-	dom	-	SE SE	4	86	oh	
Wendall	76	85	25	rotary	Witt	25	pc	com	-	SE SE	6	79	oh	
Hepper	69	84	18	cable	Clayville	26	pc	dom	-	SE SE	6	84	oh	
Lewis	65	81	28	cable	Clayville	-	-	dom	-	SE SE	-	-	-	
Warner	85	80	40	ar	Skinner	21	pc	dom	30 / 25	SE SE	6	79	oh	
Rife	66	77	28	cable	Clayville	-	-	dom	-	SE SE	4	77	oh	
Michel	66	76	29	cable	Clayville	-	-	dom	-	SE SE	4	76	oh	
Davis	68	69	34	cable	Clayville	20	wc	dom	-	SE SE	4	69	oh	
Hepper	65	68	32	cable	Kinsey	-	-	dom	17 / 8	SE SE	4	67	oh	
Moore	65	67	16	cable	Clayville	-	-	dom	-	SE SE	4	67	oh	
Hepper L19 B1	68	84	32	cable	Kinsey	24	ben	dom	17 / 10	?? ??	4	84	oh	
Dobaran	56	151	31	cable	Kelsey	-	-	dom	12 / 5	?? NE	4	149	oh	
Larrondo	72	206	30	cable	Broomfield	18	pc	dom	-	E? NW	6	206	ss scr	int 180-206
Delgard L9 B2	67	83	32	cable	Kinsey	22	ben	dom	33 / 14	S? SE	6	82	oh	
Arnold	69	82	28	cable	Kinsey	19	ben	dom	-	S? SE	4	80	oh	
Hepper	65	68	30	cable	Kinsey	-	-	dom	25 / 20	S? SE	4	68	oh	

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Name	Year	Depth (ft)	SWL (ft)	Method	Driller	Seal Depth (ft)	Seal Type	Use	Yield/DD (gpm) / (ft)	1/4 1/4	Casing Diameter (in)	Casing Depth (ft)	Opening	Comments
Grass	85	222	126	rot	Can-Ada	18	pc	dom	40 / 74	NE NE	6	220	oh	
Taylor	87	176	30	-	Baker	0	none	dom	-	NE NE	6	174	oh	T=53F
Hambley	72	140	30	cable	Crescent	30	pc	dom	50 / 9	NE NE	6	132	oh	
Smith	92	120	17	rot	Doty	19	ben	dom	35 / 83	NE NE	6	100	oh	
Pape L3 B4	77	235	52	cable	O'Leary	20	pc	dom	53 / 14	NW NE	6	228	ss scr	Int 223-228
Campbell	61	180	33	cable	Stone	-	-	dom	-	NW NE	6	180	-	
Pape L6 B3	76	178	34	cable	O'Leary	28	pc	dom	35 / 5	NW NE	6	169	oh	
Bayer L2 B4	75	120	29	cable	Breuer	24	pc	dom	-	NW NE	6	97	oh	
Markum	77	115	50	cable	Hunsperger	30	wc	dom	20 / 10	NW NE	6	115	ss scr	Int 110-115
Hart	84	110	40	cable	Phipps	18	pc	dom	-	NW NE	6	108	ss scr	Int 103-108
Wines	78	105	34	cable	Stevens	26	wc	dom	20 / 16	NW NE	6/5	100	ss scr	Int 95-100
Ebert	99	100	35	ar	SOS	18	ben	dom	50 / 45	NW NE	6	98	ss scr	Int 88-98
Turvey	92	97	30	ar	SOS	20	ben	dom	50 / 20	NW NE	6/5	97	ss scr	Int 87-97
Pape L13 B1	80	90	11	cable	O'Leary	26	pc	dom	-	NW NE	6	88	ss scr	Int 83-88
Pape L2 B2	77	90	32	cable	O'Leary	28	pc	dom	30 / 5	NW NE	6	85	oh	
Jone Construction L8 B3	75	78	18	cable	Hunsperger	38	wc	dom	-	NW NE	6/5	76	ss scr	Int 71-76
Gregory	77	75	30	rot	SOS	18	wc	dom	40 / 20	NW NE	6	62	oh	
Harrison Homes L5 B5	75	70	17	cable	Breuer	-	cem/pc	dom	-	NW NE	6	70	oh	
Ralphs	72	216	21	cable	Kinsey	21	pc	dom	-	SW NE	6/4	216	sti scr	Int 208-216
Rost	75	198	25	cable	Hunsperger	48	wc	dom	22 / 12	SW NE	6/5	198	ss scr	Int 194-198
Barnes	88	145	50	cable	Phipps	18	pc	dom	17 / 90	SW NE	6/5	141	ss scr	Int 135-140
Kelpert	96	121	20	ar/cab	Phipps	18	ben	dom	-	SW NE	6/5	121	ss scr	Int 114-119
Howell	74	120	70	cable	Phipps	18	pc	dom	-	SW NE	6	120	oh	
Jackson	85	118	40	cable	Engleman	27	pc	dom	40 / 56	SW NE	6/5	120	ss scr	Int 112-117
Mickels	76	89	40	cable	Phipps	20	wc	dom	-	SW NE	6	88	oh	
Popp	77	66	33	cable	Hunsperger	20	wc	dom	20 / 10	SW NE	6/5	66	ss scr	Int 61-66
Wells	68	200	20	cable	Baker	-	-	dom	20 / 15	SE NE	6/5	200	perf	Int 186-200
Hubble Engineering	97	174	30	ar/cab	Phipps	18	ben	dom	-	SE NE	6/5	174	ss scr	Int 162-172
Boyd	01	160	70	-	Phipps	160	ben	dom	-	SE NE	6	160	oh	abandoned
Levett	84	150	30	cable	Phipps	18	pc	dom	-	SE NE	6	148	ss scr	Int 143-148, deepened
Johnson	77	233	20	cable	Boise Valley	18	pc	dom	20 / 0	NE NW	6	221	oh	
Marcom	89	173	35	cable	Boise Valley	20	pc	dom	45 / 70	NE NW	8	171	oh	
Wall	93	170	30	cable	Knie	20	ben	dom	25 / 105	NE NW	6	170	ss scr	Int 150-170
Debran	81	160	28	cable	Boise Valley	-	-	dom	25 / 52	NE NW	6/5	157	ss scr	Int 152-157
Wall	95	146	35	ar/cab	Phipps	20	ben	dom	-	NE NW	6/5	146	ss scr	Int 134-144
Harrison Homes L10 B2	75	105	-	cable	Boise Valley	-	-	dom	-	NE NW	6	107	ss scr	Int 100-107
Boyer L4 B3	75	100	40	rotary	Myco	30	wc	dom	-	NE NW	6	100	oh	
Jenkins L2 B1	75	95	30	rotary	Myco	30	wc	dom	-	NE NW	6	95	oh	

