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STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

DEPARTMENT OF WATER RESOURCES

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. 63-322591. Owner: First Security Corporation, Attn: Molly Rigby Phone No. 794-3140Current Address: 401 W. Front Street, Suite 200, Boise, Idaho 837022. Examiner's name: Edward Squires EXAM DATE: July 26, 20113. Accompanied by: L. Pearson Email ed@hydrologicinc.netAddress: 1002 West Franklin Street, Boise, Idaho 83702-5431Relationship to Permit Holder: Hydro Logic Inc. - consultant Phone No. 342-83694. Source: Ground Water tributary to N/A**B. OVERLAP REVIEW**

1. Other water rights with the same place of use: 63-372 (Boise - Kuna Irrigation District - decreed, active); 63-2388 (US Department of the Interior - licensed, active); 63-26671 (Boise - Kuna Irrigation District - decreed, active); These are surface water irrigation rights appurtenant to the property that will be used for irrigation of common areas, lots larger than 1/2 acre, and filling/maintenance of the small storage pond.

2. Other water rights with the same point of diversion: None**C. DIVERSION AND DELIVERY SYSTEM****1. Point(s) of Diversion:**

Ident. No.	Govt Lot	1/4	1/4	1/4	Sec	Twp.	Rge.	County	Method of Determination/Remarks
Southshore II Well #1	6	SW	SE	SW	2	2N	3W	Canyon	Site visit, USGS 7 1/2 -minute Topographic Series maps and GPS

2. Place(s) of Use: Southshore II Subdivision Indicate Method of Determination Site Visit, USGS 7 1/2 -minute topographic m

TWP	RGE	SEC	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
2N	3W	2																	

See attached map
Figure 1.

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

Scale: 1" =

- ☒ Copy of USGS Quadrangle Attached showing location(s) of point(s) of diversion and place(s) of use (Figure1).
- ☒ Aerial Photo Attached (Figure 2)..
- ☒ Photos of Diversion and System Attached (Figures 3-5).

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Southshore II Supply Well #1	Karlington®*	20	unavailable	Robbco® Pumps*	5 HHE 4-stg 4.06 trim
Southshore II Supply Well #1	Karlington®*	20	unavailable	Robbco® Pumps*	5 HHE 4-stg 4.06 trim
					*Note, both motors and pumps are set in one well with a Wesley Tool model 86-120, multiple pump adapter on a single column

**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
Flow-Meter	Electro-Magnetic	ABB	MFE151 – 3E110A004ER	3K62000000 8852	6-inch	Feb. 2009

2. **Measurements** The discharge measurements for this examination were made using the installed magnetic flow-meter listed above and all water-level measurements were taken with "Powers®" electric sounders. On Southshore II Supply Well #1, the installed "ABB" brand flow-meter meets manufacturer's specifications (Appendix A) with respect to minimum straight pipe lengths upstream and downstream of the flow-meter (Figures 3 and 4). The minimum length of straight pipe required in the downstream direction is 2 pipe diameters (12-inches in this case). The minimum length of straight pipe required in the upstream direction is 5 pipe diameters (30-inches in this case). Southshore II Supply Well #1 has 18-inches of straight pipe present in the downstream direction and 36-inches of straight pipe present in the upstream direction. Based on our comparisons of the pump-performance curves with our on-site pumping water level measurements, we believe that the existing high-quality flow-meter and installation is providing accurate discharge readings for all purposes including this licensing examination.

E. NARRATIVE/REMARKS/COMMENTS

The field examination for this permit was carried out on July 26, 2011 by me, Ed Squires, accompanied by Mr. Loren Pearson (hydrogeologist with Hydro Logic, Inc.). Southshore II Supply Well #1 is housed inside of a 12-foot by 16-foot wood-framed and sided pump house (Figure 5). The 10-inch diameter well (Figure 6) is equipped with two Robbco Pump Company 4-stage, Model 5HHE turbine pumps which are combined with a Wesley Tool (multiple pump adapter assembly) set on a single 105-foot length of 4-inch pump column. The design point of both pumps is 230 gallons per minute (gpm) at 218-feet of total dynamic head each (Figure 7). Each pump is driven by a 20 hp, 230 volt, 3600 rpm, Karlington® electrical motor. The 6-inch diameter well head discharge- piping is comprised of a series of 6-inch plumbing fittings and fixtures, including check-valve, tees, couplings, flow-meter, and control valve (Figure 8) prior to exiting through the pump-house floor where it joins with the 6-inch distribution system mainline along Southshore Lane. The pumping plants are each equipped with a variable speed drive unit (Figure 8) designed to operate both pumps directly to the pressurized water distribution system. The well pumps are set to operate within a predetermined pressure range in the distribution system that varies with demand; typically 70-to-90 psi. Of course the well produces somewhat more water against less system pressure compared to when system pressure is higher.

When we arrived on-site, the Well #1 pumps were *not* operating and the line pressure was 60 psi (Figure 3). Non-pumping water level in the well was measured at 13.73 feet below measuring point (bmp) which is 2 feet above ground level (Figure 9); very similar to the non-pumping water level we measured four years earlier (Figure 10 and Calculations section of this report). The totalizing read-out of the flow-meter on our arrival was 294,913 gallons (Figure 3). We activated the pumping plants and measured pumping water levels (Figure 11) and line pressures for about half an hour when the water level was drawn down to 61.2 feet bmp at an average discharge of 500 gpm, a system pressure of 23 psi, and full speed on one pump and a calculated speed of 2,875 rpm out of 3,450 rpm; an observed

frequency of 50 Hertz (Hz) out of 60 Hz available (Figure 12) on the second pump. In other words, the pump system was not running at full speed. Water-level measurements are facilitated through a measuring port on the spool of the Baker® pit-less adaptor, accessed through the removal of the top cap of the sanitary well seal (Figure 9). Although one pump was operating off of its "full speed" performance curve (Figure 7), plotting of the measured TDH against the observed flow rate on the multi-speed performance evaluation curve (Figure 7) shows that the pumping plant is very close to design and performance parameters (see calculations below) and the well was more productive than measured four years earlier during the first hydraulic testing of the well (Figure 11); probably because the well continued to develop with use.

Ed Squires and Loren Pearson conducted longer-term hydraulic testing of the Well #1 on June 29th, 2007 and developed the hydrographs shown as Figures 10 and 11. We repeated an abbreviated (short-term) constant-rate test of the Well #1 on July 26th, 2011 (Figure 11). Discharge was through a 4-inch diameter flushing line which extends to a nearby irrigation/aesthetic amenity pond (Figure 13). According to our measurements, the pump performance curves (Figure 6), installed HP, and available discharge piping, it appears that Well #1 is easily be capable of the instantaneous discharge rate of Permit No. 63-32259 (0.33 cfs or 148 gpm) pumping against reasonable summertime system pressures in the range of 65-to-70 psi (see calculations section). The pumping water levels and calculated specific capacity measured during the field-licensing examination correspond nearly to those measured during the initial hydraulic testing of the new well in 2007 (10.4 gpm/ft in 2007 and 10.5 gpm/ft in 2011). Therefore, the installed capacity (pumping plant) and the well itself are both capable of the instantaneous discharge rate requested. The well will produce shorter-term discharge rates in excess of 500 gpm during flushing operations or a fire-flow situation (pumping against zero-to-20 psi) but these instances are not considered typical. (Figure 12) The two-pump system is designed to provide the domestic water supply to the planned 15 homes efficiently using only one pump while also permitting fire-flow (500 gpm) quantities of water using both pumps.

No homes have yet been constructed within the subdivision but the water distribution system is installed beneath the paved streets including stub-outs to all 15 lots (Appendix B), fire hydrants, and an entrance water feature (Figure 13). Electrical power has also been extended to all lots. The water system is pressurized and small quantities of irrigation water were being delivered to subdivision trees during our site visit. Other useful details on the water system are included in Appendix C).

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?

All conditions except Condition No. 1 of the Permit No. 63-32259 (Appendix D) have been met. Condition No. 1 states "Proof of application of water to beneficial use shall be submitted on or before June 1, 2011." Proof of beneficial use was not submitted on this date because of circumstances related to the downturn in the housing/development market that left the previous owner, Hendershot Construction, in bankruptcy and the property returned to the financing bank (Idaho Independent Bank). IDWR's notices of Proof Due were sent to Hendershot Construction where they were either ignored or the entity no longer existed. In other words, the water right holder was not aware of the impending lapse of the Permit. Notice of Proof Due was also sent to Hendershot's consultant, Ed Squires, who made IDWR aware immediately that he had not been paid for previous work for the company and that he was not contracted to provide additional services to Hendershot Construction. Squires did attempt to contact Idaho Independent Bank to make them aware of the imminent lapse of the water right but he

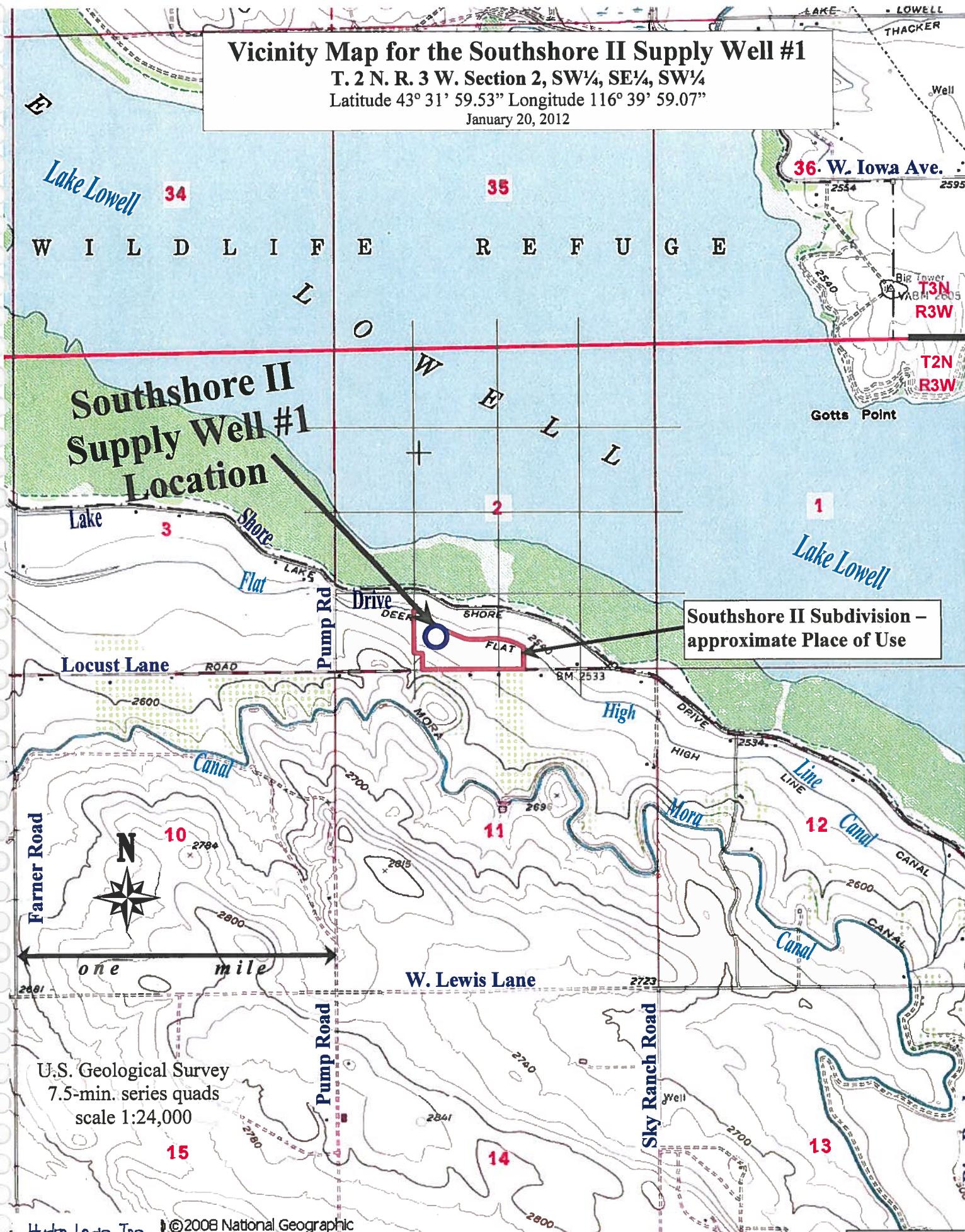
FIGURES

Vicinity Map for the Southshore II Supply Well #1

T. 2 N. R. 3 W. Section 2, SW¼, SE¼, SW¼

Latitude 43° 31' 59.53" Longitude 116° 39' 59.07"

