



State of Idaho

DEPARTMENT OF WATER RESOURCES

322 East Front Street • P.O. Box 83720 • Boise, Idaho 83720-0098

Phone: (208) 287-4800 • Fax: (208) 287-6700 • Website: www.idwr.idaho.gov

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

February 3, 2015

BOB CHANDLER
AVONDALE IRRIGATION DISTRICT
PO BOX 81
HAYDEN, ID 83835

SUPPORT DATA
IN FILE # 95-8687

Re: Water Right License Nos. 95-8687, 95-8774, 95-8867, and 95-8909

Dear Mr. Chandler:

On October 28, 2014, you wrote to me requesting correction of the licenses referenced above. On December 8, 2014, Jeff Peppersack from this office responded to your request, explaining that the licenses issued in 2009 had become final orders of the Department and that specific errors could not be identified to justify a change or correction to the licenses. Jeff also suggested that the alternative for Avondale Irrigation District was to file a new application to appropriate water.

Apparently through separate contact with other Department staff by Avondale or its representative, Ashley Newbry of the Department conducted a separate review and acknowledged that results of the field exam conducted to confirm beneficial use for Avondale's licenses may not reflect the entire capacity of Avondale's pump system. I understand Ashley also reviewed a screen shot of Avondale's SCADA data from 2014.

The Department acknowledges that Avondale's system today may be pumping more than that reflected on the licenses. You have stated in your letter that no changes have been made to any of the pumps in Avondale's system since 2007 (at the time the field exam was originally conducted by the Department). Additionally, you stated that production from the Miles wells are only marginally different today than the amount measured by the Department in 1981. The Miles wells are three wells that were existing prior to the application date for the licenses referenced above.

The field exam report completed by the Department in 2009 estimated the combined flow rate for Avondale's pumping system by summing the measured flow rate for each pump in the system. It is not clear from the field exam report what the system operating conditions were at the time of measurement, but the three Miles wells were operated independently during measurement because the pumps shared the same meter.

As you probably know, the maximum capacity of the system when all pumps are operating is likely to be less than the sum of the maximum flow rate for each pump operating independently due to increased head in the system when all pumps are operating. It is not clear

RECEIVED

FEB 23 2015

whether the Department's field exam report underestimated or overestimated the total system capacity because the operating conditions were unknown (some pumps may have been operating at less than capacity) and flow rates for individually operated pumps were summed up (potentially overestimating total capacity). Similarly, estimating total capacity of the system by summing theoretical capacity for each pump will overestimate total capacity.

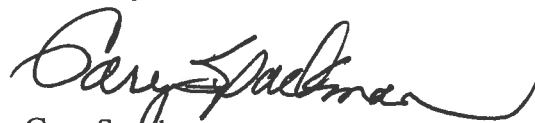
Recent data from Avondale's SCADA system is very useful for determining total production from the current system. However, even though the pumps may not have been changed over time, current system operating conditions may not reflect operating conditions at the time the permits were authorized for development. For example, addition of storage reservoirs to the system may reduce operating pressure for some pumps; changes in pumping water level will change operating head; increased demands, including addition of service lines may reduce system pressure; and pump wear will reduce output over time. All of these changes can affect the flow rate for the pumping system.

Because Avondale's licenses became final orders of the Department in 2009 without appeal, a higher standard is necessary to justify reopening those cases to change the licenses. As the years pass beyond the authorized development period for the permits, the review necessary to justify a change can become onerous, both for the water user and the Department. In your letter, you compared Avondale's request for correction of its licenses to a correction made to license 98-7193. I believe the facts are significantly different in the two cases. An ownership change was initially rejected by the Department for license 98-7193 because the licensed water right did not match the deed submitted as evidence of the ownership change. Review revealed conclusive evidence that the place of use was licensed in the wrong section. License 98-7193 was corrected to allow the ownership change to be processed.

Because of the need for a higher standard, conclusive evidence of production to confirm beneficial use should be based on actual system production records from the authorized development period of the permits. This period varied for Avondale's licenses from 1991 through 2000. If Avondale can submit conclusive evidence in the form of actual production records for its ground water pumping system that will confirm a higher total system flow rate during or close to the development period, the Department will consider reopening the licenses for correction of the combined flow rate limitation.