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Hinke	77	90	15	cable	Boise Valley	18	pc	dom	18 / 0	NE NW	6	?	oh	
Bayer L9 B2	75	85	40	cable	Myco	30	wc	dom	-	NE NW	6	85	oh	
Hansen L10 B2	75	85	40	rotary	Myco	30	wc	dom	-	NE NW	6	85	oh	
Jenkins L1 B4	75	85	30	rotary	Myco	30	wc	dom	-	NE NW	6	80	oh	
Johnson	79	66	12	cable	Boise Valley	18	pc	dom	18 / 0	NE NW	6	60	oh	
Johnson L14 B1	77	65	10	cable	Boise Valley	18	wc	dom	-	NE NW	6	59	oh	
Pape L9 B3	76	190	35	cable	Crescent	38	wc	dom	32 / 12	NW NW	6	192	oh	
Hinke? L12 B2	77	186	-	cable	O'Leary	20	pc	dom	-	NW NW	6	185	ss scr	Int 180-185
Case	71	110	27	cable	Hunsperger	20	pc	dom	15 / 20	NW NW	6/5	110	ss scr	Int 105-108
Pape L11 B1	77	109	14	cable	O'Leary	25	pc	dom	20 / 10	NW NW	6	108	oh	
West	90	105	20	cable	Phipps	18	ben/pc	dom	-	NW NW	6/5	105	ss scr	Int 100-105
Pape L10 B1	77	104	20	cable	O'Leary	18	pc	dom	30 / 85	NW NW	6	102	ss scr	Int 97-102
														Int 82-90; T=54F; Hardness 18 Gr.; Fe 0; pH 6.5
Bostrom	85	102	32	ar	Aqua-Master	20	ben	dom	30 / 9	NW NW	6	90	ss scr	
Eddington	91	102	20	cable	Phipps	18	ben/pc	dom	-	NW NW	6/5	102	ss scr	Int 96-100
Fenwick Realty	66	97	7	cable	Clayville	-	wc	dom	-	NW NW	4/3	97	slot	Int 90-97
Cullip	70	92	10	cable	Hunsperger	30	pc	dom	-	NW NW	6/5	92	scr	Int 87-92
Pape L1 B5	76	91	13	cable	O'Leary	18	pc	dom	30 / 12	NW NW	6	89	oh	
Smith	78	348	21	rot	Skinner	-	-	dom	200 / 60	SW NW	6	348	oh	deepened
Burnom	73	255	12	cable	Randall	18	pc	dom	-	SW NW	6	53	oh	
J & V Construction	72	135	9	cable	Engleman	20	pc	dom	10 / 3	SW NW	6	135	oh	
Lane	77	115	30	cable	H20	20	wc	dom	20 / 20	SW NW	6	115	oh	gravel fill 110-116
Lane	78	115	30	cable	H20	20	wc	dom	-	SW NW	6	115	ss scr	Int 111-115
J & V Construction	72	109	9	cable	Engleman	20	pc	dom	10 / 3	SW NW	6	109	oh	
J & V Construction	72	105	9	cable	Engleman	26	pc	dom	10 / 3	SW NW	6	104	oh	
J & V Construction	72	103	9	cable	Engleman	20	pc	dom	10 / 3	SW NW	6	103	oh	
Johnson	78	180	6	cable	Gem State	20	wc	dom	60 / 4	SE NW	6	180	oh	
Johnson	78	132	30	cable	Phipps	18	wc	dom	-	SE NW	6/5	132	ss scr	Int 122-132
Stucker Construction	74	110	40	cable	Holder	20	wc	dom	15 / 15	SE NW	6	105	oh	
Zachreson	71	96	11	cable	Hudson	26	pc	dom	-	SE NW	5/4.5	96	ss scr	Int 86-96
Budge	77	91	40	cable	-	18	pc	dom	20 / 0	SE NW	6/5	-	ss scr	
Zachreson	71	78	12	cable	Hudson	19	pc	dom	-	SE NW	5/4.5	78	ss scr	Int 71-78
Zachreson	71	75	18	cable	Hudson	31	pc	dom	-	SE NW	5/4.5	75	ss scr	Int 67-75
Brincken	71	57	20	cable	K & H	20	pc	dom	-	SE NW	6	53	oh	
Watson	77	181	20	cable	Boise Valley	18	pc	dom	-	NE SW	6	168	oh	
Ballantyne	72	170	15	cable	Idaho	20	-	dom	100 / 10	NE SW	6	156	oh	
Montoya	77	153	15	cable	Gem State	25	wc	dom	20 / 0	NE SW	6	152	oh	
A & C Corporation	73	128	50	cable	Phipps	18	pc	dom	-	NE SW	6/5	128	perf	Int 116-128
Bird	94	119	25	ar/cab	Phipps	20	ben	dom	-	NE SW	6/5	119	ss scr	Int 112-117
Frazier	93	117	25	ar/cab	Phipps	20	ben	dom	-	NE SW	6/5	117	ss scr	Int 110-115
Coats	78	115	15	cable	Boise Valley	18	pc	dom	30 / 5	NE SW	6	111	oh	
A & C Corporation	73	112	50	cable	Phipps	18	pc	dom	-	NE SW	6/5	112	perf	Int 100-110