January 20, 2012



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

Hydro Logic, Inc.
Boise, Idaho

©2008 National Geographic

Figure 1

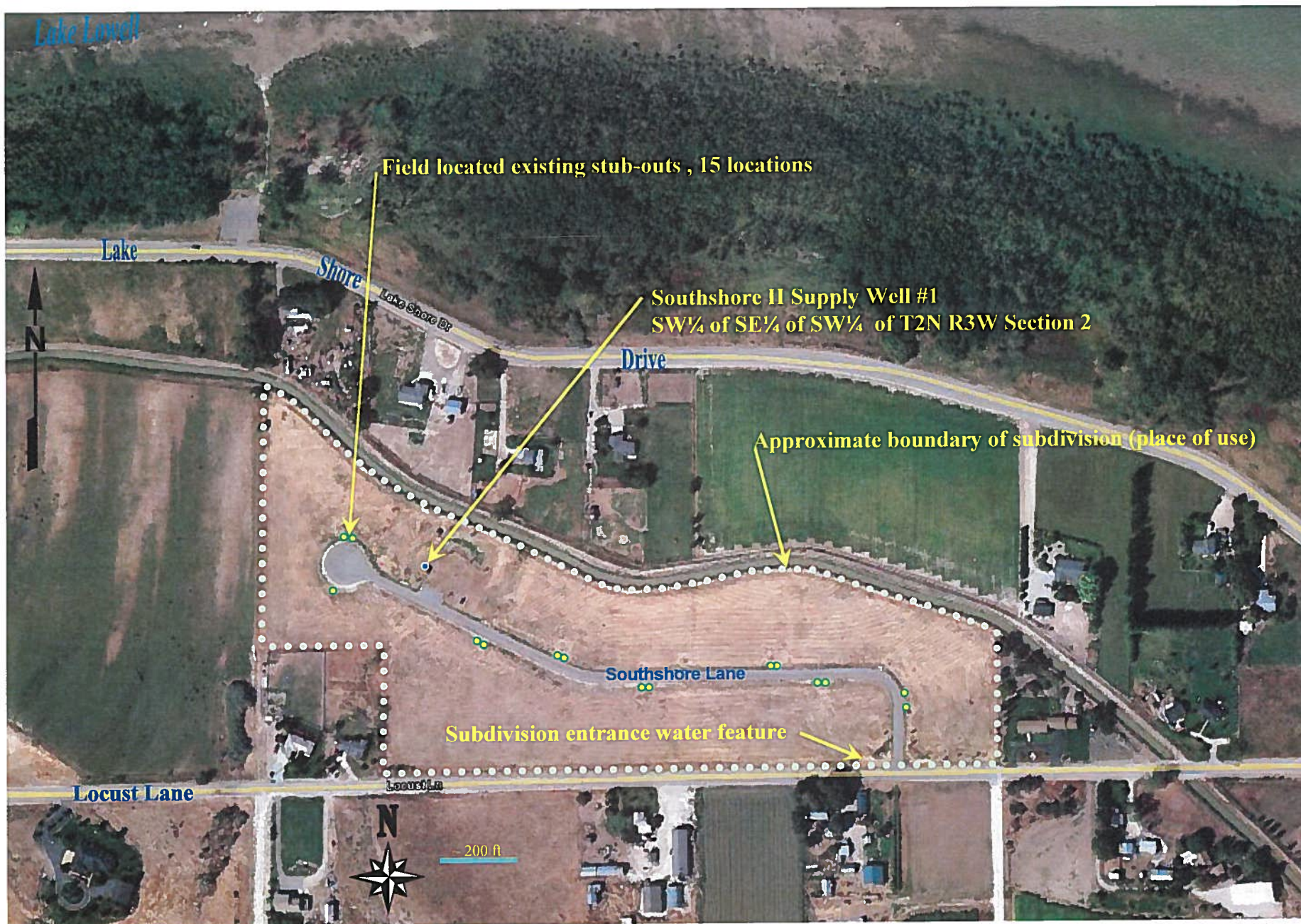


Figure 2.

Figure 2. Annotated aerial photograph of the Southshore II Subdivision with well location and showing the approximate locations of the field located water service stub-outs for the 15 lots. Map from Google Earth, image date: 9-1-2011.

Figure 3. Photos of the 6-inch flow meter and line-pressure gauge for Southshore II Supply Well #1

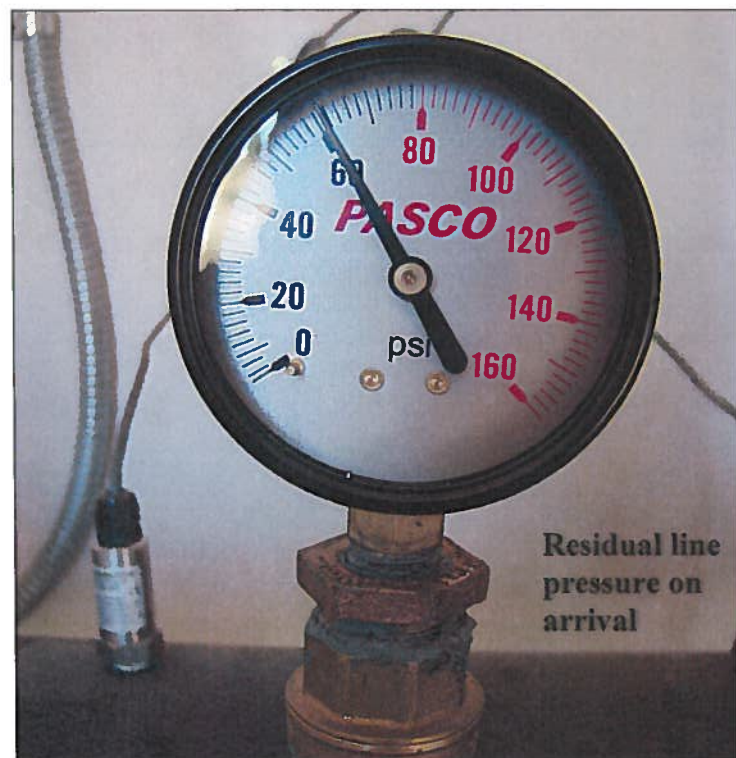
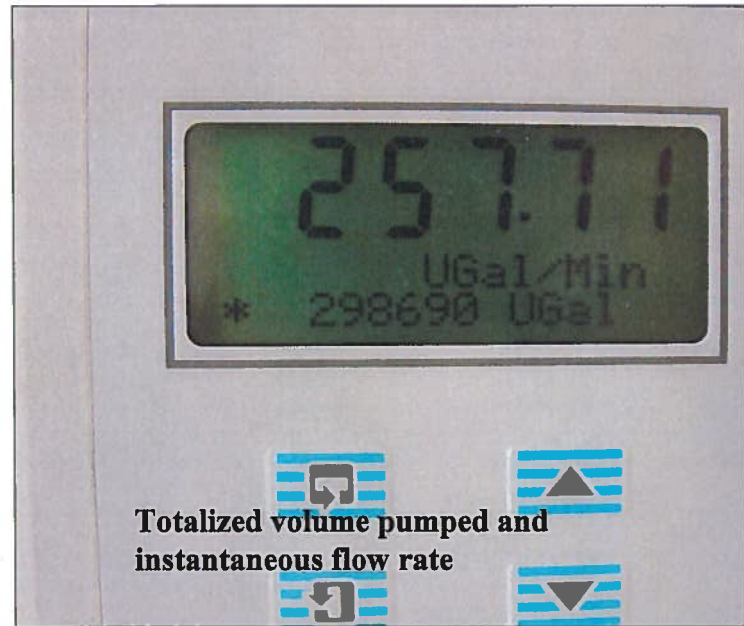
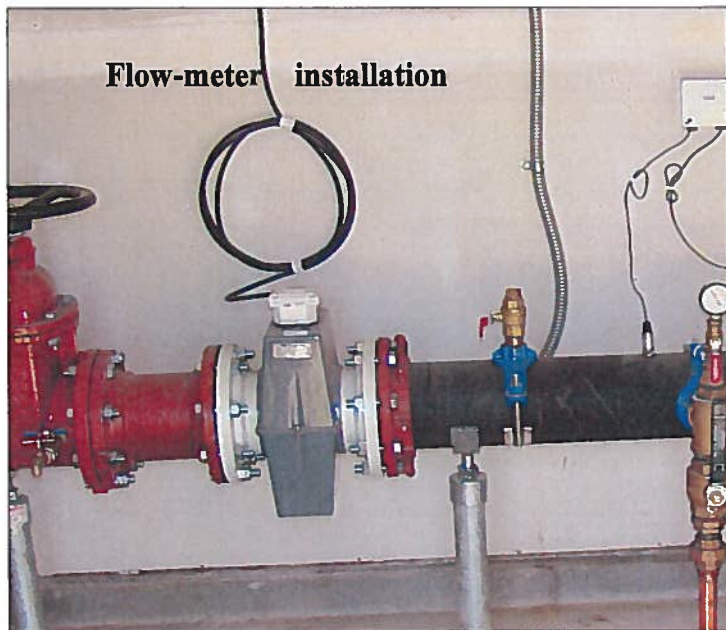
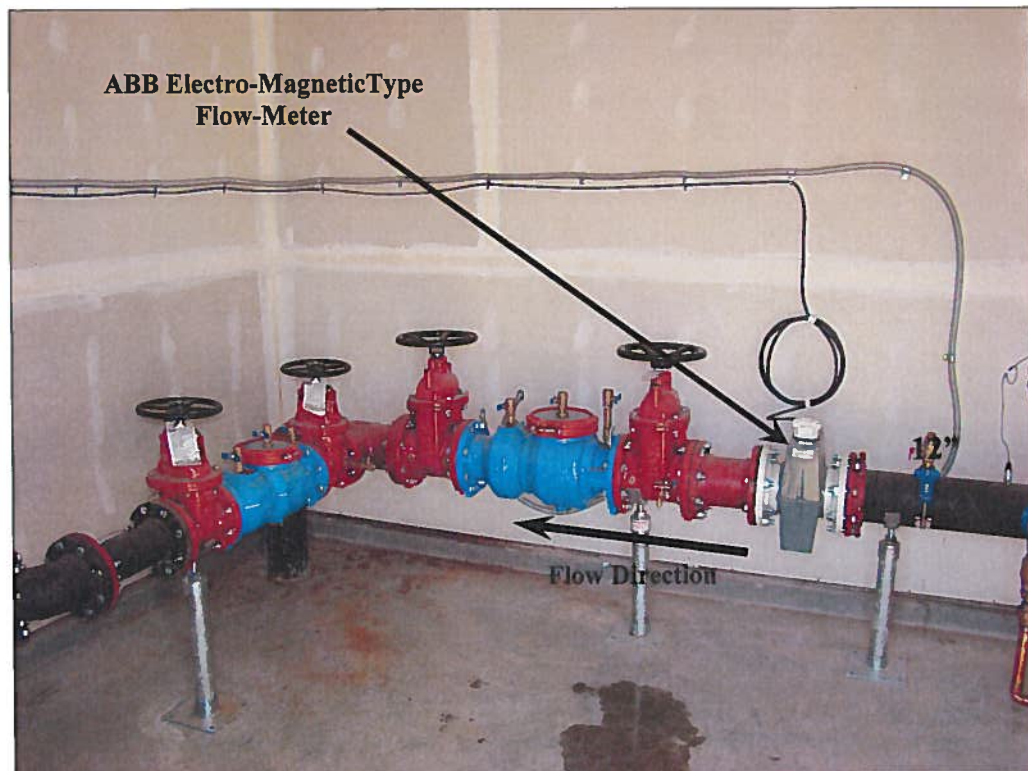
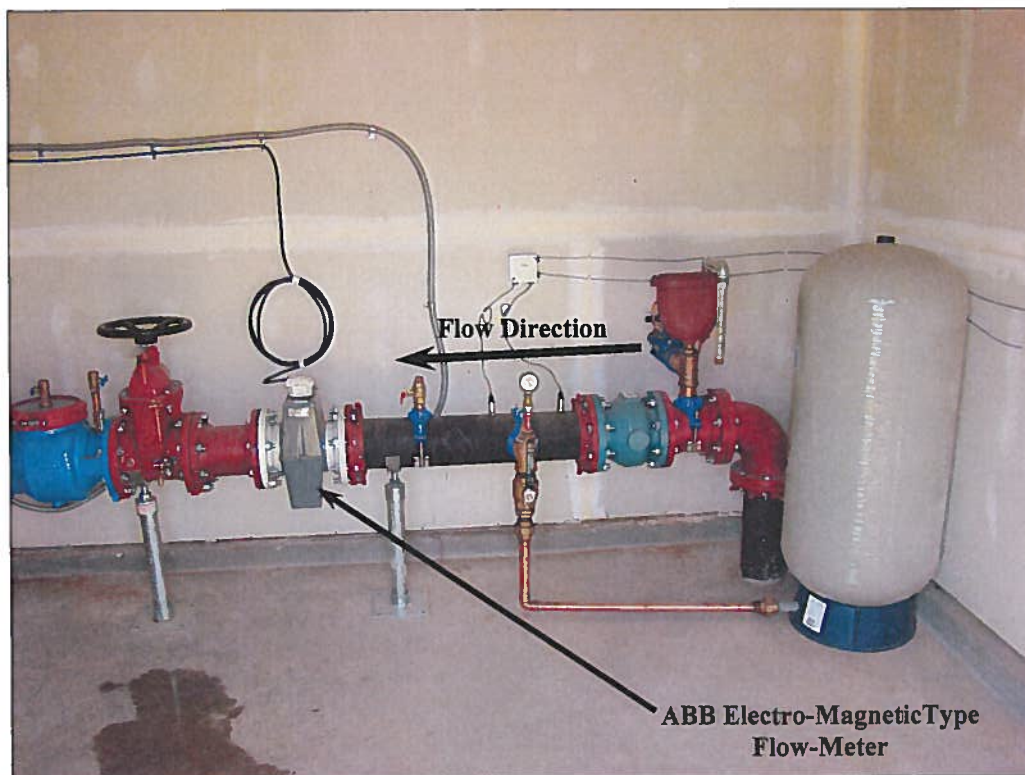


