

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-33281

Exam Date: 5/22/2015

1. Current Owner: US DEPT OF INTERIOR
U S GEOLOGICAL SURVEY
IDAHO WATER SCIENCE CENTER
230 COLLINS RD
BOISE ID 83702
(208)387-1392
2. Accompanied by: James Bartolino, P.H.D
Phone No: (208) 387-1392
Address: 230 Collins Road, Boise, ID 83702
Relationship to Permit Holder: Ground Water Hydrologist, USGS Idaho Water Science Center.

3. SOURCE TRIBUTARY
GROUND WATER BOISE RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NONE
2. Other water rights with the same point of diversion: NONE

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER NE1/4NW1/4 Sec. 11, Twp 03N, Rge 02E, B.M. ADA County

Method of Determination: GPS and Visual Inspection.

2.

PLACE OF USE: COMMERCIAL

Twp	Rge	Sec	NE				NW				SW				SE				
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	Totals
03N	02E	11					X												

Method of Determination: GIS and Visual Inspection.

3. Delivery System Diagram: Indicate all major components and distances between components. Indicate weir size/pipe i.d. as applicable.

YES Aerial Photo Attached (required for irrigation of 10+ acres).YES Photo of Diversion and System Attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
A0019171	Grundfos	7.5	Unknown	Grundfos	2.5 " Discharge Pipe.

Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
N/A						

2. Measurements: Unable to get measurement at the time of the exam. The pipeline was too small for the equipment to attain a proper signal. Therefore, we used the owner's measurements they performed while conducting their test. They used the time fill method using a 5 gallon bucket and a 50 gallon drum. Please see email dated 5/28,2015 for additional information.

F. FLOW CALCULATIONS

 X Additional Computation Sheets Attached

Measured Method:

This system has a variable speed pump. The pump is too powerful to operate long term at full pumping capacity of 7.5 Hp. The owner stated that they have small screens that reduces the amount that the pump can discharge without running the well dry. We were not able to get a measurement, but the owner supplied records of diversion rates that were measured from 2009 to 2013 that range from 87 gpm to 150 gpm. The owner used a 50 gallon drum and used the time fill method to measure the system for each test. After the initial year of testing, the maximum the owner diverted was 115 gpm. Therefore, I am recommending 115 gpm or 0.26 cfs.

Measured amount = 0.26 cfs

Theoretical Calculation = 0.52 cfs

Permit allows 0.45 cfs

I am recommending a diversion rate of 0.26 cfs since this is the amount that has been measured for this system. The system can pump more, but the well is designed in a way that prevents the variable speed pump from operating at full capacity.

G. VOLUME CALCULATIONS**1. Volume Calculations for Irrigation:**

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{\hspace{2cm}}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = \underline{\hspace{2cm}}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \underline{\hspace{2cm}}$$

2. Volume Calculations for Other Uses:

See attached email for volume calculations. Total Gallons used in 2009 was 601,470 gal / 325850 = 1.9 af. I recommend a total annual volume of 1.9 af.

E. NARRATIVE/REMARKS/COMMENTS

This system is comprised of a single 7.5 Hp variable speed pump. The water is diverted from the pump and goes in a westerly direction to the Cottonwood Creek Conveyance Channel. The channel is 30 feet west of the pump.

OVERLAP

Here are several Federal Reserve Rights that overlap this tax lot. Most of the federal reserve rights were withdrawn in the SRBA. Water right 63-29716 is a heating water right for this facility, but is diverted from a separate well and not connected into this system. United water rights are used for the culinary uses for this facility, but are not connected into this system. The Veteran's Medical Center is north of the property and they have several rights in this tract also, but none of them are connected into this system.

Conditions:

We carried conditions 004, 073, R05, and Xo1 over from permit. We split condition R43 into conditions 01M and 01P. We added condition 930. We removed the condition number from condition 8, because it didn't match the usage of the condition. Have conditions of permit approval been met? X yes no

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
COMMERCIAL	01/01 to 12/31	0.260 CFS	1.90 AF
<u>Totals:</u>		0.260 CFS	1.90 AF