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Kofoed	70	110	15	cable	Witt	18	pc	dom	-	NE SW	6	100	oh	
A & C Corporation	73	107	50	cable	Phipps	18	pc	dom	-	NE SW	6	105	perf	Int 95-105
Watson	77	105	30	cable	Boise Valley	18	pc	dom	18 / 0	NE SW	6	105	oh	
Christensen Brothers	79	100	20	cable	Phipps	18	pc	dom	-	NE SW	6	100	oh	
Heartley	86	99	20	cable	Phipps	18	pc	dom	-	NE SW	6	97	ss scr	Int 92-97
Watson L10 B1	77	90	22	cable	Boise Valley	18	pc	dom	18 / 0	NE SW	6	89	oh	
Watson L11 B1	77	90	22	cable	Boise Valley	18	pc	dom	18 / 0	NE SW	6	82	oh	
Watson L9 B1	77	75	24	cable	Boise Valley	18	pc	dom	18 / 0	NE SW	6	62	oh	
Hoff L13 B1	77	70	12	rotary	Treasure Valley	20	wc	dom	-	NE SW	8/6	70	perf	Int 50-70
Phipps	88	67	35	cable	Phipps	18	ben/pc	dom	-	NE SW	6/5	67	perf	Int 59-66
Alexander	79	60	20	cable	Phipps	18	wc	irr	25 / 30	NE SW	6/5	60	ss scr	Int 55-60
Amyx	73	131	16	cable	Hunsperger	20	pc	dom	12 / 70	NW SW	6/5	131	sti scr	Int 126-131
Edmonds	72	125	25	cable	Phipps	18	pc	dom	-	NW SW	6/5	125	scr	Int 118-123
McCrea	72	116	15	cable	Nicholson	20	pc	dom	20 / 60	NW SW	6	116	ss scr	Int 111-116
Kirby	72	112	35	cable	Boise River	22	pc	dom	20 / 0	NW SW	6	107	oh	
Kirby	72	112	22	cable	Boise River	21	-	dom	25 / 4	NW SW	6	110	oh	
Nelson	72	108	20	cable	Skinner	18	pc	dom	24 / 15	NW SW	6	103	oh	
McCoy	71	105	15	cable	Nicholson	20	pc	dom	40 / 20	NW SW	7	105	oh	
Vincent	71	100	12	cable	Engleman	20	pc	dom	-	NW SW	6	96	oh	
McCrea	77	99	20	cable	Nicholson	20	pc	dom	60 / 10	NW SW	6	99	oh	
Stucker & Burnham	71	96	21	cable	Mtn. Home	18	pc	dom	-	NW SW	6	91	oh	
Lewis	69	87	20	cable	S & H	19	ben	dom	-	NW SW	6	87	perf	Int 60-70
Spencer	87	84	20	cable	Phipps	18	ben/pc	dom	-	NW SW	6/5	82	ss scr	Int 77-82
Hoff L12 B1	77	70	15	rotary	Treasure Valley	20	pc	dom	-	NW SW	8/6	70	perf	Int 60-70
Lewis	69	62	20	cable	S & H	18	ben	dom	-	NW SW	6	58	oh	
Clark	93	201	40	cable	Boise Valley	20	ben/pc	dom	-	SW SW	6/5	201	ss scr	Int 194-199
Stucker Construction	73	145	20	cable	Broomfield	19	pc	dom	-	SW SW	6	143	oh	
Marcum	78	144	28	rot	Skinner	45	wc	dom	-	SW SW	6	139	oh	
Stucker	78	130	17	cable	Prow	28	pc	dom	25 / 13	SW SW	6	130	ss scr	Int 123-130
Stucker Construction L9 B2	78	130	17	cable	Prow	28	pc	dom	25 / 13	SW SW	6	130	ss scr	Int 123-130
Christensen Builders L4 B1	76	108	18	cable	Crescent	26	wc	dom	60 / 9	SW SW	6	99	oh	
Christensen Builders L5 B1	76	108	20	cable	Crescent	20	wc	dom	60 / 7	SW SW	6	107	oh	
Kife	68	75	28	cable	Clayville	-	-	dom	-	SW SW	-	-	-	
Cesler	85	80	20	cable	Phipps	18	pc	dom	-	SE SW	6/5	80	ss scr	Int 75-80
Canfield	69	184	26	cable	Kinsey	28	ben	dom	25 / 55	NE SE	6	179	scr	Int ??-??
Canster	77	105	5	cable	Boise Valley	18	wc	dom	-	NE SE	6	100	oh	
Nettleton	69	95	28	cable	Kinsey	20	ben	-	-	NE SE	6	95	ss scr	Int 91-95
Nixon	70	60	30	cable	S & H	18	pc	dom	-	NE SE	6	60	oh	
Wright	68	252	66	cable	Baker	none	none	dom	75 / 12	NW SE	6/5	252	perf	244-251
Marlin	77	154	22	cable	Boise Valley	20	-	dom	20 / 0	NW SE	6	150	oh	
Christensen L3 B1	78	135	25	cable	Phipps	18	wc	dom	-	NW SE	6	133	oh	
Vetter	99	118	25	cable	Phipps	18	ben	dom	-	NW SE	6/5	118	ss scr	Int 111-116
Draper L17 B?	78	107	15	cable	Boise Valley	18	pc	dom	-	NW SE	6	100	oh	