Figure 3. July 26, 2011 photographs of the 6-inch ABB Electro-Magnetic flowmeter and Pasco line pressure gauge in the Southshore II Supply Well #1 discharge piping.

Figure 4. Photos of the Flow Meter for Southshore II Supply Well #1

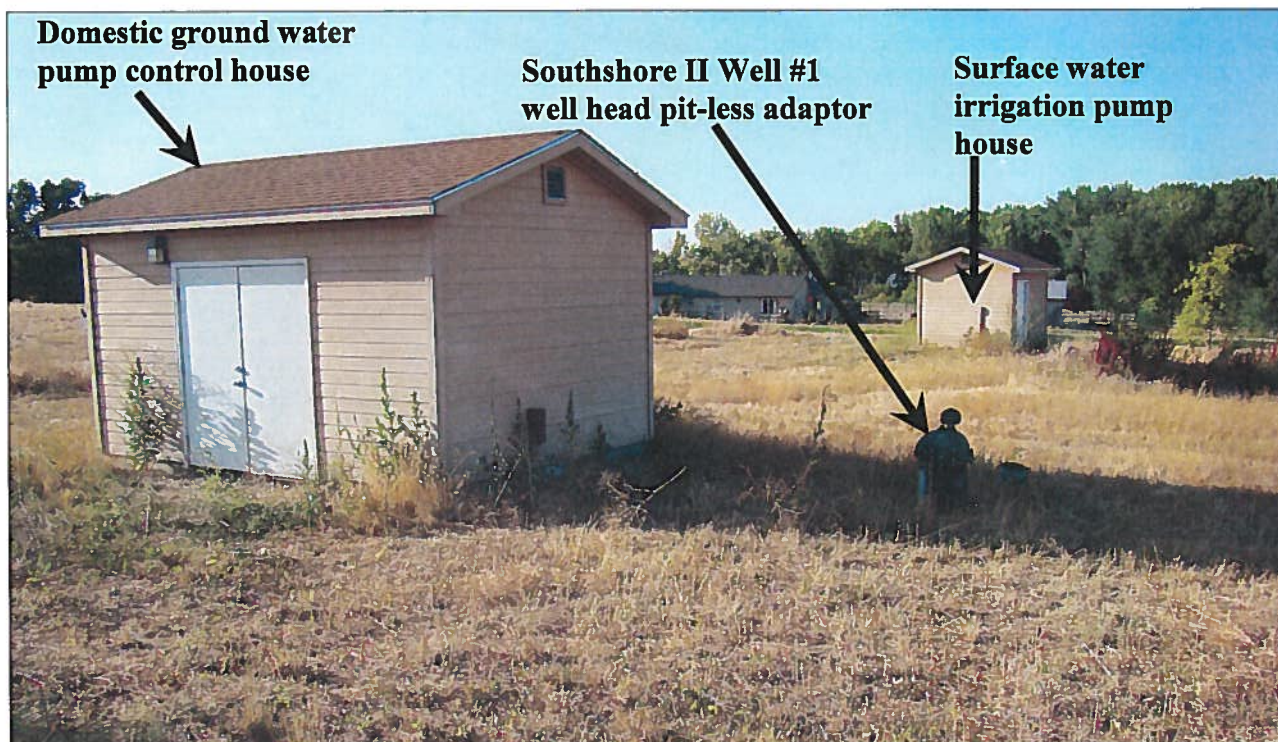


Photos of ABB flow-meter as installed in well head plumbing at the Southshore II Supply Well #1 facility.

Hydro Logic, Inc.
Boise, Idaho

Figure 4.

Figure 5. Photos of Southshore II Subdivision supply Well #1 pump control house.

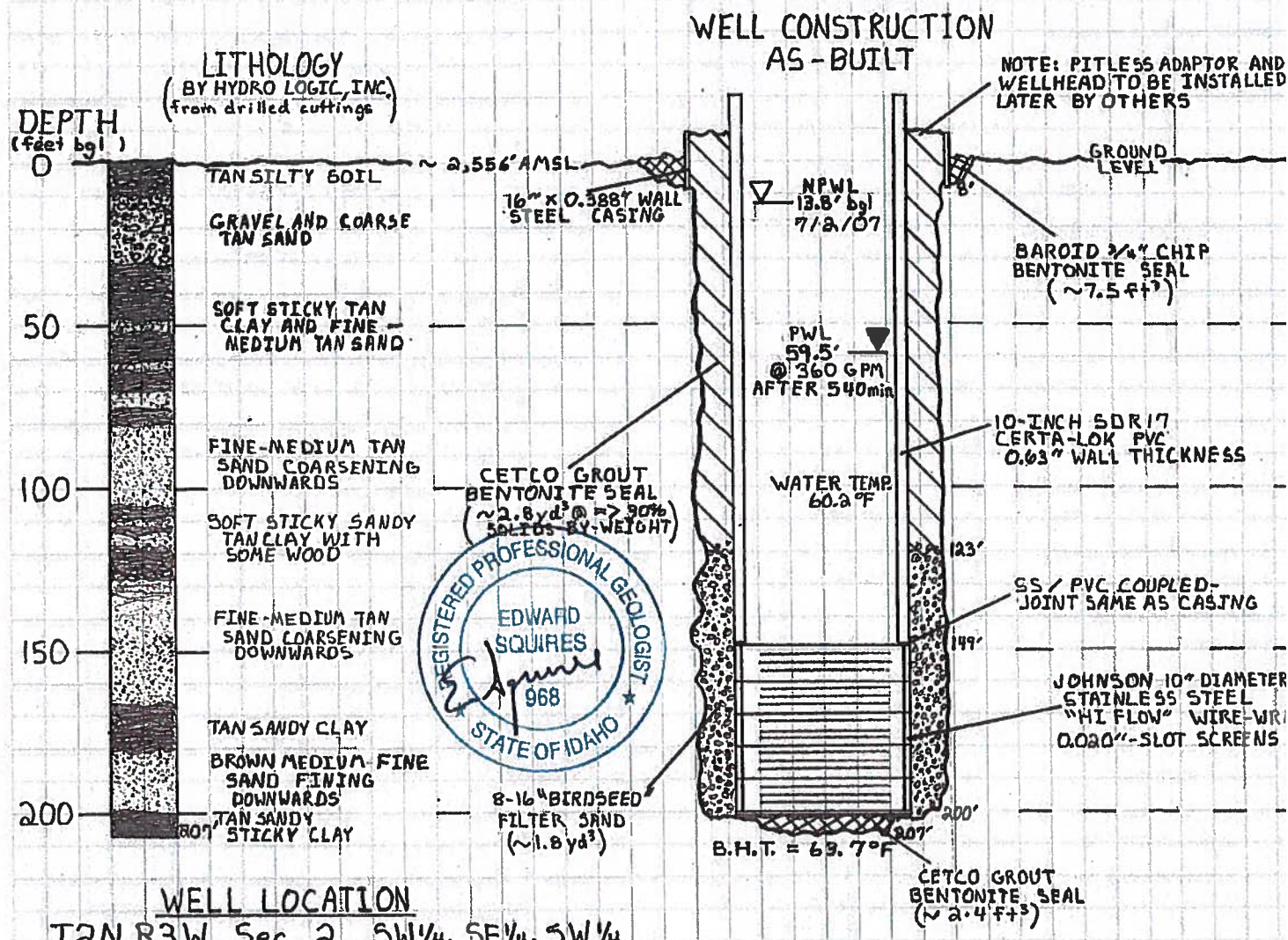


a) July 26, 2011 photograph looking northwest at Well #1 pump house.



b) Photo looks southwest at Well #1 pump house, LP fuel and backup power generator.

CALCULATIONS AND DESIGN DATA		PREPARED BY	HYDRO LOGIC, INC.
SUBJECT	SOUTHSORE II SUBDIVISION SUPPLY WELL #1	DATE	09-24-07
AS-BUILT DETAILS OF FINAL WELL CONSTRUCTION		SHEET	1 OF 1



WELL LOCATION

T2N R3W Sec. 2 SW1/4, SE1/4, SW1/4
N 043° 31' 59" W 116° 39' 59"

- WELL COMPLETED JULY 2, 2007 BY:
TREASURE VALLEY DRILLING AND PUMP, INC.
- WELL WAS DRILLED WITH DIRECT MUD-ROTARY
- WELL DESIGN BY:
HYDRO LOGIC, INC.
- PUMP TEST BY:
LAYNE OF IDAHO AND
HYDRO LOGIC, INC.
- WELL BUILT FOR:
HENDERSHOT CONSTRUCTION, INC

Hydro Logic, Inc.