I hope this letter provides sufficient explanation to address your concern. Please feel free to contact me if you have additional questions.

Sincerely,



Gary Spackman
Director

cc: IDWR Northern Region

AVONDALE IRRIGATION DISTRICT

Providing Exceptional Drinking Water & Service Since 1908

RECEIVED

JAN 12 2015

DEPARTMENT OF
WATER RESOURCES

RECEIVED

JAN 12 2015

DEPARTMENT OF
WATER RESOURCES

January 6, 2015

Gary Spackman, Director
Idaho Department of Water Resources
322 East Front Street
PO Box 83720
Boise ID 83720-0098

Re: Water Right Licenses 95-8687, 95-8774, 95-8867 & 95-8909

Dear Director Spackman:

We recently corresponded with your office regarding what we believe to be errors in the combined limits conditions on the above referenced licenses and asking that these licenses be modified. We received a response from Mr. Jeff Peppersack of your office dated December 8, 2014. Unaware of Mr. Peppersack's letter and in response to a separate conversation on the matter, Shelley Keen asked Ashley Newbry to look into the situation. At her request, I provided information about our water system which included some screen shots of the pumping rates of our wells. In a December 17th email to me, Ashley acknowledges "the operating conditions recorded in Sean Maxey's exam may not reflect the entire capacity of Avondale's pump system." I want to emphasize that in the time since Mr. Maxey did the field work for the exam in October of 2007, no changes have been made to any of the pumps in our system. The SCADA data show the Miles wells produce 11.26 cfs, which is marginally lower than was measured in the license exam of 1981. I believe it is highly unlikely that the pumps produced less water in 2007 than they do today.

Additionally, since our first correspondence, we found an error in the flow rate in the body of license of 95-8687. In the line describing the use, the flow rate is listed as 1.14 cfs. In all other places, the flow rate is listed as 1.31cfs. The volume limit for the license is 984.4 acre-feet, which is what 1.31 cfs would produce pumping for 365 days.

In Mr. Peppersack's and in Ms. Newbry's letter we were told that, because we did not object to the licenses in time, the only option at this point is for the district to file an a new application for water rights. However, we became aware of a situation involving an error that was made in issuing license 98-7193. When this error was discovered, this water user also was initially told their only recourse was filing a new application. It is our understanding that a corrected license was issued after you personally reviewed the matter. When comparing the two situations we believe the impact on Avondale Irrigation District is the more grievous of the two.

AVONDALE IRRIGATION DISTRICT

Providing Exceptional Drinking Water & Service Since 1908

In the case of 98-7193, a search of IDWR records does not reveal any water rights even close to the point of diversion for this right so the loss of priority that would have resulted in requiring a new permit would have been negligible. In Avondale's case, the combined limit reduction of the total quantity of water that Avondale holds represents about 25% of our total right. We realize that a new application to cover our existing system capacity would probably be approved. We also realize that it is not likely that a new water right would be curtailed because of regulation solely in Idaho. How the cross state issue regarding the aquifer will be decided is unknown. In any event, we believe that the earlier the priority date of Avondale's water rights the better it is for the district.

We would request that you personally review the facts in this case and apply the same standard that you used in deciding to issue a corrected license for 98-7193.

Thank you for your consideration.

Sincerely,



Bob Chandler
District Manager

Newbry, Ashley

From: Newbry, Ashley
Sent: Wednesday, December 17, 2014 5:43 PM
To: 'Bob Chandler'
Cc: Keen, Shelley
Subject: RE: Water Right Licenses 95-8687, 95-8774, 95-8867, 95-8909
Attachments: scan0074.pdf

Hello Bob,

Here is a follow up email to our conversation today.

Shelley provided an explanation for the double correspondence to you (Avondale Irrigation District) from the Department (Ashley Newbry and Jeff Peppersack). This came about due to some internal miscommunication at IDWR.

Though we acknowledge that the operating conditions recorded in Sean Maxey's exam may not reflect the entire capacity of Avondale's pump system, we must also recognize that the water right licenses were issued more than 5 years ago. This is past the acceptable period of time which would have allowed Avondale to submit a petition for reconsideration regarding the rights issued in 2009. Jeff Peppersack's (Water Allocations Bureau Chief) accurately reflects the Department's position on how Avondale's existing water right licenses must be handled.