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Christensen L1 B1	77	106	25	cable	Phipps	18	wc	dom	-	NW SE	6	102	oh	
Draper	87	106	10	cable	Phipps	18	ben	dom	-	NW SE	6	105	ss scr	Int 100-105
Mellen	89	168	60	cable	Phipps	18	pc	dom	32 / 80	SW SE	6	167	ss scr	Int 162-167
Larson	71	150	20	rot	Hiddleston	18	pc	dom	-	SW SE	10	150	perf	Int 130-150
Loder	84	132	20	ar	Davis	20	ben	dom	-	SW SE	6	129	oh	
Barker	71	128	35	cable	Engleman	30	pc	dom	30 / 55	SW SE	6/5	128	ss scr	Int 116-121
Gale	78	126	15	cable	Boise Valley	-	-	dom	20 / 0	SW SE	6	111	oh	
Cook	71	62	6	cable	Hunsperger	34	pc	dom	-	SW SE	6	62	oh	
Maverick Country Store P#859	99	45	35	auger	Hiddleston	23	ben	mon	-	SW SE	2	45	pvc scr	Int 25-45
Maverick Country Store P#860	99	45	35	auger	Hiddleston	23	ben	mon	-	SW SE	2	45	pvc scr	Int 25-45
Maverick Country Store P#861	99	45	35	auger	Hiddleston	23	ben	mon	-	SW SE	2	45	pvc scr	Int 25-45
Titmus	89	162	18	cable	Boise Valley	20	pc	dom	30 / 82	SE SE	6/5	163	ss scr	Int 156-161
Melen	88	149	50	cable	Phipps	18	pc	dom	30 / 90	SE SE	6/5	149	ss scr	Int 144-149
Melen L3 B1	88	131	40	cable	Phipps	18	pc	dom	30 / 60	SE SE	6/5	130	ss scr	Int 125-130
Bassett	71	127	18	cable	Cope	120	pc	dom	-	SE SE	6	120	oh	gravel fill 119-127
Roberts	79	115	25	cable	Hunsperger	23	wc	dom	25 / 20	SE SE	6/5	115	ss scr	Int 110-115
Starlite Homes	75	67	20	cable	Breuer	22	pc	dom	16 / 2	SE SE	6	66	oh	
Statewide Construction L2 B1	90	59	20	ar	SOS	20	pc	dom	50 / 5	SE SE	6	60	ss scr	Int 50-60
Clifton Ralphs Construction	73	157	39	-	Kinsey	26	pc	dom	-	?? ??	6	-	scr	Int ??-??
Helton	72	156	21	cable	Broomfield	18	pc	dom	-	?? ??	6	154	oh	
Green	88	146	23	cable	Stevens	25	ben	dom	50 / 47	?? ??	6/5	146	ss scr	Int 128-134, 140-146
Morford	72	128	21	cable	Broomfield	18	pc	dom	-	?? ??	6	127	oh	
Blaser L12 B2	64	115	44	cable	Kinsey	-	-	dom	33 / 8	?? ??	-	-	-	
Rainey	72	114	22	cable	Cowe	20	pc	dom	-	?? ??	6	111	oh	
Draper	78	107	15	cable	Boise Valley	18	pc	dom	-	?? ??	6	100	oh	
Williams	64	106	52	cable	Kinsey	-	-	dom	-	?? ??	4	106	slot	Int 103-106
Hepper L5 B1	64	101	40	cable	Kinsey	-	-	-	17 / 12	?? ??	-	-	-	
Hansen L2 B3	75	97	35	cable	Boise Valley	20	pc	dom	-	?? ??	6	97	oh	
Blaser L9 B2	64	96	38	cable	Kinsey	-	-	dom	25 / 10	?? ??	-	-	-	
Christenson L25 B2	89	60	18	rotary	Can-Ada	18	pc	dom	-	?? ??	6	60	oh	
Christensen Builders L15 B1	70	110	25	cable	Crescent	30	wc	dom	60 / 9	?? SW	6	109	oh	
Christensen Builders L14 B1	77	108	25	cable	Crescent	38	pc/wc	dom	60 / 9	?? SW	6	104	oh	
Ollason	62	102	25	cable	Clayville	-	-	dom	-	?? SW	-	-	-	

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Name	Year	Depth (ft)	SWL (ft)	Method	Driller	Seal Depth (ft)	Seal Type	Use	Yield/DD (gpm) / (ft)	1/4 1/4	Casing Diameter (in)	Casing Depth (ft)	Opening	Comments
Borders	92	192	107	ar	Hiddleston	120	ben	dom	-	NE NE	6	197	ss scr	int 192-197
Bedudreau	88	165	25	cable	Phipps	18	ben/pc	dom	40 / 55	NW NW	6	165	ss scr	int 160-165
LDS Church	00	153	25	ar	Can-Ada	19	ben	dom	75 / 123	NW NW	6	151	ss scr	int 142-151
Worth	72	104	4	cable	Randall	18	pc	dom	-	NW NW	6	91	oh	
Boise ISD	80	257	49	cable	Engleman	22	cem	irr	113 / 94	SW NW	8/6	288	ss scr	int 257-277
Maughan	72	181	36	cable	Hudson	37	pc	dom	-	SW NW	5	170	oh	
Bechtold L7 B3	78	160	37	cable	Randall	18	pc	dom	-	SW NW	6	160	ss scr	int ??-??
Wail	73	131	16	cable	Randall	18	pc	dom	-	SW NW	6	126	oh	
Bechtold L1 B1	77	130	26	cable	Randall	18	pc	dom	-	SW NW	6	109	oh	
Bechtold L2 B1	78	130	25	cable	Boise Valley	18	pc	dom	20 / 55	SW NW	6	127	oh	
W. Hedrick Construction	72	114	35	cable	Hudson	38	pc	dom	-	SW NW	5	113	oh	
Bernard	72	106	12	cable	Hudson	20	pc	dom	-	SE NW	5/4.5	106	scr	int 99-106
Bechtold L10 B1	77	81	57	cable	Randall	18	pc/wc	dom	-	SE NW	6	80	oh	
City of Meridian #17 Monitor	95	1045	12	mr/cab	Stevens	see log	ben	mon	-	NW SW	see log	42	see log	
City of Meridian #17	96	536	13	reverse	Riverside	400	ben	mun	2000 / 42	NW SW	18/10	530	ss scr	see log
Sprout	72	123	13	cable	Hudson	38	pc	dom	-	NW SW	5	122	oh	
Cushing	76	110	7	rotary	SOS	47	wc	dom	15 / 30	NW SW	6/5	110	pvc perf	int 105-110
Smith	68	100	15	cable	Clayville	-	-	dom	-	NW SW	6/5	100	sti perf	int 96-100
Harper	66	90	32	cable	Doty	-	-	dom	-	NW SW	6	106	ss scr	int 101-106
The Westpark Co. Inc.	99	181	51	ar	Adamson	58	ben	irr	-	SE SW	8/6	175	ss scr	int 145-175
Record	88	160	60	cable	Phipps	18	pc	dom	30 / 40	SE SW	6	159	ss scr	int 154-159
Creech	93	138	30	ar	Hiddleston	90	ben	dom	-	SE SW	6/5	138	ss scr	int 133-138
Hayes	70	89	-	cable	K & Z	18	pc	dom	-	SE SW	-	-	-	
Martin	75	186	45	cable	McCall	30	wc	dom	110 / 80	SW SE	12/6	180	perf	int 80-180
Hastings	93	183	-	rot/cab	Coonse	18	ben	dom	-	SW SE	6/5	181	ss scr	int 174-179; T=55F
Long	95	168	35	ar/cab	Phipps	20	ben	dom	-	SW SE	6/5	168	ss scr	int 160-165
Hansen	90	60	20	ar	Can-Ada	18	pc	dom	100 / 37	SW SE	6	59	oh	
Collins	70	224	38	cable	Kinsey	26	pc	dom	100 / 60	SE SE	6	223	oh	
Urwin	93	222	50	ar/cab	Phipps	20	ben	dom	-	SE SE	6/5	222	ss scr	int 210-220
Young	93	170	61	ar	SOS	20	ben	dom	150 / 104	SE SE	6/5	170	ss scr	int 160-170
Hayes	70	144	33	cable	K & Z	18	pc	dom	18 / 10	SE SE	6	139	oh	
Young	70	63	38	cable	Hunsperger	30	pc	dom	-	SE SE	6	63	oh	
Marwood Construction	70	60	32	cable	Hunsperger	25	pc	dom	20 / 3	SE SE	6	61	oh	
DeWaard	72	135	18	cable	Cowe	26	pc	dom	-	?? ??	8	127	oh	
Hemmer	72	81	14	cable	Cowe	20	pc	dom	-	?? ??	6	66	oh	