1002 West Franklin, Boise, Idaho 83702-5431
Off. (208) 342-8369 Fax (208) 342-3100

DRAWN BY L. PETERSON 09-24-07

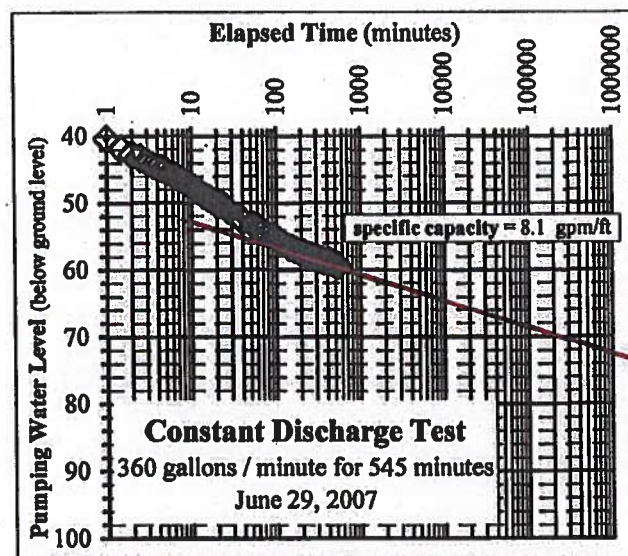


Figure 7. Pumping Plant Performance Curve at Design Point for Southshore II Supply Well #1

Pump Data Sheet - Robbco

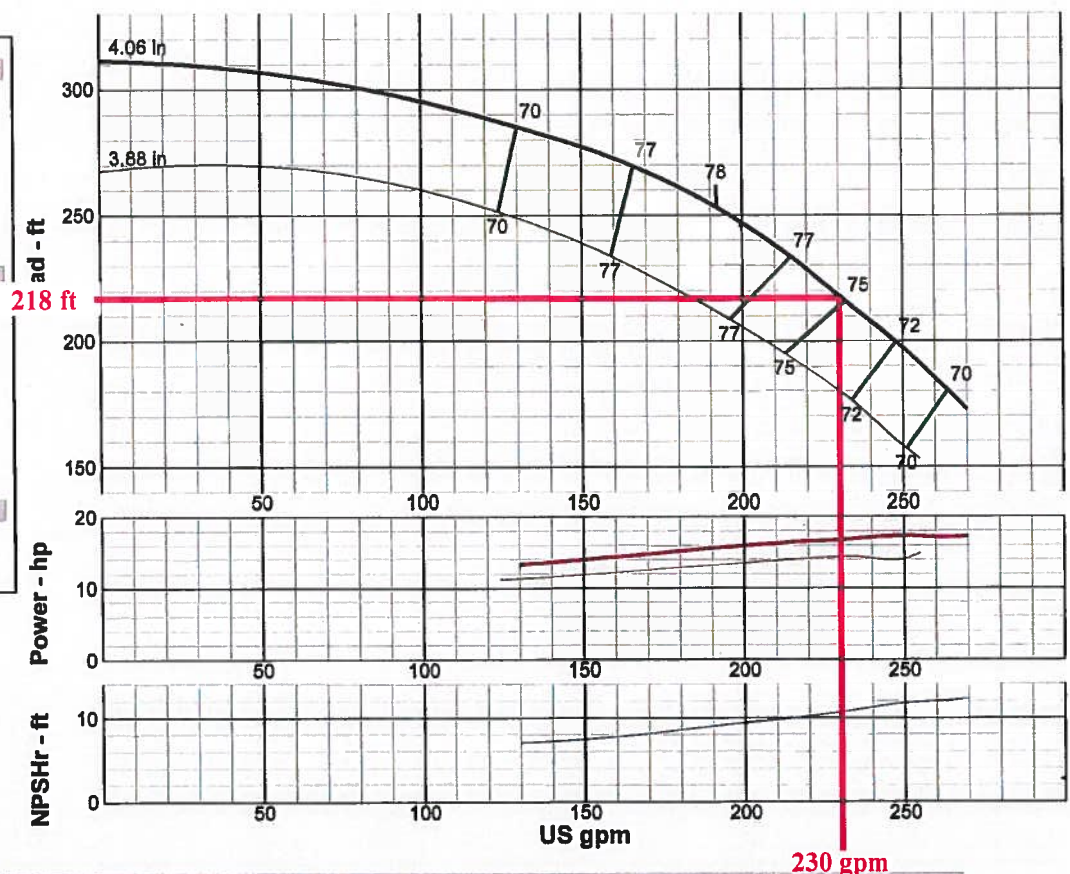
Company: Hydro Logic, Inc.
Name: Southshore II Supply Well #1
Date: 7/28/2011



Pump:		Search Criteria:	
Size: 5HHE (4 stage)		Flow: 200 US gpm	Head: 245 ft
Type: SUBMERSIBLE	Speed: 3450 rpm	Fluid:	
Synch speed: 3600 rpm	Dia: 4.06 in	Water	Temperature: 60 °F
Curve:	Impeller:	SG: 1	Vapor pressure: 0.2563 psi a
Specific Speeds:	Ns: 2102	Viscosity: 1.105 cP	Atm pressure: 14.7 psi a
	Nss: ---	NPSHa: --- ft	
Dimensions:	Suction: 4 in	Motor:	
	Discharge: 4 in	Standard: NEMA	Size: 20 hp
Vertical Turbine:	Bowl size: 5.4 in	Enclosure: SUB	Speed: 3600
	Max lateral: 0.25 in		Frame: 8"
	Thrust K factor: 3.5 lb/ft	Sizing criteria: Max Power on Design Curve	

Pump Limits:	
Temperature: 120 °F	Power: --- hp
Pressure: 340 psi g	Eye area: --- in²
Sphere size: 0.22 in	

--- Data Point ---	
Flow:	230 US gpm
Head:	218 ft
Eff:	75.2%
Power:	16.8 hp
NPSHr:	10.7 ft
--- Design Curve ---	
Shutoff head:	312 ft
Shutoff dP:	135 psi
Min flow:	--- US gpm
BEP:	78% @ 192 US gpm
NOL power:	17.4 hp @ 248 US gpm
--- Max Curve ---	
Max power:	17.4 hp @ 248 US gpm



Performance Evaluation:					
Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
240	3450	208	73.5	17.1	11.3
200	3450	246	77.7	16	9.43
160	3450	272	75.8	14.5	7.84
120	3450	287	68.1	13	6.8
80	3450	---	---	---	---

Figure 7.

Hydro Logic, Inc.
Boise, Idaho

Selected from catalog: Robbco Submersible.60 Vers: 1.1

Figure 8. Photographs of the discharge piping for Southshore II subdivision supply Well #1

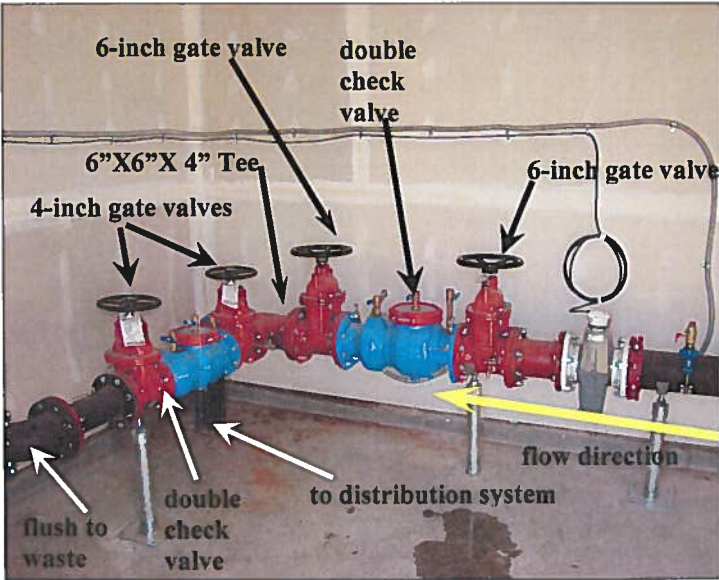
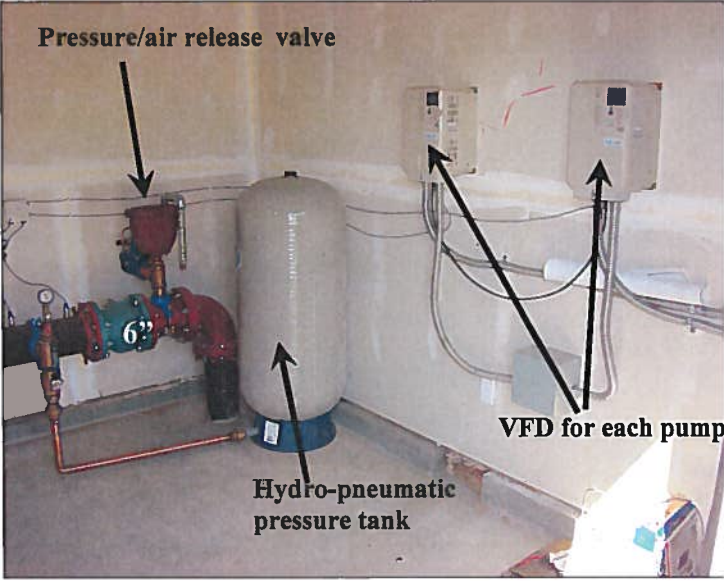
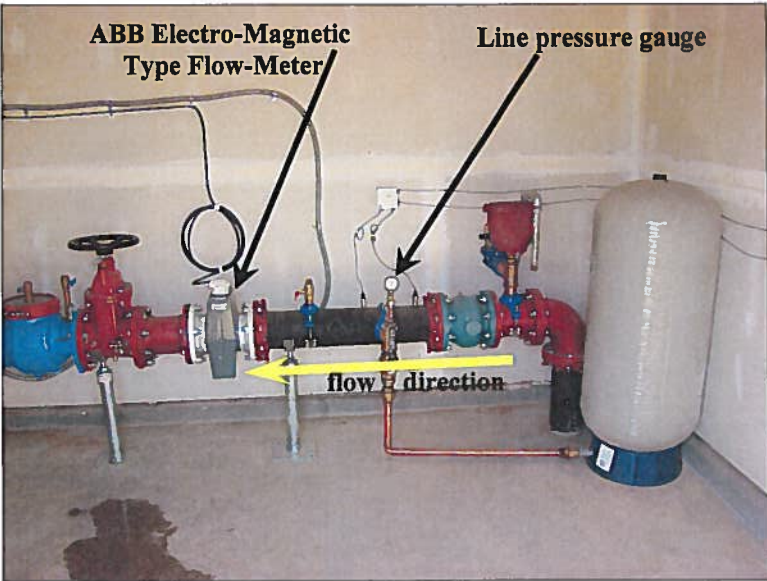


Figure 8.

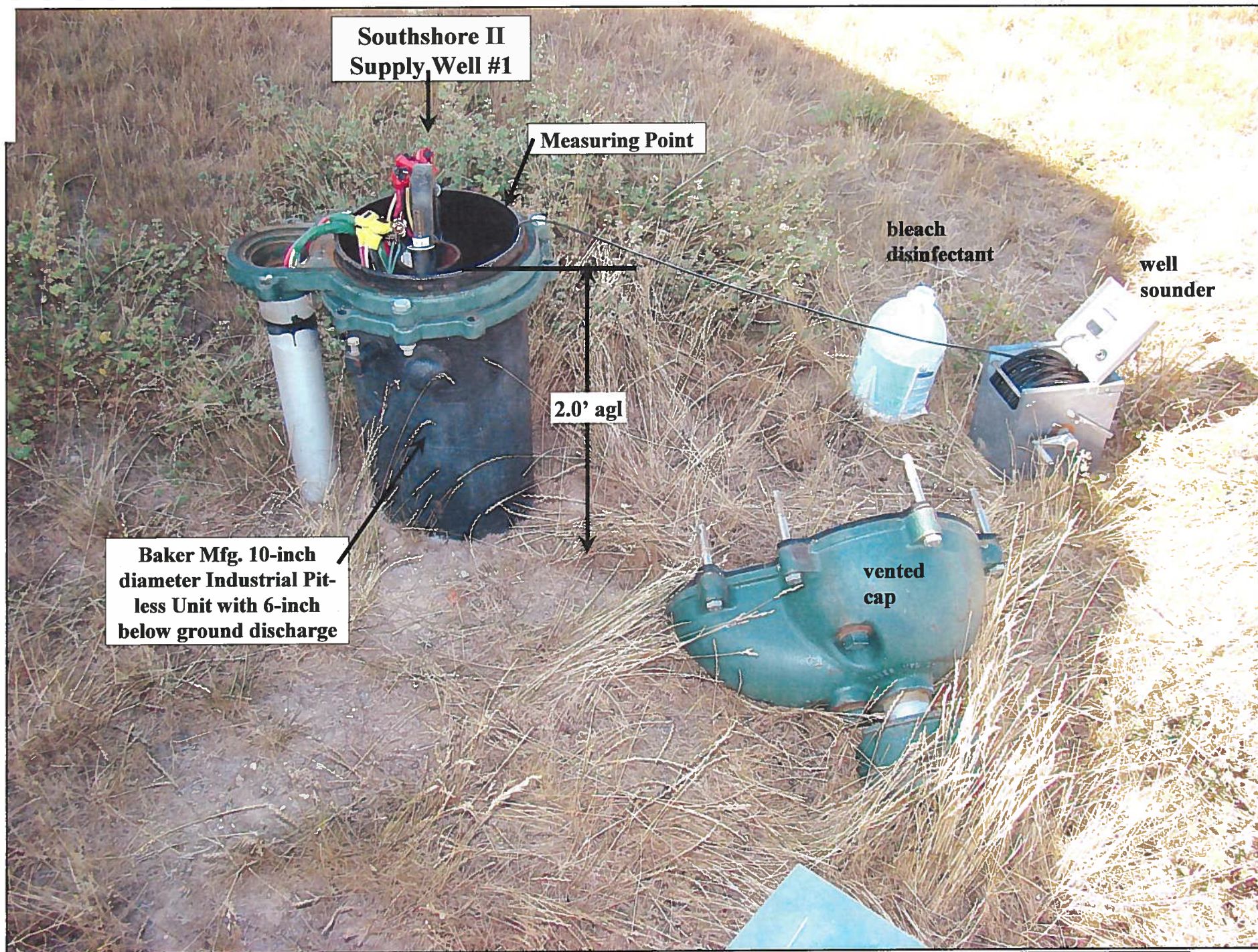


Figure 9. Open well head casing (pit-less adaptor) of the Southshore II Well #1 during water level measurements. There are no designated monitoring tubes installed but water levels were able to be measured between the pump column and casing.