2. Recommended Amendments

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

☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. AUTHENTICATION

DANIEL A. NELSON – Staff Hydrologist

Field Examiner's Name

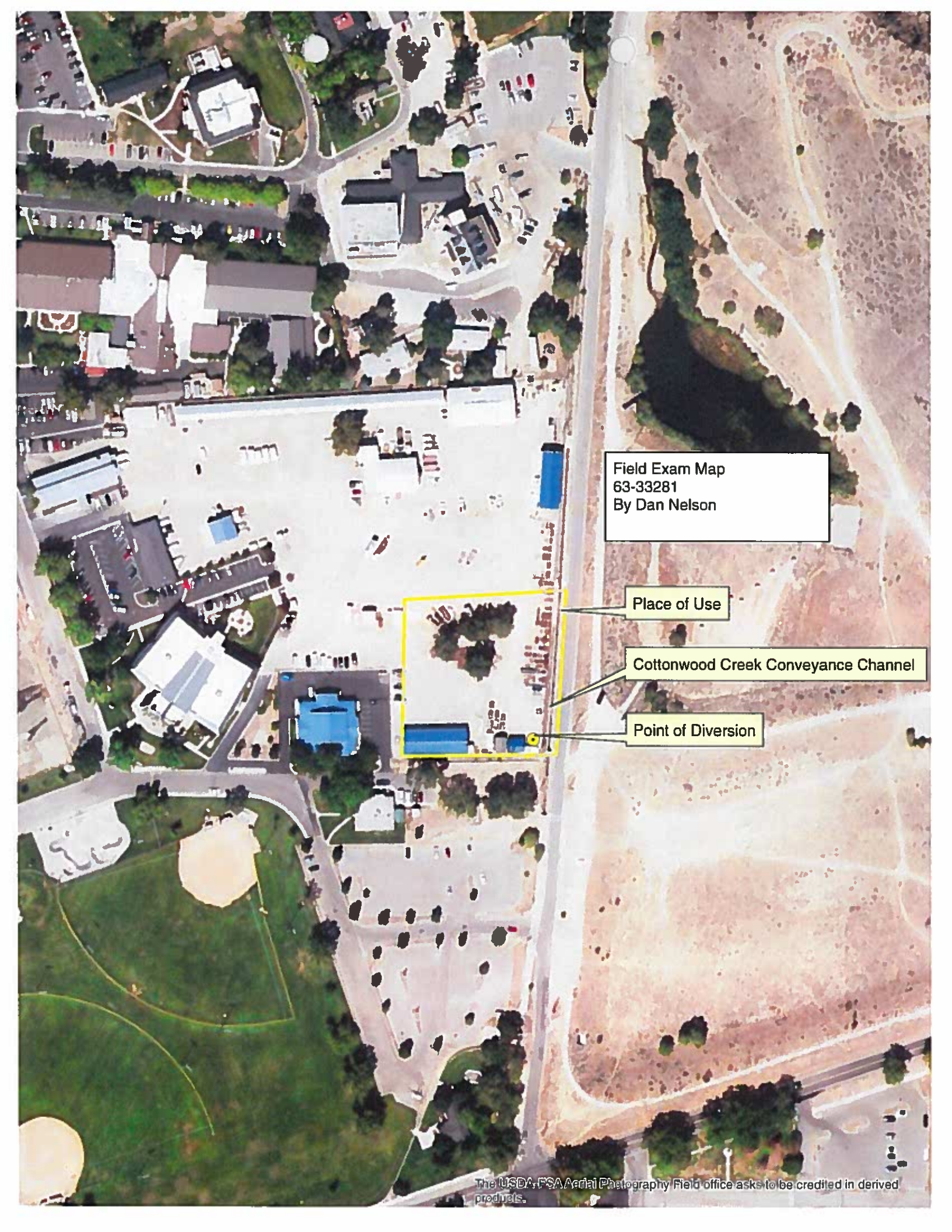


Date

6-2-15

Reviewer

Date



Field Exam Map
63-33281
By Dan Nelson

Place of Use

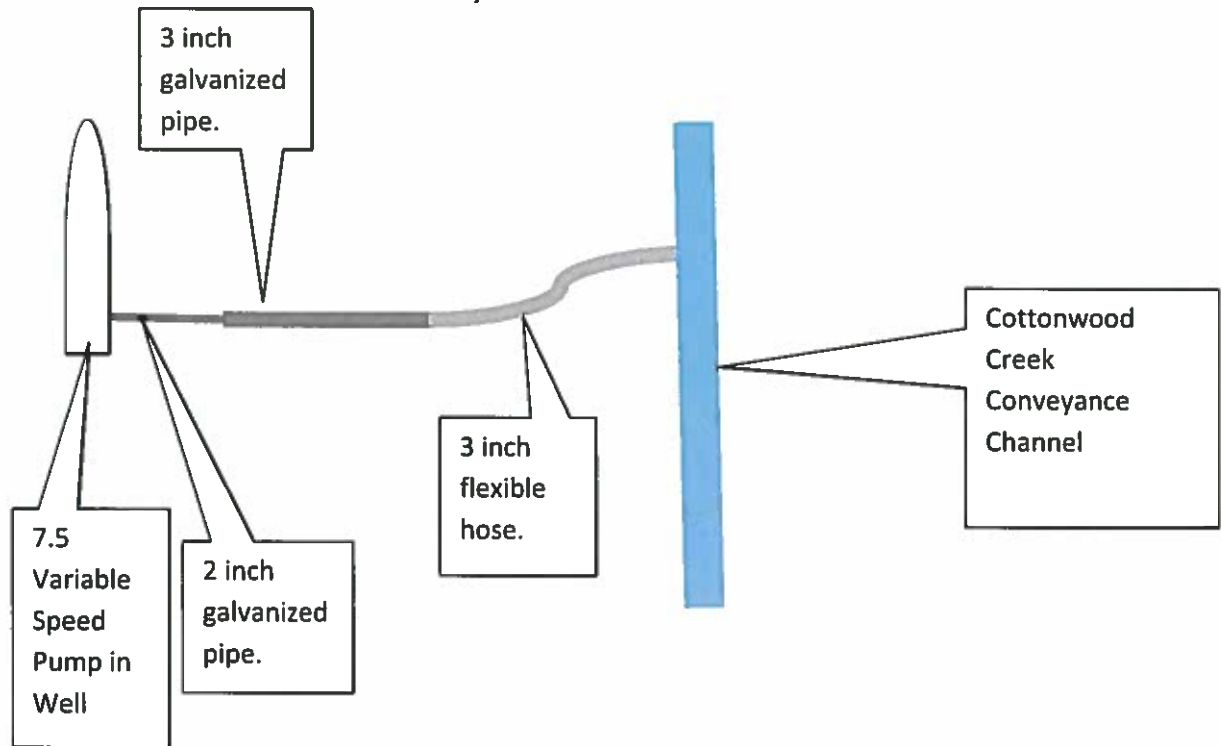
Cottonwood Creek Conveyance Channel

Point of Diversion

System Diagram

Permit 63-33281

By Dan Nelson



This system is comprised of a single 7.5 Hp variable speed pump. The water is diverted from the pump and goes in a westerly direction to the Cottonwood Creek Conveyance Channel. The channel is 30 feet west of the pump.

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 63-33281
 Reviewer: Dan Nelson
 Date of Review: 6/1/2015

P/D No.:	Senerio 1	Senerio 2	Senerio 3	Senerio 4	
PUMP HORSEPOWER	7.5	3.35	3.65	4.8	
BOOSTER HORSEPOWER	0	0	0	0	
PUMPING LEVEL	65.1	65	65	65	
DISCHARGE PRESSURE	10	10	10	10	
RATE OF FLOW (cfs)	0.52	0.23	0.25	0.34	AVE
(gpm)	235.1	105.0	114.4	150.5	0.34
					151.25

The above calculates the formula =
$$Q = \frac{8.8 \cdot (\text{Efficiency}) \cdot \text{hp}}{\text{depth to water} + 2.31 \cdot (\text{psi}) + \text{friction}}$$

Assumptions: 100 efficiency.
 No Friction

Examiners Notes: The lift was determined from USGS measurement records of this well. The pressure was estimated for a standard discharge pressure for an open discharge system. This system has a variable speed pump. The pump is too powerful to operate long term at full pumping capacity of 7.5 Hp. The owner stated that they have small screens that reduces the amount that the pump can discharge without running the well dry. We were not able to get a measurement, but the owner supplied records of diversion rates that were measured from 2009 to 2013 that range from 87 gpm to 150 gpm. The owner used a 50 gallon drum and used the time fill method to measure the system for each test. After the initial year of testing, the maximum the owner diverted was 115 gpm. Therefore, I am recommending 115 gpm or 0.26 cfs.