Going forward, Avondale has two options which would allow them to appropriate additional water to make up the difference between their system demand/production and allowable diversion rates. (1) Submit a RAFN application to request the additional water needed currently, along with future water demand. (2) Submit a standard permit application for the water needed currently. (This will include the potential for application to be protested.) Once a permit is approved, Avondale could quickly submit 'proof of beneficial use,' allowing the department to schedule a field examination, in order to issue a right for the additional water needed at present. If desired, submit a RAFN for future water demand on a separate basis.

Thank you,

Ashley Newbry, EiT
Water Rights Section
Idaho Dept. of Water Resources
State Office
322 E. Front Street
PO Box 83720
Boise, ID 83720-0098
(208) 287-4800 X 4846



From: Bob Chandler [mailto:bobchandlercda@gmail.com]
Sent: Thursday, December 11, 2014 12:33 PM
To: Newbry, Ashley
Subject: Re: Water Right Licenses 95-8687, 95-8774, 95-8867, 95-8909

If you have any questions, especially regarding the screen shots, please feel free to give me a call.

Thanks again,
B.

Bob Chandler
District Manager

Avondale Irrigation District
PO Box 81, Hayden ID 83835
Office (208) 772-5657
Mobile (208) 691-3428

On Thu, Dec 11, 2014 at 11:28 AM, Newbry, Ashley <Ashley.Newbry@idwr.idaho.gov> wrote:

Received; Thank you Bob.

Ashley Newbry, EIT

Water Rights Section

Idaho Dept. of Water Resources

State Office

322 E. Front Street

PO Box 83720

Boise, ID 83720-0098

(208) 287-4800 X 4846



From: Bob Chandler [mailto:bobchandlercda@gmail.com]
Sent: Thursday, December 11, 2014 11:34 AM
To: Newbry, Ashley
Cc: Bob Haynes
Subject: Re: Water Right Licenses 95-8687, 95-8774, 95-8867, 95-8909

Ashley,

Per our conversation earlier today, I am submitting the needed information.

Attached you will find two (2) screen shots of our SCADA that include Miles individual pumping, Miles combined pumping, Miles pressures, Airport pressures, Finucane pumping and pressure. Also, I have attached a picture of name plate from our Miles #2 motor clarifying that it is a 200 hp motor.

Note: The combined total for Miles is a reading from the existing 20" meter, not the added up amount of each individual meter which would be 5058 gpm. Although the SCADA indicates the 20" meter combined rate is flowing around 4700 gpm, the actual meter itself showed 5150 gpm. This was an older meter and it was hard to retrofit a SCADA register to it. The individual meters reflect less flow when pumping against each other, just as the large 20" so I think that number is more representative than the actual 20" read. I guess I am saying the actual flow of all Miles pumps flowing simultaneously is 5058, rather than the 4700. If you were to read the meter such as Mr. Maxey (prior to our SCADA) you would credit us with 5150 gpm.

As discussed, Mr. Maxey's pressures were also incorrect, and you can see them reflected in the attached images.

Last, neither Miles nor the Airport pumps have pipes that restrict them when pumping.

Hopefully this will clear things up! I look forward to hearing back from you soon.

Bob

Bob Chandler
District Manager

Avondale Irrigation District

PO Box 81, Hayden ID 83835

Office (208) 772-5657

Mobile (208) 691-3428

On Wed, Dec 10, 2014 at 2:26 PM, Newbry, Ashley <Ashley.Newbry@idwr.idaho.gov> wrote:

Hello Mr. Bob Chandler,

I apologize for the time it has taken the Department to respond to your licensing concern. I am currently reviewing Sean Maxey's field examination reports in response to your letter. In attempt to re-investigate and "dial in" his calculations, I have come across a few questions that you or one of your operators could help with.

1. What is the average operating system pressure (in PSI) for each of your wells?

Sean estimated 59 psi for Finucane and 100 psi for the rest of the wells, but if you have your own data available or as records, I'd like to input that instead.

2. Are you able to produce pumping records which would show each well's maximum flow rate (either in GPM or CFS)?

3. It appears that the Miles Avenue wells and the Airport wells are set up like a manifold system (multiple wells share one distribution pipe to the mainline); are you aware of any pipes which might limit the ability for multiple pumps to run at capacity at the same time (for example, if the distribution pipe was undersized)?