Southshore II Subdivision Supply Well #1

Stepped-Discharge Test - 123, 210, 305, and 410 gallons / minute July 2, 2007

Field POBU Exam Test - 500 gallons / minute July 26, 2011

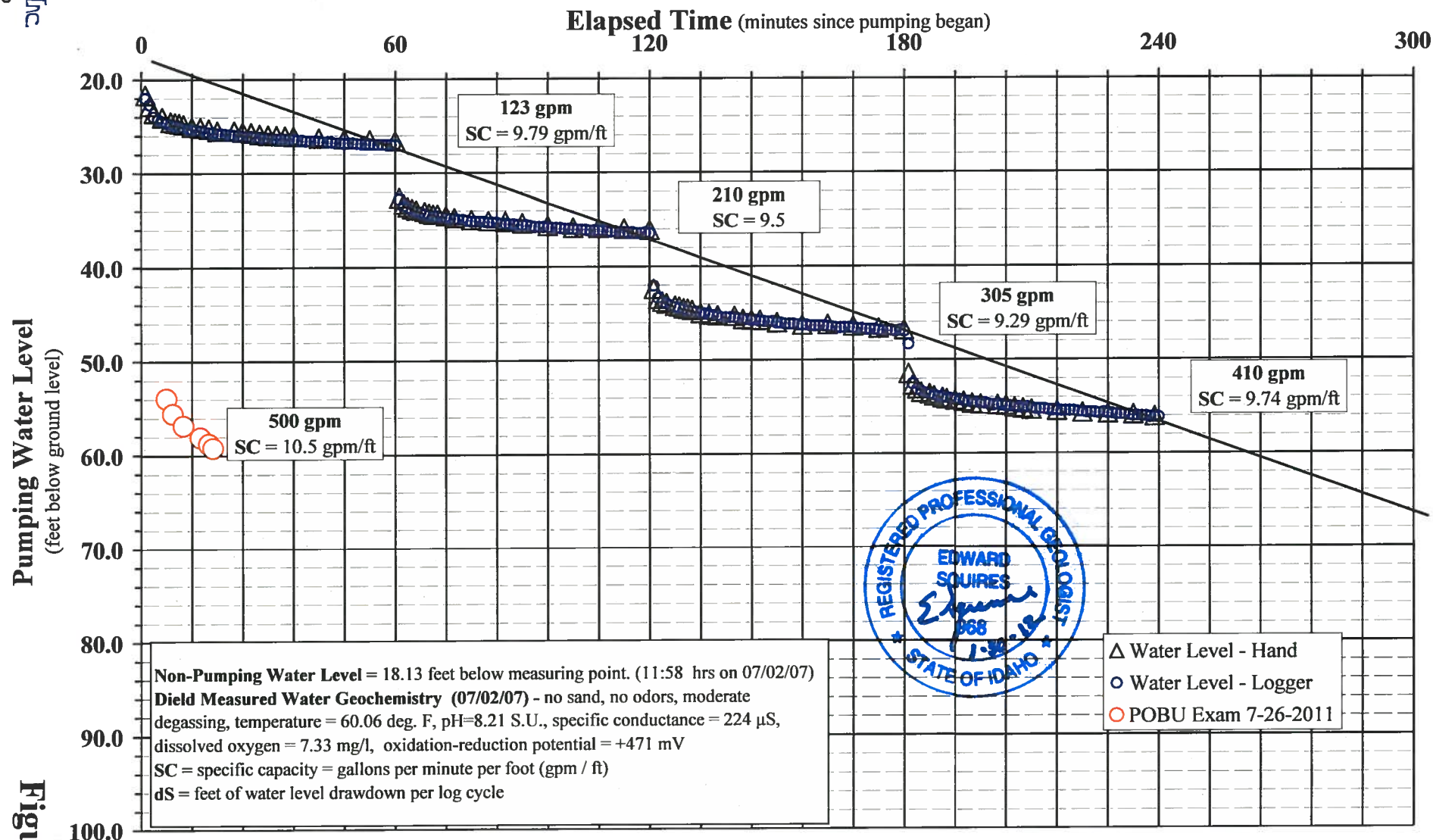


Figure 10. Specific capacities of stepped-discharge test at 123, 210, 305, and 410 gallons / minute of the Southshore II Supply Well #1 from original test conducted on 7/2/2007 compared with specific capacity conducted during a Proof of Beneficial Use Field Examination on 7/26/2011.

Southshore II Subdivision Supply Well #1

Constant-Rate Discharge Test - 360 gallons / minute June 29, 2007

Constant-Rate Discharge Test - 500 gallons / minute July 26, 2011

Elapsed Time (minutes since pumping began)

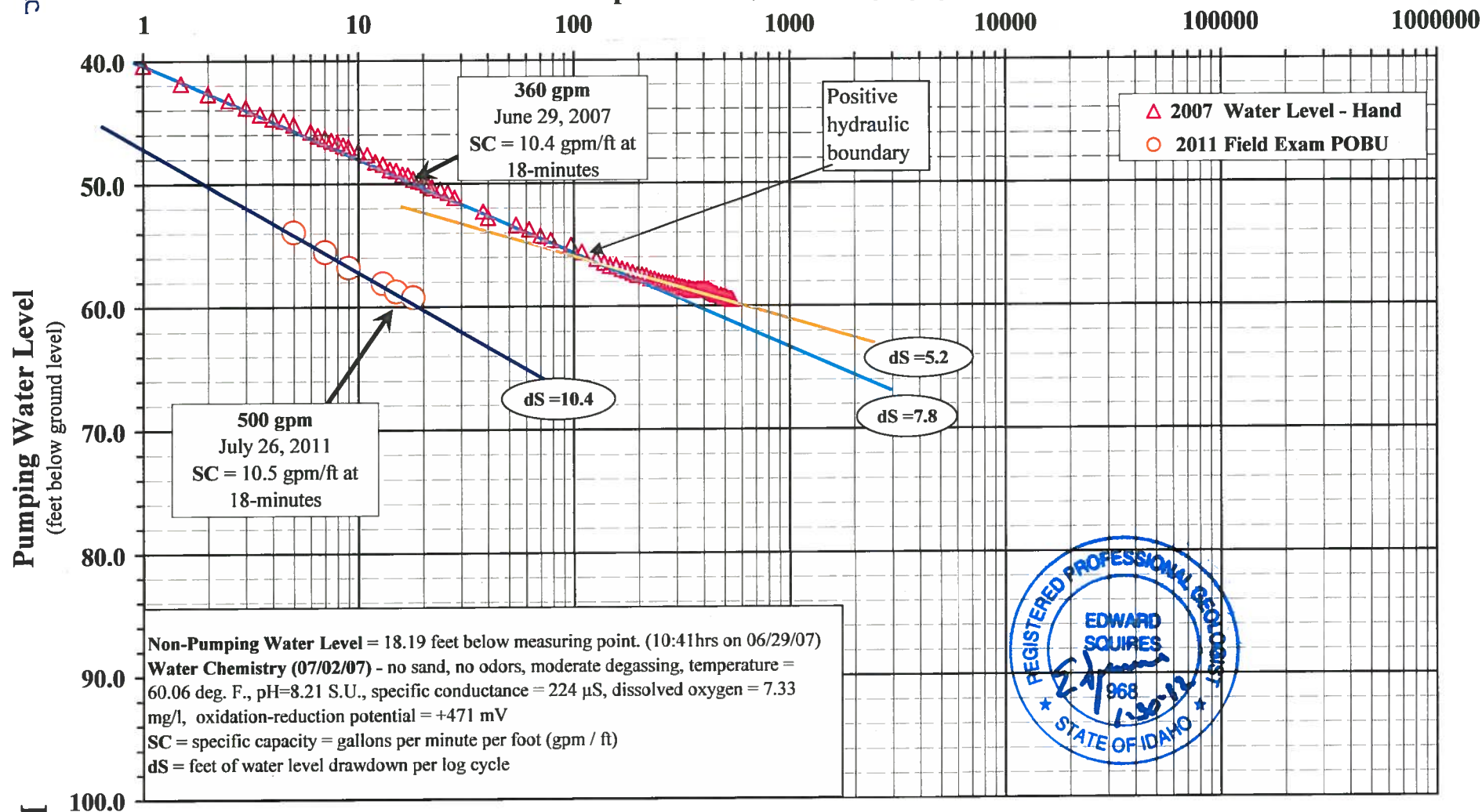


Figure 11. Semi-logarithmic plots comparing the original 6-29-2007 constant-rate discharge test at 360 gallons/minute of the Southshore II Supply Well #1 with a 7-26-2011 shorter-term 500 gpm constant rate test during the Proof of Beneficial Use field licensing examination for water right 63-32259. Because the higher capacity 500 gpm test SC is the same as the 360 gpm SC, it appears that the well yield has increased with use of the well over time. Both constant-rate tests are by Hydro Logic, Inc.

Figure 12. July 26, 2011 photographs of the digital read-out of the Southshore Well #1 flow-meter showing instantaneous pumping rate and totalized gallons pumped along with the corresponding distribution system line pressure (gage) during the Proof of Beneficial Use field-licensing examination.