U.S. Geological Survey
230 Collins Rd
Boise, ID 83702

Twp: 03 N Rge: 02 E Sec: 11 10ac: SW¼ 40 ac: NE ¼ 160 ac: NW¼
DGPS: N43° 36' 58.79" / W 116° 11' 09.68", NAD83
2740.11 ft (LSD), NAVD88

Use: Monitoring
Type of work: New well
Drill method: Air rotary and drive

Sealing procedures:

Seal/Filter pack			Amount	
Matrl	From	To	Sacks/lbs	Method
Concrete	0	1	1 sack	
Bentonite (3/4" pellets)	1	18	22 sacks	Tremie

Casing/Liner:

Diameter	From	To	Gauge	Material	Csng	Liner	Welded	Thrded
8"	0	78		Steel	X		X	

Centralizers: None

Perforations/screens:

Factory mill-slotted screen

From	To	Slot size	Number	Diameter	Material
75	95	Sndblkr		6"	Stnls Steel

Static water level or artesian pressure:

06Feb09, 1055: 47.50 blw MP

Access port/MP: MP is N side, inside edge of ¾" PVC access tube on top, N side of 8" casing.

MP is 3.47 ft above benchmark, assume benchmark = land surface.

Water levels will be measured monthly and posted to the USGS NWISWeb site:

http://nwis.waterdata.usgs.gov/id/nwis/gwlevels/?site_no=433659116111001&agency_cd=USGS&

Well tests:

Bottom hole temperature: 60 °F

Depth water first encountered: 50 ft

Date	Drawdown (ft)	Dischrg (gpm)	Test duration (hours)	Method
09-10Aug09	34.6	105	2.5	Pump
24-25Aug10	20.7	64	26.3	Pump
27-28Apr12	34.9	120	22.5	Pump

Lithologic log:

Bore Dia.	From	To	Remarks	Water
12"	0	18	Poorly sorted silt, sand and gravel with minor clay. Brown (10YR 5/3). Moist.	N
8"	18	30	Poorly sorted clayey silt with gravel and sand. Subround to subangular gravel to 0.7 in. Yellowish brown (10YR 5/4). Moist.	N
"	30	35	Well sorted silt. Yellowish brown (10YR 5/6). Underlain by silty clay. Brown (10YR 4/3). Moist.	N
"	35	40	Poorly sorted gravelly silty sand. Round to subangular gravel to 2.8 in. Pale brown (10YR 6/3). Moist.	N
"	40	45	Poorly sorted gravelly silty sand. Round to subangular gravel to 2.8 in. Yellowish brown (10YR 5/4). Moist	N
"	45	55	Poorly sorted gravelly silty sand. Round to subangular gravel to 2.8 in. Yellowish brown (10YR 5/4). Wet	Y
"	55	60	Poorly sorted gravelly silty sand. Round to subangular gravel to 2.8 in. Brown (10YR 5/3). Small areas of very dark gray (2.5 YR N3) coloration with organic material (twigs, leaf veins?). Wet.	Y
"	60	80	Poorly sorted gravelly silty sand. Round to subangular gravel to 3 in. Brown (10YR 5/3). Wet.	Y
"	80	90	Same as above with slightly less gravel.	Y
"	90	95	Same as above with gravel to 1.5 in.	Y

Completed depth: 95 ft

Date started: 22Jan09

Date completed: 27Jan09

Driller information:

Bureau of Reclamation

Pacific Northwest Region

Geologist: J.R. Bartolino, USGS

Process	Basin Sequence	Draft	Owner	Source	POD/POU	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW
Water Right	63-10150	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-10153	N	DEPT OF VETERANS AFFAIRS MEDICAL CENTER	GROUND WATER	POU					0.1	0.2	
Water Right	63-10386	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-10391	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-10405	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-10570	N	SQUARE AT STRAWBERRY LANE TOWNHOUSE	GROUND WATER	POU							
Water Right	63-10996	N	BOISE STATE UNIVERSITY	GROUND WATER	POD							
Water Right	63-10996	N	BOISE STATE UNIVERSITY	GROUND WATER	POU							
Water Right	63-11021	N	HERR, MARCIA H; HERR, RODNEY H	GROUND WATER	POD							
Water Right	63-11021	N	HERR, MARCIA H; HERR, RODNEY H	GROUND WATER	POU							
Water Right	63-11558	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-12055	Y	UNITED WATER IDAHO	BOISE RIVER	POU	X	X	X	X	X	X	X
Water Right	63-12363	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-15336	N	BROYLES, DOROTHY J; BROYLES, NEAL A	GROUND WATER	POD							
Water Right	63-15336	N	BROYLES, DOROTHY J; BROYLES, NEAL A	GROUND WATER	POU							
Water Right	63-16269	N	GARRETT, HOMER R; GARRETT, ROBERTA	GROUND WATER	POD							
Water Right	63-16269	N	GARRETT, HOMER R; GARRETT, ROBERTA	GROUND WATER	POU							
Water Right	63-16910	N	BUNTING, CLYDE E; BUNTING, MARGARET A	GROUND WATER	POD							
Water Right	63-16910	N	BUNTING, CLYDE E; BUNTING, MARGARET A	GROUND WATER	POU							