We would like to resolve this concern quickly; If I don't hear from you within the next day or so, I will give you a call to follow up.

Thank you,

Ashley Newbry, EIT

Engineer Associate

Water Rights Section

Idaho Dept. of Water Resources

State Office

322 E. Front Street

PO Box 83720

Boise, ID 83720-0098

(208) 287-4800 X 4846



IDAHO DEPARTMENT OF WATER RESOURCES
Beneficial Use Field Report Review

A. GENERAL INFORMATION

Permit(s) No: 95-8687, 95-8774, 95-8867, 95-8909

Review Date: 12/10-12/2014

1. Current Owner: AVONDALE IRRIGATION DIST
PO BOX 81
HAYDEN LAKE ID 83835
(208)772-5657
2. Assisted by: Bob Chandler
Phone No: (208)772-5657
Address: PO Box 81; Hayden Lake, ID 83835
Relationship to Permit Holder: District Manager

3. SOURCE

TRIBUTARY

GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 95-7558, 95-8144, 95-8321, 95-8909, 95-465, 95-465A, 95-465B, 95-8774, 95-8867
2. Other water rights with the same point of diversion: 95-8774, 95-8867, 95-8909, 95-7558, 95-8144, 95-8321

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

GROUND WATER	NW1/4SE1/4	Sec. 14,	Twp 51N,	Rge 04W, B.M.	KOOTENAI County
GROUND WATER	NW1/4SE1/4	Sec. 14,	Twp 51N,	Rge 04W, B.M.	KOOTENAI County
GROUND WATER	NW1/4SE1/4	Sec. 14,	Twp 51N,	Rge 04W, B.M.	KOOTENAI County
GROUND WATER	NE1/4SW1/4	Sec. 15,	Twp 51N,	Rge 04W, B.M.	KOOTENAI County
GROUND WATER	NE1/4SW1/4	Sec. 15,	Twp 51N,	Rge 04W, B.M.	KOOTENAI County
GROUND WATER	SW1/4SW1/4	Sec. 24,	Twp 51N,	Rge 04W, B.M.	KOOTENAI County

Method of Determination: GIS Only

2. **PLACE OF USE:**

MUNICIPAL (Avondale Irrigation District Service Area)

[illegible]

Method of Determination: GIS Only

3. Yes Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
Yes Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
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
Finucane	Unknown	75	x	Unknown	x
Miles #1	Westinghouse	350	2S-77	Peerless	76F66124(motor) F20954
Miles #2	U.S.E.M.	200	AA-71	Peerless	x
Miles #3	Westinghouse	350	IF-77	Peerless	VSW1
Airport #1	General Electric	200	x	Unknown	5K44DP (?)
Airport #2	U.S.E.M.	250	x	Unknown	725B POIN 322DR067 R 1

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calibration Date
Finucane Flow Meter	x	x	x	x	x	unknown
Miles # 1, 2, 3 Flow Meter	Propeller	McCrometer	x	x	x	unknown
Airport # 1, 2 Flow Meter	Unknown	Rockwell International	x	x	x	unknown

2a. Measurements: Original field examiner used Remington wrist watch to time the flow measurements while watching flow meter at each station.

Well	Flow meter Start Reading	Flow meter End Reading	Time Elapsed (min)	Gallons per Minute	Cubic Feet per Second
Finucane	0	500	1	500	1.1
Miles #1	913,957	913,158	1	1000	2.22
Miles #2	913,958	913,959	1	1000	2.22
Miles #3	913,959	913,960	1	1000	2.22
Airport #1	0	1,275	1	1275	2.84
Airport #2	227,387,000	227,384,000	2	1500	3.34

Measurement by stopwatch and flow meters: $1.1 + 2.22 + 2.22 + 2.22 + 2.84 + 3.34 = 13.94$ cfs

2b. Measurements: Secondary field examiner requested and used SCADA data from the District Manager, Bob Chandler. The figure is based on 2014 data. The system and operating conditions since the proof made date are unknown.