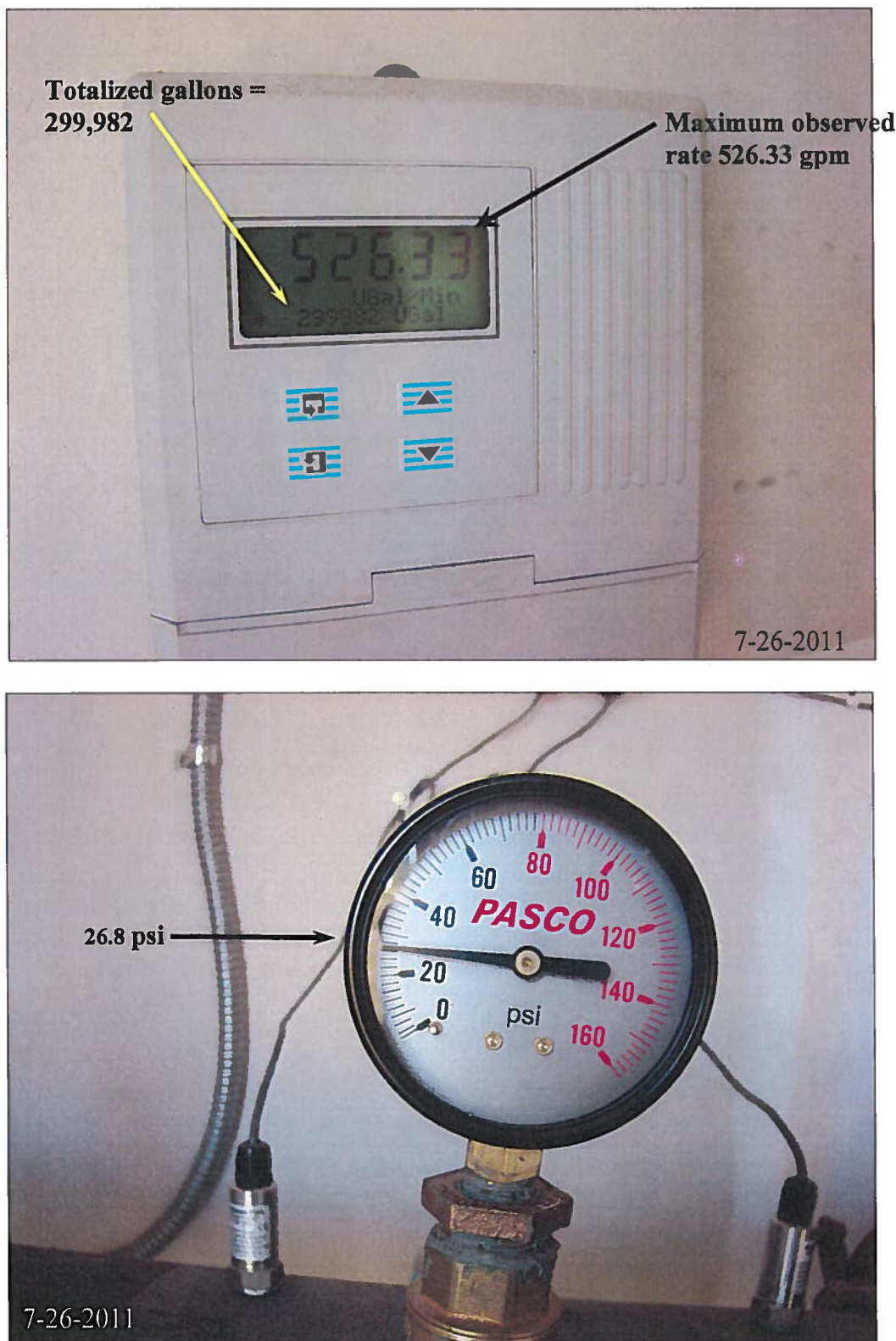
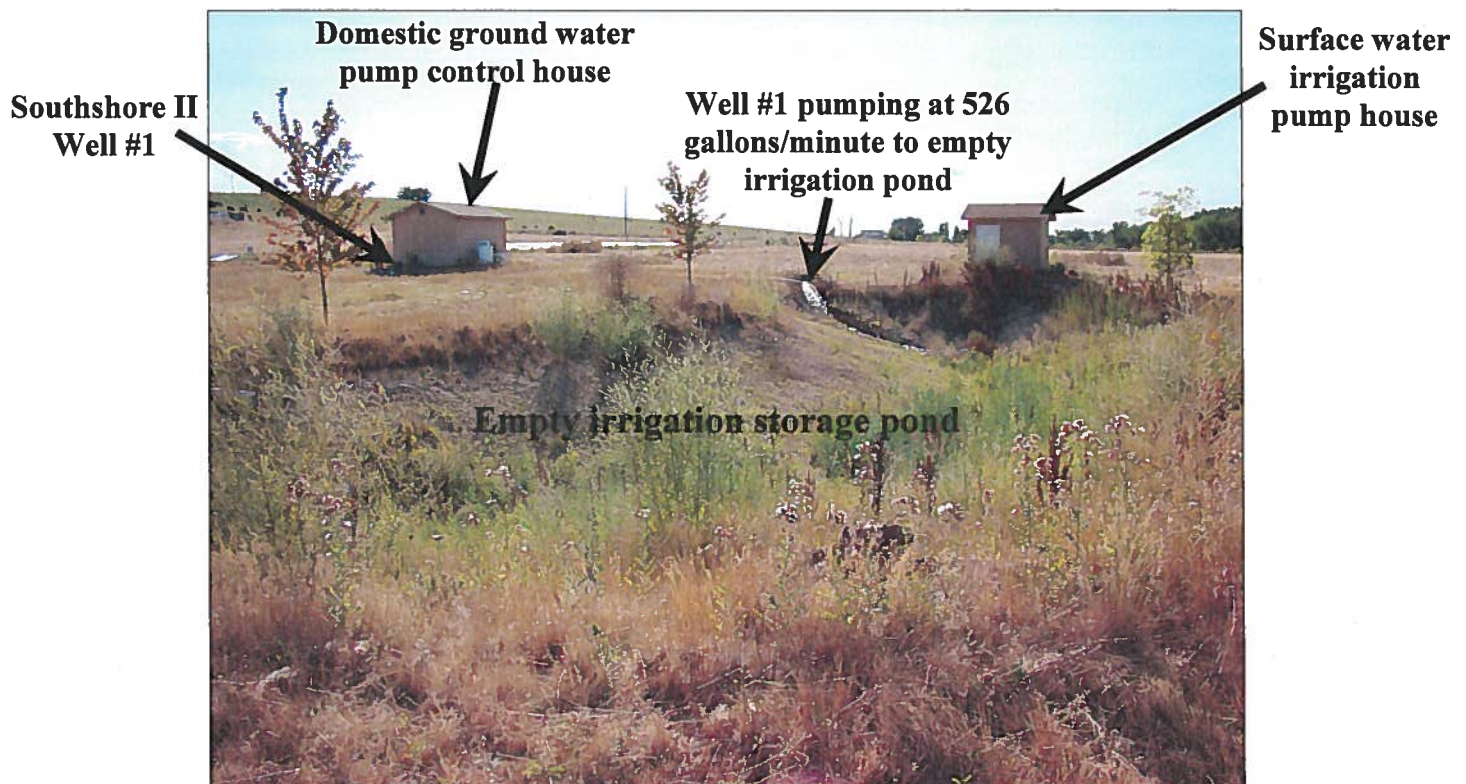


Figure 13. Photographs of Southshore II Well #1 pumping to pond and front entrance water feature.



a) June 26, 2011 photograph looking northwest at the Southshore II water system pump control houses, flushing line, and empty irrigation storage pond.



b) June 26, 2011 photograph looking southwest from the subdivision entrance with the subdivision entrance water amenity in the foreground.

Figure 13.

APPENDICES

Appendix A.

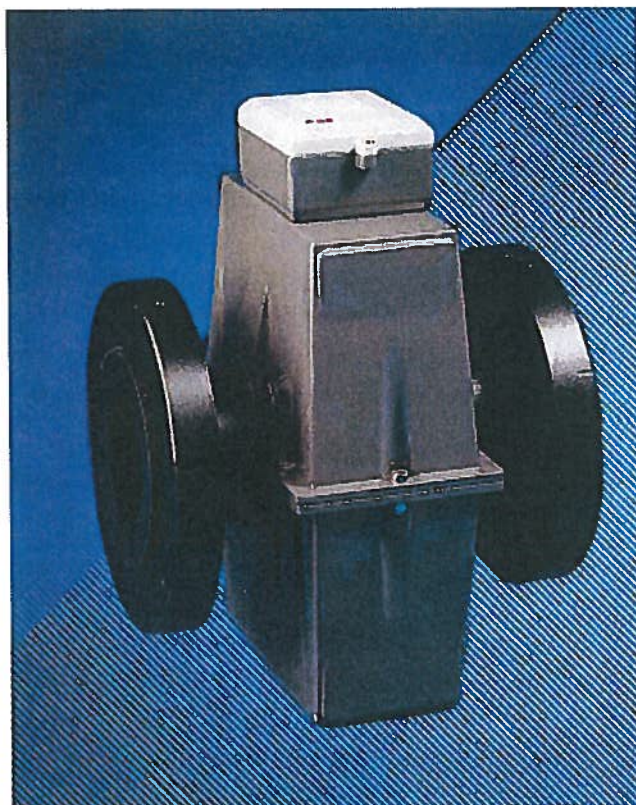
**Manufacturer's installation specifications for the 6-inch ABB
electro-magnetic flow-meter installed on the Southshore II Supply Well #1**

Data Sheet

D-FMP-MagMaster-MFE_8 (US)

Electro-Magnetic Flowmeters Sensors MagMaster MFE

- **Unrivalled flow performance**
– $\pm 0.2\%$ accuracy.
- **Pulsed DC Technology Incorporates Benefits of AC Systems**
- **Operable flow range of 1000:1.**
- **Two-year warranty.**
- **Submersible and buriable sensors.**
- **FM approved and CSA certified for hazardous locations.**
- **Bi-directional flow metering system.**
- **Designed, manufactured and calibrated to internationally accepted standards**
 - ISO 9001/UKAS(NAMAS)/NIST/NATA
 - insures reliable, maintenance-free operation
- **CalMaster In-situ verification system enabled**



**MagMaster MFE
Electro-Magnetic Sensors**

INTRODUCTION

MAGMASTER flowmeters provide new levels of flow measurement and performance with an exclusive sensor design featuring ultra-linear magnetics and a patented signal processing system. The MagMaster utilizes pulsed DC technology coupled with the benefits of AC design.

Two modes – Process MAGMASTER and Slurry MAGMASTER are available in a wide range of sizes and options including electrode materials, liner materials and transmitter capabilities.

SPECIFICATIONS

Configuration:

Transmitter may be integral with sensor for sizes 1/2 to 16-inches (15-400mm) or remote from sensor for all sizes.

Separation (remote transmitters):

The maximum cable length is 330 feet. Longer lengths are special order.

Accuracy (under forward flow reference conditions) with MagMaster Transmitter

Flanged sensors:

Display, Serial communications, Frequency output:

$\pm 0.2\%$ of reading or ± 0.003 ft/sec (0.001 m/s) (whichever is greater) up to a maximum velocity of >49 ft/sec (15 m/s). See Figure below.

Analog output:

As Frequency output plus ± 0.008 mA.

Pressure effect:

Less than 0.15% over the operating range of the instrument.

Temperature effect:

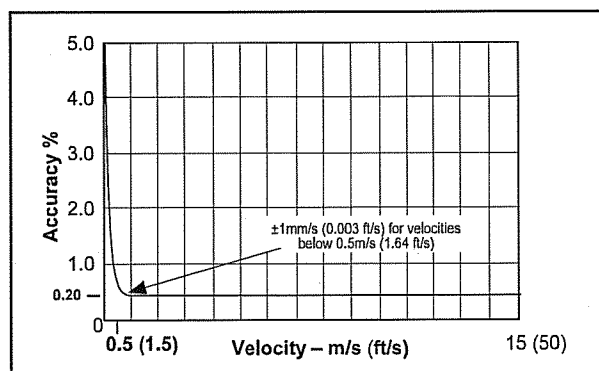
Sensor: $< \pm 0.03\%$ of rate per 10°C .

Repeatability & Reproducibility:

$\pm 0.05\%$ or ± 0.0008 ft/s (± 0.25 mm/s), whichever is greater.

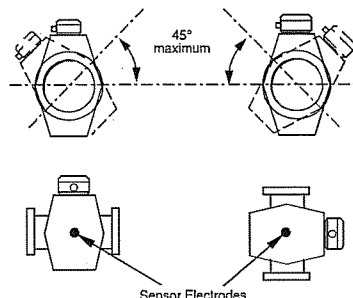
Conductivity:

Liquids and slurries having a conductivity of not less than $5\mu\text{S/cm}$ ($5\mu\text{mho/cm}$).



Mounting:

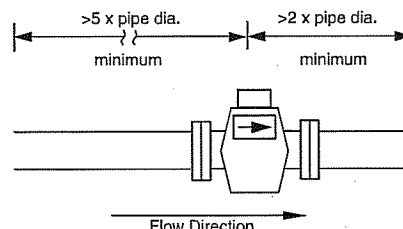
Directly into pipeline at any orientation. Electrodes can not be in vertical plane. Flow must be up if installed in a vertical pipe.



Recommended Mating Pipe Conditions:

Upstream: 5 to 10 diameters straight pipe depending on performance requirements and upstream disturbance.

Downstream: 2 to 3 diameters straight pipe depending on performance requirements and downstream disturbances.



Power consumption:

Less than 20VA with transmitter.

Hazardous Area Certification:

FM approved and CSA certified for Class I, Div. 2, Groups A, B, C, D hazardous locations.