City of Boise -

Federal Reserve Rights
 Disallowed — 63-29713 ~~63-29716~~
 — 63-29714 ^{withdrawn}
 63-29716 - DBCreed
 — United water overlap
 — Veteran's med center
 next door

Process	Basin Sequence	Draft	Owner	Source	POD/POU	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW
Water Right	63-16982	N	HOLBROOK, MIKE; HOLBROOK, MONTIE M	GROUND WATER	POD							
Water Right	63-16982	N	HOLBROOK, MIKE; HOLBROOK, MONTIE M	GROUND WATER	POU							
Water Right	63-169F	N	UNITED WATER IDAHO	BOISE RIVER	POU	X	X	X	X	X	X	X
Water Right	63-17051	N	BELL, GERALD R; BELL, ROSALIE M	GROUND WATER	POD							
Water Right	63-17051	N	BELL, GERALD R; BELL, ROSALIE M	GROUND WATER	POU							
Water Right	63-17070	N	SCIGLIANO, BRIAN E	GROUND WATER	POD							
Water Right	63-17070	N	SCIGLIANO, BRIAN E	GROUND WATER	POU							
Water Right	63-17113	N	UBERUAGA II, JOSEPH H	GROUND WATER	POD	X						
Water Right	63-17113	N	UBERUAGA II, JOSEPH H	GROUND WATER	POU	X						
Water Right	63-17158	N	BASTIDA-HICKS, TONI; HUMMEL,	GROUND WATER	POD							
Water Right	63-17158	N	BASTIDA-HICKS, TONI; HUMMEL,	GROUND WATER	POU							
Water Right	63-19371	N	THAEMERT, DIANNE M; THAEMERT, THOMAS A	GROUND WATER	POD							
Water Right	63-19371	N	THAEMERT, DIANNE M; THAEMERT, THOMAS A	GROUND WATER	POU							
Water Right	63-19383	N	BYRNE, MAURICE; BYRNE,	GROUND WATER	POD							
Water Right	63-19383	N	BYRNE, MAURICE; BYRNE,	GROUND WATER	POU							
Adjudication Claim	63-19456		UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Adjudication Recommendation	63-19456		UNITED WATER IDAHO INC	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-19651	N	WISE, JANELLE A	GROUND WATER	POD							
Water Right	63-19651	N	WISE, JANELLE A	GROUND WATER	POU							
Water Right	63-19935	N	ASHER, STEPHEN W	GROUND WATER	POD							
Water Right	63-19935	N	ASHER, STEPHEN W	GROUND WATER	POU							

Process	Basin Sequence	Draft	Owner	Source	POD/POU	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW
Water Right	63-20041	N	BOISE CITY CANAL CO	BOISE RIVER	POU							
Water Right	63-22842	N	GAWITH, HARRY C	GROUND WATER	POD			X				
Water Right	63-22910	N	IDAHO ELKS REHABILITATION HOSPITAL	GROUND WATER	POD						X	
Water Right	63-22910	N	IDAHO ELKS REHABILITATION HOSPITAL	GROUND WATER	POU						2.0	
Water Right	63-23318	N	SMITH MD, ROBERT F; WEILAND, CYDNEY A	GROUND WATER	POD							
Water Right	63-23318	N	SMITH MD, ROBERT F; WEILAND, CYDNEY A	GROUND WATER	POU							
Water Right	63-24127	N	CURINGTON, CECIL J; CURINGTON, DOROTHY M	GROUND WATER	POD							
Water Right	63-24127	N	CURINGTON, CECIL J; CURINGTON, DOROTHY M	GROUND WATER	POU							
Water Right	63-243E	N	UNITED WATER IDAHO	BOISE RIVER	POU	X	X	X	X	X	X	X
Water Right	63-243H	N	UNITED WATER IDAHO	BOISE RIVER	POU	X	X	X	X	X	X	X
Water Right	63-2500	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-2506	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-2576	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-2595	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-2605	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-26136	N	KNIPE JR, WILLIAM B; KNIPE, DIANE A	GROUND WATER	POD							
Water Right	63-26136	N	KNIPE JR, WILLIAM B; KNIPE, DIANE A	GROUND WATER	POU							
Water Right	63-26363	N	DAVIDSON, MARJORIE	GROUND WATER	POD							
Water Right	63-26363	N	DAVIDSON, MARJORIE	GROUND WATER	POU							
Water Right	63-26372	N	DAVIDSON, CHRISTOPHER	GROUND WATER	POD							
Water Right	63-26372	N	DAVIDSON, CHRISTOPHER	GROUND WATER	POU							
Water Right	63-2668	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-2703	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X