(See SCADA screenshot attachment)

E. FLOW CALCULATIONS

Measured Methods:

Existing Water Rights Provide: $10.2 \text{ cfs (95-7558)} + 2.0 \text{ cfs (95-8144)} + 0.2 \text{ cfs (95-8321)} = 11.81 \text{ cfs under combined limit}$

Permits Allowed: $1.31 \text{ cfs (95-8687)} + 3.0 \text{ cfs (95-8774)} + 2.0 \text{ cfs (95-8867)} + 3.0 \text{ cfs (95-8909)} = 9.31 \text{ allowable cfs}$

Theoretical System Capacity: $1.308 \text{ cfs} + 3.817 \text{ cfs} + 2.348 \text{ cfs} + 4.108 \text{ cfs} + 2.348 \text{ cfs} + 2.880 \text{ cfs} = 16.809 \text{ cfs}^*$

Theoretical Calculations

Finucane Well				
HP	H in feet	Efficiency as a decimal	Pumping Lift in feet	System Pressure in PSI
75	408.6	0.81	270	60
		Pump curve efficiency	Well log - top of well screen	Avg. pressure per Avondale
Q= HP*8.8*Eff/H				
Q=	1.308	CFS	=	587.196 GPM

Miles Ave Well 1				
HP	H in feet	Efficiency as a decimal	Pumping Lift in feet	System Pressure in PSI
350	564.8	0.7	380	80
		Field Handbook - IDWR Std.	Well log - top of well screen	Avg. pressure per Avondale
Q= HP*8.8*Eff/H				
Q=	3.817	CFS	=	1713.195 GPM

Miles Ave Well 2				
HP	H in feet	Efficiency as a decimal	Pumping Lift in feet	System Pressure in PSI
200	524.80	0.7	340	80
		Field Handbook - IDWR Std.	Well log - top of well screen	Avg. pressure per Avondale
Q= HP*8.8*Eff/H				
Q=	2.348	CFS	=	1053.585 GPM

Miles Ave Well 3				
HP	H in feet	Efficiency as a decimal	Pumping Lift in feet	System Pressure in PSI
350	524.8	0.7	340	80
		Field Handbook - IDWR Std.	Well log - top of well screen	Avg. pressure per Avondale
Q= HP*8.8*Eff/H				
Q=	4.108	CFS	=	1843.774 GPM

Airport Well 1				
HP	H in feet	Efficiency as a decimal	Pumping Lift in feet	System Pressure in PSI
200	524.8	0.7	340	80
		Field Handbook - IDWR Std.	Well log - top of well screen	Avg. pressure per Avondale
Q= HP*8.8*Eff/H				
Q=	2.348	CFS	=	1053.585 GPM

Airport Well 2				
HP	H in feet	Efficiency as a decimal	Pumping Lift in feet	System Pressure in PSI
250	534.8	0.7	350	80
		Field Handbook - IDWR Std.	Well log - top of well screen	Avg. pressure per Avondale
Q= HP*8.8*Eff/H				
Q=	2.880	CFS	=	1292.356 GPM
Total Capacity (CFS)				16.809*

*Note: By summing the individual pump capacities, the total system capacity value may result in an overestimation due to increased head when all of the pumps are operating.

2014 SCADA Data Calculations

Finucane Well				
HP	H in feet	Efficiency as a decimal	Pumping Lift in feet**	System Pressure in PSI
75	473.28	0.711	270	88
		Pump curve	well log - top of well screen	SCADA data
Q= HP*8.8*Eff/H				
Q=	0.992	CFS	=	444.988 GPM

Reading = 445 GPM

Miles Ave Well 1				
HP 350	H in feet 557.87	Efficiency as a decimal* 0.7995	Pumping Lift in feet** 380	System Pressure in PSI 77
			Well log - top of well screen	SCADA data
Q= HP*8.8*Eff/H				
Q= 4.414	CFS	=	1981.021	GPM

Reading = 1981 GPM

Miles Ave Well 2				
HP 200	H in feet 517.87	Efficiency as a decimal* 0.741	Pumping Lift in feet** 340	System Pressure in PSI 77
			Well log - top of well screen	SCADA data
Q= HP*8.8*Eff/H				
Q=	2.518	CFS	=	1130.220 GPM

Reading = 1130 GPM

Miles Ave Well 3				
HP	H in feet	Efficiency as a decimal*	Pumping Lift in feet**	System Pressure in PSI
350	517.87	0.7314	340	77
			Well log - top of well screen	SCADA data
Q= HP*8.8*Eff/H				
Q=	4.350	CFS	=	1952.261 GPM