NOTE: FM approved sensors for hazardous locations include an intrinsic safety shunt circuit for the electrodes allowing for a Div. 1 rating inside the pipe. The circuit is located in the larger than standard terminal box housing. CSA certified sensors for hazardous locations may or may not include the circuit, depending on the rating inside the pipe.

Appendix B.

**June 26, 2011 photographs of the Southshore II subdivision utility
“stub-ins” for the planned 15 home lots and the entrance water feature.**



Water utility "stub-ins" for Southshore II subdivision Lots 1 and 2.



Water utility "stub-ins" for Southshore II subdivision Lots 3 and 4.



Water utility "stub-ins" for Southshore II subdivision Lots 5 and 6.



Water utility "stub-ins" for Southshore II subdivision Lots 7 and 8.



Water utility "stub-ins" for Southshore II subdivision Lot 9.



Water utility "stub-ins" for Southshore II subdivision Lots 10 and 11.



Water utility "stub-ins" for Southshore II subdivision Lots 12 and 13.

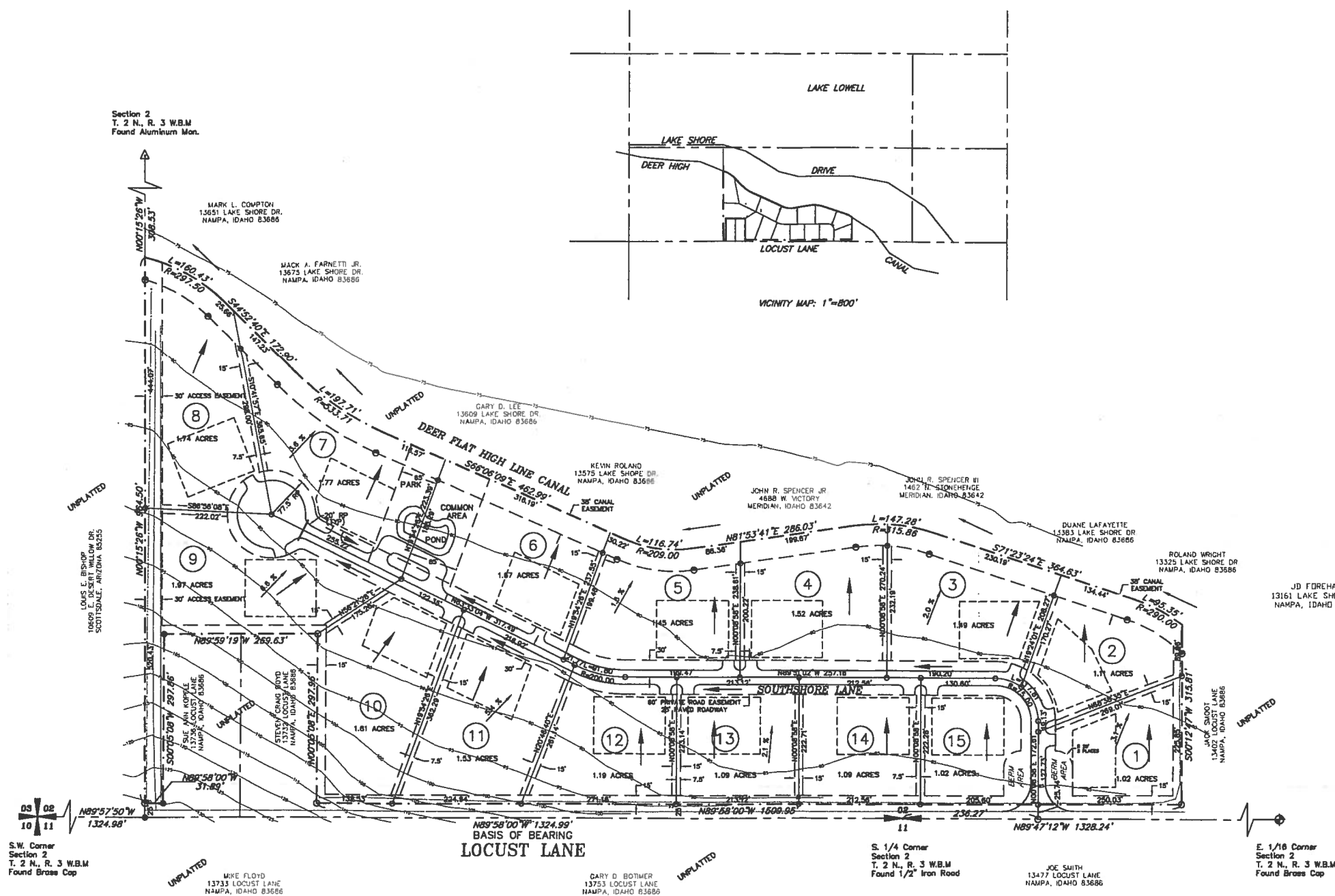


Water utility "stub-ins" for Southshore II subdivision Lots 14 and 15.



Water feature amenity at the entrance of Southshore II subdivision.

**PRELIMINARY PLAT OF
SOUTHSHORE II SUBDIVISION
PART OF THE SOUTH 1/2 OF
SECTION 2, T. 2 N., R. 3 W., B.M.
CANYON COUNTY, IDAHO
2004**



GENERAL NOTES:

1. ANY RE-SUBDIVISION OF THIS PLAT SHALL COMPLY WITH THE APPLICABLE REGULATIONS IN EFFECT AT THE TIME OF THE RE-SUBDIVISION.
2. THIS DEVELOPMENT RECOGNIZES SECTION 22-4503 OF THE IDAHO CODE WHICH PROVIDES THAT "NO AGRICULTURAL OPERATION OR APPURTENANCE SHALL BE MAINTAINED ON A MISSENGE, PRIVATE OR PUBLIC, BY ANY CHANGED CONDITION IN OR ABOUT THE SURROUNDING NONAGRICULTURAL ACTIVITIES AFTER THE DATE THE NAME HAS BEEN PLACED ON THE MAP. ONE YEAR, WHEN THE OPERATION WAS NOT A MISSENGE AT THE TIME THE OPERATION BEGAN; PROVIDED, THAT THE PROVISIONS OF THIS SECTION SHALL NOT APPLY WHENEVER A MISSENGE RESULTS FROM THE IMPROPER OR NEGLIGENT OPERATION OF ANY AGRICULTURAL OPERATION OR APPURTENANCE TO IT."
3. THIS SUBDIVISION SHALL COMPLY WITH IDAHO CODE SECTION 31-3803 CONCERNING IRRIGATION WATER.
4. IRRIGATION/DRAINAGE WATERS SHALL NOT BE IMPEDED BY ANY CONSTRUCTION ON SITE.
5. TREATMENT OF DOMESTIC WASTE WILL BE PROVIDED BY INDIVIDUAL SEPTIC TANKS AND DRAINFIELDS CONSTRUCTED IN ACCORDANCE WITH THE SOUTHWEST DISTRICT HEALTH DEPARTMENT RULES AND REGULATIONS.
6. DOMESTIC WATER WILL BE PROVIDED BY INDIVIDUAL WELLS.
7. ALL LOTS ARE AREAS OF PRIME AGRICULTURAL SOIL AND ALL LOTS ARE SUITABLE FOR DEVELOPMENT.
8. NO SHALLOW BEDROCK AREAS, UNSTABLE ROCK FORMATIONS, OR LANDSLIDES LIE WITHIN THIS SUBDIVISION.
9. ALL HOMES BEING CONSTRUCTED WITH INDIVIDUAL SEPTIC SYSTEMS SHALL HAVE THE SEPTIC SYSTEMS PLACED ON THE STREET SIDE OF THE HOME. THERE SHALL BE A SEWER DRAINAGE SYSTEM DESIGNED WITH A STUB AT THE HOUSE FRONT TO ALLOW FOR FUTURE CONNECTION TO A PUBLIC SEWER SYSTEM.
10. ALL LOTS WILL BE SPRINKLED BY PRESSURE IRRIGATION AND NO RUNOFF.
11. ALL INTERIOR LOT LINES SHALL HAVE A 15' UNDERGROUND UTILITY, IRRIGATION AND DRAINAGE EASEMENT AND EXTERIOR LOT LINES SHALL HAVE A 15' UNDERGROUND UTILITY, IRRIGATION AND DRAINAGE EASEMENT AS SHOWN.
12. LOTS SHALL HAVE ACCESS THROUGH A PAVED PRIVATE ROAD INGRESS/EGRESS ACCESS EASEMENT AND NO DIRECT ACCESS TO LOCUST LAKE WILL BE GIVEN AS PER REQUIREMENTS OF NAAMPA HIGHWAY DISTRICT.
13. ACCESS TO INDIVIDUAL LOTS SHALL COMPLY WITH THE REQUIREMENTS OF THE CANYON COUNTY HIGHWAY DISTRICT.
14. NO STORM WATER SHALL BE ALLOWED TO FLOW OVER ADJACENT PROPERTIES AND MUST FLOW INTO BARROW DITCHES AND CANAL IF PERMITTED.

SURVEYOR'S CERTIFICATE

I, DARREN R. LEAVITT, DO HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR, LICENSED BY THE STATE OF IDAHO, AND THAT THIS MAP HAS BEEN PREPARED FROM AN ACTUAL SURVEY MADE ON THE GROUND UNDER MY SUPERVISION, AND THAT THIS MAP IS AN ACCURATE REPRESENTATION OF SAID SURVEY.



DARREN R. LEAVITT, P.L.S.

IDAHO LICENSE NO. 7323

SITE INFORMATION

ED HENDERSHOT
P.O. BOX 923
EAGLE, IDAHO 83616
(208) 939-4525

TOTAL AREA: 21.24 ACRES
CURRENT ZONING: A
SETBACKS:
FRONT= 30'
SIDE YARD= 10'
REAR YARD= 20'

LEGEND

- LEGEND**
- | | | | |
|---|--|---|----------------------------|
|  | Found Section Corner |  | Subdivision Boundary Line |
|  | Placed 1/2" X 24" Iron rod
with cap marked P.L.S. 7323 |  | Lot Line |
|  | Placed 1/2" X 24" Iron rod as a
witness corner marked P.L.S. 7323 |  | Easement Line (See Note 1) |
|  | Found 5/8" Iron rod |  | Contour Line |
|  | Placed 5/8" X 30" Iron rod
with cap marked P.L.S. 7323 |  | Natural Water Flow |
|  | Placed 5/8" X 30" Iron rod as a
witness corner marked P.L.S. 7323 |  | Storm Water Retention Flow |
| | |  | Building Envelope |

ARRW  **Land Surveying, Inc.**
SPR. SURVEYING
EXPERIENCE AND ALL
LEVELS OF
COMPLEX SURVEYING

LAND SURVEYING AND CIVIL ENGINEERING
1121 E. STATE STREET 105, EAGLE, IDAHO 83611
(208) 838-7373, FAX (208)861-2321

PRELIMINARY PLAT
OF

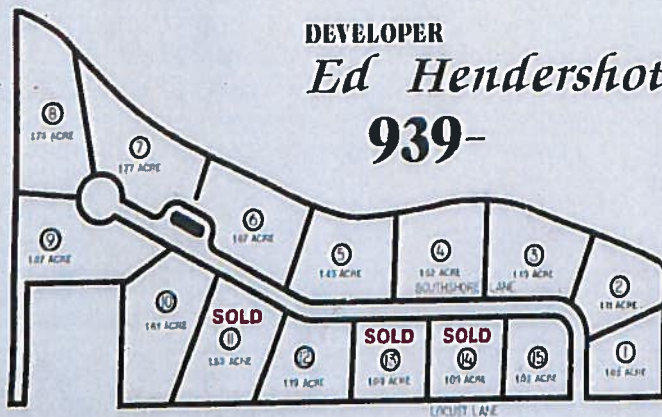
SOUTHSHORE II SUBDIVISION
SEC. 2, T. 2 N., R. 3 W.B.M.