Process	Basin Sequence	Draft	Owner	Source	POD/POU	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW
Water Right	63-27213	N	BOISE STATE UNIVERSITY	GROUND WATER	POD							
Water Right	63-27213	N	BOISE STATE UNIVERSITY	GROUND WATER	POU							
Water Right	63-27630	N	PROTIGAL, STANLEY N	GROUND WATER	POD							
Water Right	63-27630	N	PROTIGAL, STANLEY N	GROUND WATER	POU							
Water Right	63-2808	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-2874	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-2892	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-2915	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-2954	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-2956	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-2971	N	CITY OF BOISE	GROUND WATER	POD							
Adjudication Claim	63-29713		UNITED STATES OF AMERICA ACTING	GROUND WATER	POU					X		
Adjudication Recommendation	63-29713		UNITED STATES OF AMERICA ACTING	GROUND WATER	POU					X		
Adjudication Claim	63-29714		UNITED STATES OF AMERICA ACTING	GROUND WATER	POU					X	X	
Water Right	63-29716	N	UNITED STATES OF AMERICA ACTING	GROUND WATER	POD					X		
Water Right	63-29716	N	UNITED STATES OF AMERICA ACTING	GROUND WATER	POU					X	X	
Water Right	63-2972	N	CITY OF BOISE	GROUND WATER	POD						X	
Adjudication Claim	63-29766		UNITED STATES OF AMERICA ACTING	With Draw	POU					X	X	
Water Right	63-2989	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-3064	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-3073	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-3105	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X

Process	Basin Sequence	Draft	Owner	Source	POD/POU	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW
Water Right	63-3112	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-3128	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-3164	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-3172	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-31797	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-31798	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-31809	N	CITY OF BOISE	GROUND WATER	POD							
Water Right	63-31856	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-31857	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-31879	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-31962	N	ST LUKES REGIONAL MEDICAL CENTER	GROUND WATER	POD							X
Water Right	63-31962	N	ST LUKES REGIONAL MEDICAL CENTER	GROUND WATER	POU							X
Water Right	63-3202	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-3239	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-3291	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-3292	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-3293	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-3295	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Permit	63-33281	N	U S GEOLOGICAL SURVEY	GROUND WATER	POD					X		
Water Permit	63-33281	N	U S GEOLOGICAL SURVEY	GROUND WATER	POU					X		
Water Right	63-3411	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-3448	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-3457	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-3494	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-3562	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X

Process	Basin Sequence	Draft	Owner	Source	POD/POU	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW
Water Right	63-4015	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-4395	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-4414	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-4424	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-4618	N	REHMAN, MOIN; REHMAN,	GROUND WATER	POD							
Water Right	63-4618	N	REHMAN, MOIN; REHMAN,	GROUND WATER	POU							
Water Right	63-4752	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-4774	N	BARBER, EILEEN L; BARBER,	GROUND WATER	POD							
Water Right	63-4774	N	BARBER, EILEEN L; BARBER,	GROUND WATER	POU							
Water Right	63-5073	N	BOISE WARM SPRINGS WATER DISTRICT	GROUND WATER	POU						X	X
Water Right	63-5220	N	VETERANS ADMINISTRATION CENTER	GROUND WATER	POU					1.0	1.0	
Adjudication Claim	63-5220		VETERANS ADMINISTRATION MEDICAL CENTER	GROUND WATER	POU					1.0	1.0	
Water Right	63-5221	N	VETERANS ADMINISTRATION MEDICAL CENTER	GROUND WATER	POU					1.0	1.0	
Adjudication Claim	63-5221		VETERANS ADMINISTRATION MEDICAL CENTER	GROUND WATER	POU					1.0	1.0	
Water Right	63-7066	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Adjudication Claim	63-7067		UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Adjudication Recommendation	63-7067		UNITED WATER IDAHO INC	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-7165	N	BROYLES, DOROTHY J; BROYLES, NEAL A	GROUND WATER	POD							
Water Right	63-7165	N	BROYLES, DOROTHY J; BROYLES, NEAL A	GROUND WATER	POU							
Water Right	63-7170	N	MK PLAZA TRUST	GROUND WATER	POD							