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Name	Year	Depth (ft)	SWL (ft)	Method	Driller	Seal Depth (ft)	Seal Type	Use	Yield/DD (gpm) / (ft)	1/4 1/4	Casing Diameter (in)	Casing Depth (ft)	Opening	Comments
Providence	99	191	-	-	Haz-Tech	191	cem	dom	-	NE NE	3	-	filled	abandoned
Pond	89	142	10	cable	Phipps	18	ben/pc	dom	-	NE NE	6	140	ss scr	int 130-140
Brown	74	131	24	cable	Engelman	18	pc	dom	85 / 71	NE NE	6/5	131	ss scr	int 122-127
Wolfe	89	118	60	cable	Phipps	18	pc	dom	18 / 40	NE NE	6/5	117	ss scr	int 112-117
Bienapfi	71	117	16	cable	Cowe	20	pc	dom	-	NE NE	8	111	oh	
Providence	99	106	-	-	Haz-Tech	106	cem	dom	-	NE NE	6	-	filled	abandoned
Transwestern Const. L6 B2	77	95	20	cable	Boise Valley	18	wc	dom	-	NE NE	6	95	perf	int 68-95
Transwestern Const. L7 B1	77	84	20	cable	Boise Valley	18	pc	dom	18 / 0	NE NE	6	83	oh	
Campbell L6 B1	77	75	20	cable	Boise Valley	18	wc	dom	18 / 5	NE NE	6	74	oh	
Moffett	71	72	20	cable	Randall	18	pc/wc	dom	-	NE NE	6	71	oh	
Transwestern Const. L1 B2	77	72	20	cable	Boise Valley	18	pc	dom	18 / 0	NE NE	6	70	oh	
Transwestern Const. L3 B2	77	72	8	cable	Boise Valley	18	wc	dom	-	NE NE	6	71	oh	
Transwestern Const. L4 B1	77	72	20	cable	Boise Valley	18	pc	dom	18 / 0	NE NE	6	70	oh	
Hoff L3 B1	77	70	5	rotary	Treasure Valley	20	pc	dom	-	NE NE	6	70	perf	int 50-70
Hoff L8 B1	77	70	13	rotary	Treasure Valley	20	pc	dom	-	NE NE	8/6	70	oh	
Hoff L9 B1	77	70	10	rotary	Treasure Valley	20	wc	dom	-	NE NE	8/6	70	perf	int 50-70
Statewide Construction L5 B1	77	65	10	rotary	SOS	20	wc	dom	30 / 10	NE NE	6	62	oh	
TransWestern Const. L1 B1	77	65	5	cable	Boise Valley	18	pc	dom	18 / 0	NE NE	6	62	oh	
TransWestern Const. L2 B1	77	61	20	cable	Boise Valley	18	pc	dom	18 / 0	NE NE	6	61	oh	
A & C Corporation	74	105	20	rotary	SOS	20	pc	dom	50 / 45	SW NE	6	104	oh	
Clay	93	95	30	cable	Phipps	18	ben	dom	30 / 20	SW NE	6/5	94	ss scr	int 89-94
Vincent	93	95	35	cable	Phipps	18	ben	dom	-	SW NE	6	94	ss scr	int 89-94
Miller	87	82	17	ar	SOS	30	pc	dom	30 / 15	SW NE	6/5	82	pvc slot	int 66-82
Crawford	86	106	30	cable	Phipps	18	pc	dom	-	SE NE	6/5	102	ss scr	int 97-102
Maleeki	75	66	25	cable	Randall	18	wc	dom	-	SE NE	6	59	oh	
Anderson	84	298	109	cable	Aqua Masters	48	ben	dom	30 / 4	NE NW	6/5	272	ss scr	int 266-271
Durham	77	168	110	cable	H2O	18	wc	dom	20 / 0	NW NW	6	158	oh	
Turfco	88	152	18	ar	Davis	20	ben	irr	-	NW NW	10/8	152	perf	int 72-152
Hepper	69	102	-	cable	Clayville	18	ben	dom	-	NW NW	6/5	102	stl perf	int 97-102
Babbett	67	135	20	cable	Randall	-	-	dom	-	SW NW	4	125	oh	
Girdner Ranches	92	222	42	reverse	Cope	118	ben	irr	-	NE SW	12	215	ss scr	int see log
Holtry	99	138	50	ar	Coonse	20	ben	dom	80 / 78	NE SW	6/5	138	ss scr	int 133-138
Knapp	69	116	55	cable	Breuer	-	ben	dom	-	NE SW	6	112	oh	
Cole	76	101	35	cable	Randall	18	wc	dom	-	NE SW	6/5	-	ss scr	int ??-??
T-R Construction	96	81	10	ar	Phipps	18	ben	dom	-	NE SW	6/5	81	ss scr	int 74-79
Garvin	91	137	35	cable	Phipps	18	ben/pc	dom	-	NW SW	6/5	135	ss scr	int 130-135
McHibbin	98	119	40	cable	Boise Valley	20	ben	dom	25 / 40	SW SW	6/5	119	ss scr	int 112-117
Lewis	68	70	34	cable	Clayville	20	wc	dom	-	SW SW	4/3	70	perf	int 65-70
Palmer	75	70	21	rotary	Treasure Valley	21	pc	dom	-	SW SW	6	70	oh	
Lewis	69	69	33	cable	Clayville	20	ben	dom	-	SW SW	4	69	oh	
Cantrell	79	53	30	cable	Phipps	18	wc	dom	60 / 20	SW SW	6	53	oh	
Great Sky Inc. MW1	96	42	31	auger	Haz-Tech	26	con/ben	mon	-	SW SW	2	42	pvc scr	int 27-42
Great Sky Inc. MW3	96	40	32	auger	Haz-Tech	24	con/ben	mon	-	SW SW	2	40	pvc scr	int 25-40