Reading = 1952 GPM

Airport Well 1				
HP	H in feet	Efficiency as a decimal	Pumping Lift in feet**	System Pressure in PSI
200	508.63	0.7	340	73
		Field Handbook - IDWR Std.	Well log - top of well screen	SCADA data
Q= HP*8.8*Eff/H				
Q=	2.422	CFS	=	1087.080 GPM

Reading = Well off

Airport Well 2				
HP	H in feet	Efficiency as a decimal	Pumping Lift in feet**	System Pressure in PSI
250	520.94	0.7	350	74
		Field Handbook - IDWR Std.	Well log - top of well screen	SCADA data
Q= HP*8.8*Eff/H				
Q=	2.956	CFS	=	1326.740 GPM

Reading = Well off

Total Capacity (CFS)	17.652
Capacity, All Miles pumps on	17.640

*Efficiency values modified to reflect actual well operation from flow and pressure measurements.

** Pumping Lift reflects values are similar to those in the original field examination.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{N/A}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \underline{N/A}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \underline{N/A}$$

2. Volume Calculations for Other Uses: N/A**G. NARRATIVE/REMARKS/COMMENTS**

The well logs for all 6 POD's may be found in the WR 95-8867 folder in the field examination report. Flow measurement calculations for POD well in T51N R04W S24 NWSWSW indicate a capacity of approximately 500 GPM. ArcGIS and aerial photography indicate that this well is located inside the T51N R04W S24 SWSW instead of T51N R04W S24 NWSW indicated on Permit 95-8867.

Though it is no longer in use, Avondale Irrigation District owns a pumping station on Hayden Lake for surface water withdrawal. This pumping station was not operated for this field exam; it is covered by WR 95-465, WR 95-465A, WR 95-465B. The District also owns an elevated 50,000 gallon reservoir (blue-green color) located on a high point west of the Hayden Lake pumping station. The reservoir sits on privately owned land.

About ½ mile northwest of the lake pump station, the District also owns a large new 675,000 Gallon reservoir off Whispering Pines Drive. From the Lake pump station, the District's distribution mainline runs west down Miles Avenue to Coeur d Alene Airport. About 1 ½ miles west of the pump station, a distribution line runs south 1 ¼ miles to the Finucane well. The three District wells connect into the mainline near their well site. In addition, the District owns and operates two wells at the Airport. Though the distance between these two wells is not great, they are separated by a square concrete reservoir formerly operated by Kootenai County.

Amendment(s) have been made to add all District wells as PODs (6 wells total) along with their respective well locations. The maximum diversion volume for water rights 95-8687, 95-8774, and 95-8909 at licensing was calculated using (maximum diversion rate CFS) x (365 days) x (1.9835). Because WR 95-8867 began as a municipal only permit, it was not assigned a maximum diversion volume.