Process	Basin Sequence	Draft	Owner	Source	POD/POU	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW
Water Right	63-7170	N	MK PLAZA TRUST	GROUND WATER	POU							
Water Right	63-7170	N	MK PLAZA TRUST	GROUND WATER	POU							
Water Right	63-7204	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-7282	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-7348	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-7479	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-7577	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-7589	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-7641	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-7658	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-7896	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-7979	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-7998	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-8011	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-8059	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-8109	N	MK PLAZA TRUST	GROUND WATER	POD							
Water Right	63-8109	N	MK PLAZA TRUST	GROUND WATER	POU							
Water Right	63-8109	N	MK PLAZA TRUST	GROUND WATER	POU							
Water Right	63-8236	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-8248	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-8265	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-8385	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-8405	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-8432	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-8635	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Adjudication Recommendation	63-8990		UNITED WATER IDAHO INC	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-9087	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X

Process	Basin Sequence	Draft	Owner	Source	POD/POU	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW
Water Right	63-9106	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Permit	63-9139	N	CITY OF BOISE	GROUND WATER	POD		X			X		
Water Right	63-9147	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-9198	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-9199	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-9204	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-9205	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-9219	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-9223	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-9384	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-9671	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X
Water Right	63-9837	N	BROYLES, DOROTHY J; BROYLES, NEAL A	GROUND WATER	POD							
Water Right	63-9837	N	BROYLES, DOROTHY J; BROYLES, NEAL A	GROUND WATER	POU							
Water Right	63-9855	N	UNITED WATER IDAHO	GROUND WATER	POU	X	X	X	X	X	X	X

SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	Total Acres
X	X	X	X	X	X	X	X	X	0
									0.3
X	X	X	X	X	X	X	X	X	0
X	X	X	X	X	X	X	X	X	0
X	X	X	X	X	X	X	X	X	0
				0.5					0.5
		X							0
		15.0							15
								X	0
								1.7	1.7
X	X	X	X	X	X	X	X	X	0
X	X	X	X	X	X	X	X	X	0
X	X	X	X	X	X	X	X	X	0
								X	0
								X	0
								X	0
								X	0
				X					0
				X					0

[illegible]

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 5/22/2015

FILE NUMBER 63-33281



The top photo shows the well and the pipeline to the drain. The flexible hose was raised up to ensure a full pipeline while we tried to measure the system. We were not able to attain a measurement.



This photo shows the well head and the site tag that we put on the well. The site tag number is A0019171.



This last photo shows the pump panel and the variable speed drive. The system was not operating at capacity at the time of the exam. The well screens prevent the pumping system from operating at full capacity, so the system is operating at a much lower flow rate than the pump is capable of doing.

Nelson, Dan

From: James R Bartolino [jrbartol@usgs.gov]
Sent: Thursday, May 28, 2015 11:03 AM
To: Nelson, Dan
Subject: Licensing Exam for Water Right Permit 387-1392: Requested information 2

Dan:

They were pretty informal pump tests and my notes aren't that great--we were just dinking with flow rates (using a valve on the discharge) to get where we could run the pump for 24 hrs without sucking air. I put the pre-test measurements in the database but didn't add any of the pumping levels because I wanted static levels for background conditions. I didn't keep track of anything but the final discharge but if I use those I come up with:

Date	Test duration (hours)	Dischrange (gpm)	Total gallons per test	Measurement method and notes
27-Jan-09	6	87	31,320	Measurement made using 5 gal bucket, fill averaged 3.4 sec
01-02Apr09	24	150	216,000	Measurement made using 55 gal drum, fill averaged 22 sec
03-04Jun09	24	120	172,800	Measurement made using 55 gal drum, fill averaged 27.5 sec
09-10Aug09	2.5	105	15,750	Measurement made using 55 gal drum, fill averaged 31.4 sec
01-02Oct09	24	115	165,600	Measurement made using 55 gal drum, fill averaged 28.7 sec
		Total gallons:	601,470	
		Total acre-ft:	1.85	

If you're interested, here's a photo of us measuring discharge during the August 2009 class. We later dropped to a 35 gal trash can as more manageable.