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Prepared
by: L. Pearson
Date: 8/07/01

Name	Year	Depth (ft)	SWL (ft)	Method	Driller	Seal Depth (ft)	Seal Type	Use	Yield/DD (gpm) / (ft)	1/4 1/4	Casing Diameter (in)	Casing Depth (ft)	Opening	Comments
Great Sky Inc. MW2	96	36	29	auger	Haz-Tech	24	con/ben	mon	-	SW SW	2	36	pvc scr	int 26-36
Anderson	92	204	45	cable	Phipps	18	ben	dom	30 / 135	SE SW	6/5	202	ss scr	int 197-202
Lions	00	194	74	ar	Adamson	20	ben	dom	-	SE SW	6/5	194	ss scr	Int 184-194; T=53F; Iron 0.5, pH 8.0, Gr 7
Carleton	98	153	60	ar	Phipps	20	ben	dom	-	SE SW	6/5	153	ss scr	int 139-149
Sunshine Landscape	97	140	30	ar	Can-Ada	18	ben	dom	100 / 105	SE SW	6	140	oh	
McEnroe	70	105	40	cable	Wornell	18	pc	dom	-	NE SE	6	105	oh	
McEnroe L16 B1	70	105	40	cable	Wornell	18	wc	dom	-	NE SE	6	105	oh	
McEnroe L9 B2	69	100	30	cable	-	18	pc	dom	-	NE SE	6	100	oh	
Pressman	89	114	40	cable	Phipps	18	ben/pc	dom	-	NW SE	6/5	111	ss scr	int 106-111
Bechtold	75	90	30	cable	Randall	18	wc	dom	-	NW SE	6	99	oh	
Huddleston	94	215	34	ar	Hiddleston	79	ben	dom	-	SW SE	8/6	215	ss scr	int 205-215
Hackborn	90	197	40	cable	Phipps	18	ben	dom	40 / 55	SW SE	6/5	196	ss scr	int 186-196
Brinkenhoff	66	191	30	cable	Kelsey	0	none	dom	15 / 5	SW SE	4	191	oh	T=50F
Turner	00	138	37	ar	SOS	20	ben	dom	40 / 63	SW SE	6/5	138	ss scr	int 128-138
Watson	82	119	30	ar	Skinner	18	wc	dom	-	SW SE	6	119	oh	
Olson	90	106	35	cable	Phipps	18	ben/pc	dom	-	SW SE	6/5	102	ss scr	Int 97-102
Ranchos Los Altos	69	106	30	cable	Cowe	18	pc	dom	-	SW SE	6/5	126	galv scr	int 100-126
Wayne ? Builder	76	100	30	cable	-	20	wc	dom	-	SW SE	6/5	100	scr	Int 94-100
Hill & McCoy	88	95	56	cable	Johnston	20	pc	stock	10 / 2	SW SE	6/5	95	ss scr	Int 82-92
Turner	88	90	40	cable	Coonse	32	pc	stock	38 / 22	SW SE	6/5	90	ss scr	int 80-90
Michel & Dales Construction	76	65	40	rotary	Hunsperger	30	pc	dom	20 / 10	SW SE	6	62	oh	
Blackburn	58	464	90	cable	Johnson	-	-	dom	-	SE SE	-	-	-	Water good quality and cold
McEnroe L9 B2	70	125	-	cable	Snelling	-	pc	dom	-	SE SE	-	-	-	
McEnroe L1 B1	70	120	30	cable	Snelling	20	pc	dom	-	SE SE	-	-	iron scr	Int 100-110
McEnroe L14 B?	73	70	30	rotary	Snelling	25	pc	dom	-	SE SE	6	70	oh	
Jenkins	73	58	20	cable	K & H	20	-	dom	15 / 0	SE SE	6	56	oh	
Anderson L7 B1	76	84	38	cable	Stevens	-	-	dom	51 / 14	?? SE	6/5	84	ss scr	int 79-84
Horizon Homes	75	54	11	cable	Breuer	20	cem/pc	dom	-	?? SE	6	52	oh	
Packard	63	94	45	cable	Kinsey	-	-	dom	15 / 10	?? SW	4	93	oh	
Quenzer	62	59	45	cable	Kinsey	-	-	dom	15 / 3	?? SW	6/5	58	perf	int ??-??