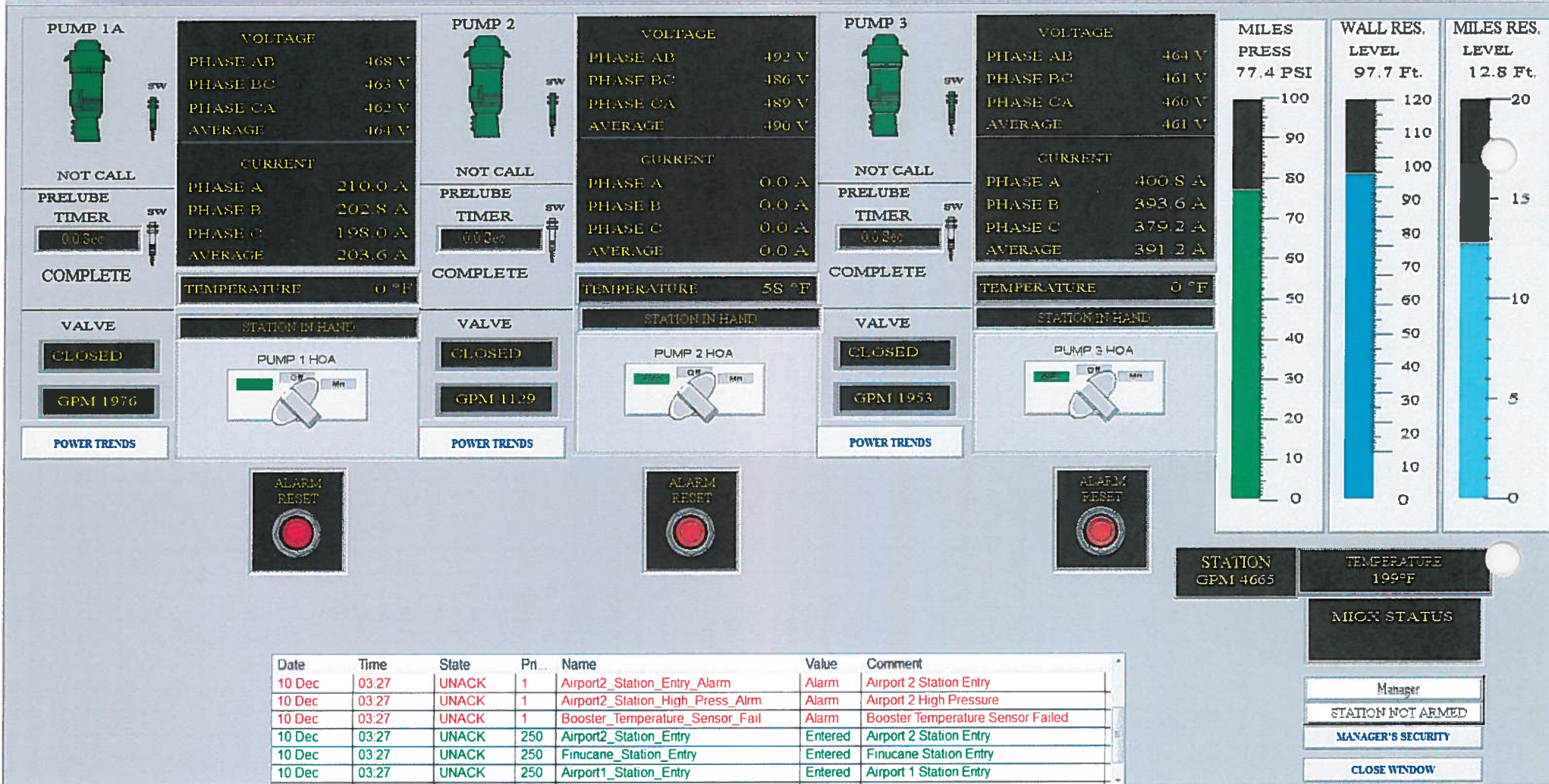
Secondary review in 2014 was conducted based on a request by Avondale to correct the licenses. Avondale questioned the measurement values for the Miles' wells. The original examiner's theoretical values were recalculated based on input from Avondale regarding operating pressure. Theoretical values were also recalculated based on a 2014 screenshot of Avondale's SCADA data. These recalculated theoretical values are 16.81 cfs and 17.6 cfs. Note that the summation of individual theoretical capacities will likely overestimate the total system capacity due to increased head when all of the pumps are operating.

I. AUTHENTICATION

Ashley Newbry, Engineer Associate

Reviewer _____ Date _____

MILES STATION



MENU

AVONDALE IRRIGATION DISTRICT WATER SYSTEM

0.0 FINUCANE 6.4



88 PSI

445

PUMP HOU

AUTO

FINUCANE WINDOW HOU

AUTO

3.1 AIRPORT1 0.0



73 PSI

0

PUMP HOU

AUTO

AIRPORT1 WINDOW HOU

AUTO

0.0 AIRPORT2 0.6



74 PSI

0

PUMP HOU

AUTO

AIRPORT2 WINDOW HOU

AUTO

0.0 MILES 2.7 77 PSI





1981 1130 1952

PUMP HOU

HAND HAND HAND

AUTO AUTO AUTO

MILES WINDOW HOU

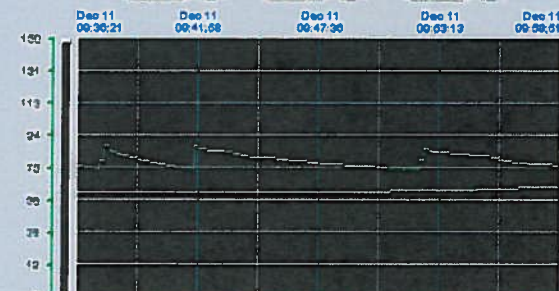
MILES 1 1981 GPM
 MILES 2 1130 GPM
 MILES 3 1952 GPM
 MILES TOTAL 4665 GPM
 FINUCANE 445 GPM
 AIRPORT 1 0 GPM
 AIRPORT 2 0 GPM
 TOTAL 5110 GPM

0.0 8.8

PUMP 1

PUMP 2

PUMP 3



WALL RES.