Hope this helps. Let me know if you have any questions.



On May 28, 2015, at 9:03 AM, "Nelson, Dan" <Dan.Nelson@idwr.idaho.gov> wrote:

Hello James,

Do you have the same information from the four 2009 tests that you have for the tests you put on the well log? What I am hoping to get is information that I can determine the maximum annual volume diverted. Do you have information that would allow me to create a table like the following?

Date of Test	Hours Per Test	Rate Per Test in gpm	Total Gallons Per Test	Comments On How Diversion Rate Was Measured
April 27-28, 2012	22.5	115.0	155250.0	Measurement made using 50 gallon drum, fill averaged 26 seconds

Aug. 9.105, 2009	26.3	26.3	41501.4	Measurement made using 50 gallon drum, fill averaged 114 seconds
Aug. 24-25, 2010	34.6	105.0	217980.0	Measurement made using 50 gallon drum, fill averaged 28.6 seconds
TOTAL GALLONS			414731.4	
TOTAL ACRE FEET			1.3	

I used the data that you supplied on the well driller's report, but I hoping you can give me similar data for the 2009 tests. Let me know if that is possible.

Thank you so much for your help. I really appreciate it.

Dan

From: James R Bartolino [mailto:jrbartol@usgs.gov]
Sent: Thursday, May 28, 2015 7:59 AM
To: Nelson, Dan
Subject: Licensing Exam for Water Right Permit 387-1392: Requested information

Dan:
Here's the information you requested for our production well:

1. Dates pumped during the first year: We conducted tests on 4 occasions in the year we drilled the well. One was formal test on 09-10Aug09; on 01-02Apr09, 04-05Jun09, and 01-02Oct09 we did informal tests to check response in the observation wells and pumping rates. The permanent pump wasn't installed until 2010 so we used temporary pumps of various sizes provided by the BuRec drilling crew. These were about 24-hr tests to simulate a training class and flow rates ranged from about 75 gpm to 200 gpm
2. Drillers' log: attached
3. Pumping water level: I added the data for the three formal aquifer tests to the well drillers' report.

Please let me know if I've left anything out. You're also welcome to use the site any time for training, just let me know. Thanks. --Jim

James R. Bartolino, Ph.D. -- Hydrologist
U.S. Geological Survey, Idaho Water Science Center
230 Collins Rd.
Boise, ID 83702
Phone: 208-387-1392 bus
208-761-6854 mob
208-387-1372 fax
Email: jrbartol@usgs.gov

IdWSC home page: <http://id.water.usgs.gov>
USGS Publications: <http://pubs.usgs.gov>

On May 7, 2015, at 8:48 AM, "Nelson, Dan" <Dan.Nelson@idwr.idaho.gov> wrote:

Hello Mr. Bartolino,

I have been asked to perform the licensing exam for your water right permit, 63-33281. This permit is for a commercial use for water education and research facility. I would like to set up a time that I can meet you at the site and review the water use for the license. I will need to measure the well at full capacity, and will need to determine the annual volume of water diverted from the well. I will be measuring the well to get the instantaneous flow. I would also will be asking for any records or information you can give me to determine the annual volume of water that you use in this system.

I have another favor to ask of you. I train our staff to perform field examinations, and I would like to use your filed verification exam as a training exercise for 3 of our staff. Your facility is close by, and from the description, there are multiple measurement devices on this system that would be beneficial to the staff that I am training. I would appreciate it if you would allow me to bring these other individuals with me for the training. I know that everyone is very busy this time of year, so if bring the additional staff will be an imposition, please don't hesitate to let me know. I can come and do the field exam by myself if you would prefer to not have a group of folks.

Looking at our groups schedules, Thursday afternoon or anytime Friday seems to be the best fit for next week. The week after next (May 18 – 22), Monday afternoon and all day Friday are also open. Please let me know if any of these times work for you. If not please give me some dates that work for you, and I will see what I can do.

Thank you for your time, and if you have any questions, please don't hesitate to contact me.

Daniel Nelson
Staff Hydrologist
Idaho Department of Water Resources
Telephone (208) 287-4856
Fax (208) 287-6700 (attn: Dan Nelson)