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Prepared

by:

L. Pearson

Date:

8/07/01

Name	Year	Depth (ft)	SWL (ft)	Method	Driller	Seal Depth (ft)	Seal Type	Use	Yield/DD (gpm) / (ft)	1/4 1/4	Casing Diameter (in)	Casing Depth (ft)	Opening	Comments
Slagle	94	96	40	ar/cab	Phipps	20	ben	dom	-	NE NE	6/5	94	ss scr	int 89-94
Woodall	72	86	20	cable	Phipps	18	pc	dom	-	NE NE	6	86	oh	
Spjute	90	80	21	rotary	Can-Ada	20	pc	dom	100 / 54	NE NE	6	80	oh	
Southerland	72	76	20	cable	Phipps	18	pc	dom	-	NE NE	6	76	oh	
Amyx L5 B1	73	73	27	cable	Crescent	30	pc	dom	80 / 5	NE NE	6	72	oh	
Southerland	75	71	30	cable	Boise Valley	20	pc	dom	-	NE NE	6	71	oh	
Southerland	77	70	30	cable	Phipps	18	wc	dom	-	NE NE	6	70	oh	
Hanson	72	69	12	cable	Crescent	18	pc	dom	60 / 15	NE NE	6	65	oh	
Chevreux L19 B1	76	60	7	cable	Hunsperger	22	wc	dom	-	NE NE	6	60	oh	
Southerland	72	40	20	cable	Phipps	18	pc	dom	-	NE NE	6	66	oh	
Norris	67	155	81	rotary	B & M	-	-	dom	-	NW NE	6/5	140	perf	int 120-140
Southerland	72	84	20	cable	Phipps	18	pc	dom	-	SW NE	6	84	oh	
Amyx	73	70	15	cable	Hunsperger	15	pc	dom	-	SW NE	6	69	oh	
Watkins	72	70	20	cable	Phipps	18	pc	dom	-	SW NE	6	70	oh	
Watkins	72	69	20	cable	Phipps	18	pc	dom	-	SW NE	6	69	oh	
Hedrick	76	73	10	cable	Hudson	35	wc	dom	45 / 10	SE NE	6	77	oh	
Bechtold	76	70	28	cable	Randall	18	wc	dom	-	SE NE	6	69	oh	
Southerland	72	65	15	cable	Phipps	18	pc	dom	-	SE NE	6	64	oh	
Bayer L3 B3	75	50	10	cable	Myco	25	wc	dom	-	SE NE	6	50	oh	
Mayer L2 B1	93	140	36	ar	Phipps	18	ben	dom	40 / 1	NE NW	6/5	139	ss scr	int 134-139
Cross	94	139	50	ar	Phipps	20	ben	dom	-	NE NW	6/5	139	ss scr	int 127-137
Hallock	89	139	65	cable	Phipps	18	ben/pc	dom	20 / 35	NE NW	6/5	139	ss scr	int 134-139
Byrd	93	138	21	rotary	Phipps	18	ben/pc	dom	-	NE NW	6/5	138	ss scr	int 131-136
Davis	91	91	20	cable	Phipps	18	ben/pc	dom	-	NE NW	6/5	91	ss scr	int 79-89
Zachreson	70	83	10	cable	Hudson	-	pc	dom	-	NE NW	6/5	83	slot	int 76-83
Bird	95	82	38	ar	Treasure Valley	20	ben	dom	-	NE NW	6/5	82	ss scr	int 72-82
Bird	87	61	34	ar	Aqua Masters	18	ben	dom	25 / 3	NE NW	6	60	oh	
McPheters	89	145	40	cable	Phipps	18	ben	dom	35 / 35	NW NW	6/5	145	ss scr	int 139-144
Lewis	68	95	70	cable	S & H	-	con	dom	20 / 6	NW NW	6	95	oh	
Olson	71	80	flow=2gpm	cable	K & H	20	pc	dom	-	NW NW	6	80	oh	
Randall Realty	64	52	12	cable	Clayville	-	-	dom	-	NW NW	-	-	-	
Root	93	158	60	rot/cab	Phipps	18	ben/pc	dom	-	SW NW	6/5	158	ss scr	int 151-156
Balderston	93	144	40	rot/cab	Phipps	18	ben/pc	dom	-	SW NW	6/5	144	ss scr	int 137-142
Peterson	68	96	13	cable	Kelsey	18	wc	dom	-	SW NW	4	96	oh	T=50F
Endricat L5 B1	86	85	15	cable	Stevens	20	ben	dom	30 / 15	SW NW	6/5	85	ss scr	int 80-85
Bermensolo	87	87	20	cable	Phipps	18	ben/pc	dom	-	SE NW	6/5	86	ss scr	int 81-86
Lewis	72	53	13	cable	Roberts	21	pc	dom	40 / 0	NE SW	6	52	oh	
Hudson	78	100	40	cable	Phipps	18	wc	dom	-	NW SW	6	100	oh	