(708) 839-7373 FAX (708) 839-7321		DATE: 5-18-04		PROJECT: 03-909	SHEET: 1
INDEX # 234-2-2/3-00-0000		DRAWN BY: JF		CHECKED BY: JF	
		DATE: 05		DATE: 05	



15 ESTATE LOTS

Lake View Lots
Community Well
Pressurized Irrigation
Common Area Pond & Playground
Priced from \$



NOW TAKING RESERVATIONS

Appendix C.

Miscellaneous documents and information on the Southshore II subdivision water system and field notes of Ed Squires and Loren Pearson from the July 26th, 2011 Proof of Beneficial Use Field Licensing Examination of the Southshore II Supply Well #1

SOUTHSHORE II SUPPLY WELL #1

SPECIFIC CAPACITY AND TOTAL DYNAMIC HEAD CALC'S

SPECIFIC CAPACITY

$$NPWL = 11.73 \text{ ft bgl}$$

$$PWL @ 500 \text{ gpm} = 59.22 \text{ ft bgl}$$

$$\begin{array}{r} 59.22 \text{ PWL} \\ - 11.73 \text{ NPWL} \\ \hline 47.49 \text{ ft DRAWDOWN} \end{array}$$

$$47.49' \sqrt{\frac{10.5 \text{ gpm}}{500 \text{ gpm}}} \text{ ft of DD}$$

$$\text{SPECIFIC CAPACITY} = 10.5 \text{ gpm/ft}$$

TOTAL DYNAMIC HEAD (500gpm)

$$\text{Hazen Williams} = 120$$

- PWL = 87 ft
 - 90 feet 5" PVC PUMP COLUMN ~ 5 ft
 - ~ 52 feet 6" DISCHARGE PIPE TO CONTROL HOUSE ~ 1 ft
 - 6" DOUBLE CHECK VALVE @ SURFACE ~ 18 ft
 - 5" COLUMN CHECK VALVE DOWN HOLE ~ 10 ft
 - 6" CYCLE STOP VALVE ~ 14 ft
 - PITLESS ADAPTER + MISC. ELL'S + FITTINGS ~ 4 ft
 - LINE PRESSURE 65-to-70 PSI ~ 52 ft
- = 150 to 162 feet

$$\begin{array}{r} TDH = \text{PWL} \quad 87 \text{ ft} \\ \text{HEAD LOSS} \quad 152 \text{ ft} \\ \text{LINE PRESSURE} \quad 162 \text{ ft} \end{array}$$

$$301 \text{ feet TDH}$$

CALCULATIONS AND DESIGN DATA

PREPARED BY

E. Squires, L. Pearson

SUBJECT Southshore II (Hendershof) Supply Well #1

DATE 7-26-2011

Proof of Beneficial Use Field Examination

SHEET 1 OF 3

16:15 hrs arrived at well site

16:30 hrs begin dismantling doors from building that have no available keys

17:30 hrs finish dismantling doors from building

18:10 NPWL = 130.73' btoC TOC = 2.0' agl 17:30-18:10 document plumbing, building,...

TOTALIZER 294913 Ugal

18:13 Pump On at ~140 gpm

18:15 Ingr. Flow to 332 gpm @ 10 PSI (7.4 PSI on digital)
- MAX FLOW

18:18 PWL = 40.41' btoC

330
26'

18:27 hrs PWL = 42.17 @ 331 gpm (flow steady @ 10 psi)

18:23 decrease flow to 255 gpm @ 60.5 PSI @

18:27 hrs inc. flow to 329.3 gpm

18:28 hrs breaker trips (100A main)
= hot to touch switch double plastic broken

18:30 hrs turn flow down to 4 gpm at 93 psi?

- VFD's now toggled to other pump automatically

018:31 Pump On

18:32 hrs flow = 526 gpm

2 18:33 504

18:36 hrs PWL = 55.92' @ 504 PSI @ 23.9 PSI @ 60.0 Hz Pump 1 or 2
@ 50 Hz Pump 2

18:38 hrs PWL = 57.54

18:40 hrs 58.80 498.3

3 18:44 hrs 60.07 495 @ 23.1

5 18:46 60.75 494.84 @ 23.0

6 18:49 61.22 " @ 23.1

60/50

* System was charged at 60 PSI when we arrived

* Need Keys:

- Generator.
- dead bolts; handle
- booster stat. = dead bolt, door

Generator

- Guardian by Generac 17 KW
- Tank = Worthington Cylinder #757399 date 2009
- Approx 120 gallons
- 30" diameter
- CRN # L7700.512467890NT

Flow Meter T

Comments:

→ need electrical inspection

Comments:

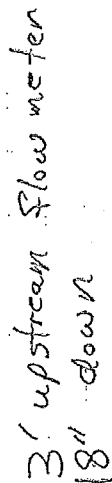
- trees need water (still salvageable)
- cut down weeds
- Building needs: - venting
- TLC - nails, caulk, paint
- Plaster, paint inside
- no floor drain (just vent/drain in east wall)
- plumbing only 12" from back well (to flange)
- Well needs I.D. Tag

Flow Meter

6" ABB, Inc.
 Warminster, PA
 SN# 3K620000008852
 Feb. 2009
 Calibration -17/5/1.0000
 2 3 4
 Calibrat Fact. 1
 1.5550
 Amb T = 60°
 PSI Max 250
 Temp Proc 120°C
 Cad # MFE15132110A
 004ER

- 6" From Well
- 16" Long
- 90° L
- Spool with Pr. Relief
- 6" Check
- (Val-Matic
 Elmhurst, IL
 Globe Silent
 UN# 1806PN1
 AMST 125
 Body CI
 Trim Bronze
 Cold W.P. 200 PSI)
- 6" Spool
- 2 pressure transducers
- 1 pressure tank
 (Flex-Lite
 Flexcon
 Randolph MA
 Mod. FL22
 65 Gal
 Max 125 PSI
 Max 120 °F
 1/27/08 date
 FL2203101)
- Pasco PSI Gauge
 0-160 PSI

Southshore II (Hender shot) Supply Well #1
Sketch of Water System Plumbing in Main Pumphouse



Buildings) Dimensions

Well #1 Pumphouse = 12' x 16'

Press. Irr. Pamphouse = $12' \times 12'$

Southshore II Well #1 Supply - Beneficial Use Exam Flow Data **July 26, 2011**

Measuring Point = 2.0 feet above ground level

Datum = ground level

Elapsed Time (minutes)	Time (24 hour)	Water Level (feet below measure)	Water Level (feet below ground)	Flow (gallons/minute)	Comments
	18:10:00	13.73	11.73	0	Non-pumping water level
	18:13:00			~140	Pump Activated; System pressure = 79 PSI
2.0	18:15:00			332	10 PSI
3.0	18:18:00	40.41	38.41	332	
8.0	18:21:00	42.17	40.17	331	flow steady at 10 PSI
10.0	18:23:00			255	60.5 PSI
14.0	18:27:00			329	
15.0	18:28:00				breaker trips
	18:30:00			4	93 PSI
0.0	18:31:00				Pump Activated
1.0	18:32:00			526	
2.0	18:33:00			504	
5.0	18:36:00	55.92	53.92	504	23.9 PSI; 60 Hz 1st pump; 50 Hz on 2nd pump
7.0	18:38:00	57.54	55.54	504	23.9 PSI; 60 Hz 1st pump; 50 Hz on 2nd pump
9.0	18:40:00	58.80	56.80	498	23.1 PSI; 60 Hz 1st pump; 50 Hz on 2nd pump
13.0	18:44:00	60.07	58.07	495	23.0 PSI; 60 Hz 1st pump; 50 Hz on 2nd pump
15.0	18:46:00	60.75	58.75	495	23.1 PSI; 60 Hz 1st pump; 50 Hz on 2nd pump
18.0	18:49:00	61.22	59.22	495	23.1 PSI; 60 Hz 1st pump; 50 Hz on 2nd pump

Hydro Logic, Inc.

1002 West Franklin Street, Boise, ID 83702-5431

Office (208) 342-8369 Fax (208) 342-3100

hli@hydrologicinc.net

Appendix D.

Water right Permit No. 63-032259 originally held by Hendershot
Construction, Inc. and later by First Security Corporation

State of Idaho
Department of Water Resources
Permit to Appropriate Water

NO. 63-32259

Priority: May 13, 2005

Maximum Diversion Rate: 0.33 CFS

This is to certify, that HENDERSHOT CONSTRUCTION INC
PO BOX 923
EAGLE ID 83616

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>
DOMESTIC	01/01 to 12/31	0.33 CFS

LOCATION OF POINT(S) OF DIVERSION:

GROUND WATER L6 (SE $\frac{1}{4}$ SW $\frac{1}{4}$) Sec. 2, Twp 02N, Rge 03W, B.M. CANYON County
GROUND WATER L6 (SE $\frac{1}{4}$ SW $\frac{1}{4}$) Sec. 2, Twp 02N, Rge 03W, B.M. CANYON County

PLACE OF USE: DOMESTIC

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
02N	03W	2													X			X	
														L 6					

CONDITIONS OF APPROVAL

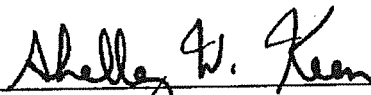
1. Proof of application of water to beneficial use shall be submitted on or before **June 1, 2011**.
2. Subject to all prior water rights.
3. The domestic use authorized under this right includes water for 15 homes. This component of the domestic use shall not exceed 13,000 gallons per day within each platted subdivision lot upon which a home has been constructed.
4. The domestic use also includes water for the well lot. The well lot component of the domestic use is limited to 0.04 cfs and 2,500 gallons per day. During the construction phase of the subdivision, this well lot component of the domestic use may be extended beyond the well lot for dust abatement and cleanup purposes throughout the subdivision area.
5. The irrigation occurring under this domestic use shall not exceed 1/2 acre within each platted subdivision lot upon which a home has been constructed. This right does not provide for irrigation of common areas or for irrigation of lots upon which homes have not been constructed.
6. The right holder shall make full beneficial use of all surface water rights available to the right holder for irrigation of the lands authorized to be irrigated under this right. The right holder shall limit the diversion of ground water under this right to those times when the surface water supply is not available or the surface water supply is not reasonably sufficient to irrigate the place of use authorized under this right.
7. If the surface water right(s) appurtenant to the place of use is sold, transferred, leased or used on any other place of use, this right to divert groundwater for irrigation shall not be used without an approved transfer pursuant to Section 42-222, Idaho Code, or approval of the Department if a transfer is not required.

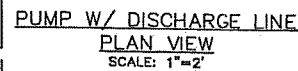
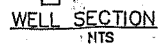
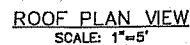
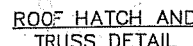
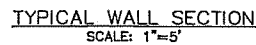
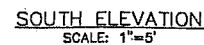
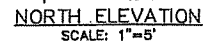
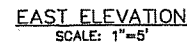
State of Idaho
Department of Water Resources
Permit to Appropriate Water
NO. 63-32259

CONDITIONS OF APPROVAL CONTINUED

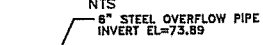
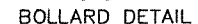
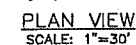
8. The Director retains jurisdiction to require the right holder to provide purchased or leased natural flow or stored water to offset depletion of Lower Snake River flows if needed for salmon migration purposes. The amount of water required to be released into the Snake River or a tributary, if needed 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.
9. Right holder shall comply with the drilling permit requirements of Section 42-235, Idaho Code and applicable Well Construction Rules of the Department.
10. 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.
11. Place of use is located within Lots 1-15 and the well lot of Southshore II Subdivision.
12. Points of diversion are located within the well lot of Southshore II Subdivision.

This permit is issued pursuant to the provisions of Section 42-204, Idaho Code. Witness the signature of the Director, affixed at Boise, this 26th day of June, 2006.


FOR KARL DREHER, Director



A. PITLESS ADAPTER APPROVED BY NSF.
B. SINGLE PHASE POWER.



OCT 23 2008
DEPARTMENT OF
HEALTH & HUMAN SERVICES

DESIGNED: D PERRY	CHECKED: K. JACOBS	DRAWN BY: DLP	DATE: 28 NOV 2005
-------------------	--------------------	---------------	-------------------

1121 E State St Suite 105 Engle, Idaho 83611
office: 1-208-939-7373 fax: 1-208-939-7321

[illegible]

SHEET
C-3
4 OF 4