T 3 N R 1 E Sec. 22

Prepared
by: L. Pearson
Date: 8/07/01

Name	Year	Depth (ft)	SWL (ft)	Method	Driller	Seal Depth (ft)	Seal Type	Use	Yield/DD (gpm) / (ft)	1/4 1/4	Casing Diameter (in)	Casing Depth (ft)	Opening	Comments
Luna	71	80	0	cable	K & H	20	pc	dom	-	NW SW	6	80	oh	
Megis	79	70	3	cable	Stevens	20	pc/wc	dom	25 / 31	NW SW	6/5	70	ss scr	Int 65-70
Blaser	64	132	29	-	Harden	-	-	-	25 / 11	SW SW	-	-	-	
McMaster	81	104	60	cable	Phipps	18	wc	dom	-	SW SW	6	104	oh	
Pape	68	86	25	cable	Clayville	-	-	dom	-	SW SW	4	86	perf	int 81-86
Hoff	67	85	26	cable	S & H	-	-	dom	-	SW SW	6	85	oh	
Thompson	77	80	39	cable	Holbert	-	-	dom	-	SW SW	4	75	oh	
Blaser	67	73	30	cable	S & H	-	-	dom	60 / 4	SW SW	6	73	oh	
Hoff	67	70	30	cable	Randall	-	-	dom	-	SW SW	4	70	oh	
Hoff	67	68	38	cable	S & H	-	-	dom	-	SW SW	4	68	oh	
Hoff	67	67	33	cable	Randall	-	-	dom	-	SW SW	4	67	oh	
Hoff	68	48	26	cable	S & H	-	-	dom	-	SW SW	4	48	oh	
Hoff	68	46	24	cable	S & H	-	-	dom	-	SW SW	4	46	oh	
Hoff	67	43	20	cable	S & H	-	-	dom	-	SW SW	4	43	oh	
Lewis	67	40	20	cable	S & H	-	-	dom	-	SW SW	6	40	oh	
Lewis	67	40	11	cable	S & H	-	-	dom	-	SW SW	6	40	oh	
Scheline	74	37	flow=25gpm	cable	Randall	18	wc	dom	-	SW SW	6	29	oh	
Hancock	79	161	27	cable	Kelsey	25	pc	dom	18 / 6	SE SW	6	161	oh	
Erickson	77	120	50	cable	Phipps	18	wc	dom	-	SE SW	6	120	oh	
Sherman	76	78	30	cable	Randall	18	pc	dom	-	SE SW	6	78	oh	
Lewis	73	73	42	cable	Hunsperger	20	pc	dom	15 / 10	NE SE	6	73	oh	
Bechtold	76	69	28	cable	Randall	18	wc	dom	-	NE SE	6	69	oh	
Statewide Construction	76	65	10	rotary	SOS	22	wc	dom	30 / 16	NE SE	6	59	oh	
Amyx	72	60	10	cable	Hunsperger	20	pc	dom	20 / 5	NE SE	6	60	oh	
Hanson	73	60	10	cable	Hunsperger	25	pc	dom	20 / 10	NE SE	6	60	oh	
Stutzman	76	60	12	rotary	SOS	22	wc	dom	20 / 15	NE SE	6	59	oh	
Taylor L14 B1	76	60	15	rotary	SOS	22	wc	dom	20 / 15	NE SE	6	59	oh	
Lewis	72	56	18	cable	Phipps	18	pc	dom	-	NE SE	6	56	oh	
Lines	76	115	11	cable	Hudson	25	pc	dom	45 / 30	NW SE	6	115	sti scr	int 101-115
Weidner	92	91	36	cable	Boise Valley	18	pc	dom	20 / 84	NW SE	6	91	oh	
Top Construction L13 B2	76	80	9	cable	Hudson	30	wc	dom	45 / 15	NW SE	6	79	oh	
Lewis L7 B1	73	72	4	cable	Hunsperger	30	pc	dom	-	NW SE	6	72	oh	
Lines	75	70	22	cable	Hudson	20	-	dom	40 / 22	NW SE	6	70	sti scr	int 63-70
Jenkins	73	67	12	cable	K & H	20	pc	dom	20 / 7	NW SE	6	67	oh	
Lewis	73	66	18	cable	Hunsperger	30	pc	dom	-	NW SE	6	66	oh	
Settser	77	65	8	rotary	SOS	28	wc	dom	25 / 10	NW SE	6	59	oh	
Smith L1 B2	73	62	14	rotary	Skinner	20	pc	dom	40 / 35	NW SE	6	62	oh	
Horizon Homes	73	60	6	cable	Knie	20	pc	dom	20 / 15	NW SE	6	56	oh	

T 3 N R 1 E Sec. 22

Prepared
by: L. Pearson
Date: 8/07/01

Name	Year	Depth (ft)	SWL (ft)	Method	Driller	Seal Depth (ft)	Seal Type	Use	Yield/DD (gpm) / (ft)	1/4 1/4	Casing Diameter (in)	Casing Depth (ft)	Opening	Comments
Baker	72	56	26	cable	Phipps	18	pc	dom	-	NW SE	6	55	oh	
Hardy	72	53	30	cable	Eagle	20	wc	dom	-	NW SE	6	53	oh	
Jenkins job #4	74	52	12	cable	Knie	18	pc	dom	30 / 0	NW SE	6	50	oh	
Jenkins job #5	74	52	12	cable	Knie	20	pc	dom	30 / 0	NW SE	6	50	oh	
Five Mile Church of the Nazarene	86	84	5	ar	Doty	20	ben	irr	100 / 84	SE SE	6	78	oh	
Jenkins	73	75	37	cable	Knie	20	pc	dom	15 / 10	SE SE	6	70	oh	
Hoff	67	43	23	cable	S & H	-	-	dom	-	SE SE	4	43	oh	
Homco Inc. L20 B1	73	64	6	cable	Crescent	19	ben	dom	60 / 29	?? ??	6	62	oh	
Homco Inc. L4 B3	73	63	6	cable	Crescent	24	pc	dom	60 / 10	?? ??	6	61	oh	
Homco Inc. L5 B3	73	61	12	cable	Crescent	22	pc	dom	28 / 32	?? ??	6	60	oh	
Peterson	71	82	12	cable	K & H	25	-	dom	-	?? NE	6	82	oh	
Peterson	71	77	5	cable	K & H	18	pc	dom	32 / 5	?? NE	6	74	oh	
Jenkins	71	49	10	cable	K & H	20	pc	dom	-	?? NE	6	48	oh	
Jenkins	71	45	9	cable	K & H	15	pc	dom	-	?? NE	6	42	oh	

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. D _____
DRILLING PERMIT NO. _____
Other IDWR No. _____

2. OWNER:
Name City of Meridian #23
Address _____
City _____ State _____ Zip _____

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

N
W E S
Twp. _____ North ☐ or South ☐
Rge. _____ East ☐ or West ☐
Sec. _____ 1/4 _____ 1/4 _____ 1/4 _____
Gov't Lot _____ County _____
Lat : : Long : :
Address of Well Site _____
City _____
(Show 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
Material	From	To	Seals or Pounds		
Red Seal Sand					
#8-16 #3	795	210	14,550#	overhead	
#6-12					

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
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

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:

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

11. WELL TESTS:

- ☐ Pump ☐ Bailor ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. _____ Bottom hole temp. _____

Water Quality test or comments: _____

Depth first Water Encounter _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment) Well

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Y
18"	140	145	GRAY CLAY	
	145	148	LINO Sand	
	148	155	mod to Lino Sand w/ Gray Clay	
	155	158	CLAY	
	158	165	Gray clay w/ little Sand	
	165	168	Lino Sand w/ Gray Clay at end	
	168	171	LINO Sand	
	171	174	GRAY CLAY	
	174	175	LINO Sand	
	175	189	GRAY CLAY	
18"	189	195	GRAY CLAY	

Filled Hole From 625'
To 285' with Bentonite
& Gravel.

RECEIVED

APR - 9 2002

Department of Water Resources

Completed _____ Depth _____ (Measure)
Date: Started _____ Completed _____

13. DRILLER'S CERTIFICATION

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

Company Name _____ Firm No. _____

Firm Official _____ Date _____

and
Driller or Operator _____ Date _____

(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

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.

[illegible]

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