CONTROL OPERATION

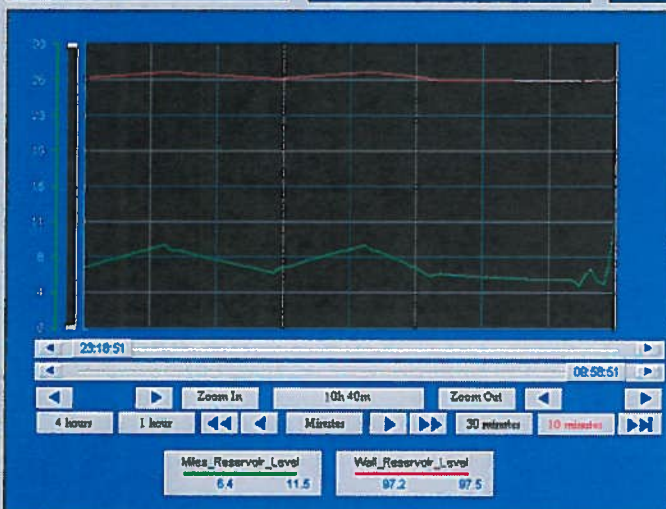
WALL RESERVOIR LEVEL 97.5 FT

10.0 0.0

MILES RES.

MILES RESERVOIR LEVEL 11.6 FT

0.0 3.5



Date	Time	State	Pri...	Name	Value	Comment
10 Dec	03:27	UNACK	1	Airport2_Station_Entry_Alarm	Alarm	Airport 2 Station Entry
10 Dec	03:27	UNACK	1	Airport2_Station_High_Press_Alm	Alarm	Airport 2 High Pressure
10 Dec	03:27	UNACK	1	Booster_Temperature_Sensor_Fail	Alarm	Booster Temperature Sensor Failed
10 Dec	03:27	UNACK	250	Airport2_Station_Entry	Entered	Airport 2 Station Entry
10 Dec	03:27	UNACK	250	Finucane_Station_Entry	Entered	Finucane Station Entry
10 Dec	03:27	UNACK	250	Airport1_Station_Entry	Entered	Airport 1 Station Entry

Update Successful

Default Query

Booster_High_Press12s
 61 64

Booster_Discharge_Press12s
 76 76

INSTALLATION REPORT

DICKERSON PUMP & IRRIGATION CO., INC.

SPOKANE, WASHINGTON

DATE 6/29/70 1970

WELL DATA

CUSTOMER'S NAME Lockhaven Farms

WELL LOCATION _____

WELL NO. _____

Depth 298' 6" Where } Casing Top? XX

From } Ground Level? _____

Date Drilled _____ Standing Water Level 246'Size 12" I D Amount of Casing AllDriller DishmanSize Reductions and Where Well Screenat 273'

ADDRESS _____

Pump House XX Fit Open Other

WATER: Clear _____ Sandy _____ Rusty _____

Other _____

OTHER FACTS: _____

Bowl Lat 1"Regal FoilCREW Garrison - UnadornsOUR HOIST No 5 CRANE BY _____

NEW PUMP DATA

Make Peerless Model _____Type Turbine Serial No. 222704MOTOR: Make U.S. H.P. 75 Phase 3 Speed 18003-2842-01-270DModel _____ Serial No. 32025156Frame 365 TP Amps 193.6 Volts 91.8 Ratchet? YesBase Type 6x8x16.5 Set On 9" Ch Grouted? Yes

Tank Size _____ Switch Set _____ Where? _____

Size of Shaft, Tube or Cable 1.5" Ft. 265Size of Drop Pipe or Column 6" Ft. 265'Unit Type 10 MA No. Stages 12Length of Unit 9' Tailpipe: Ft. _____ Size _____Strainer Size 6" Type Cone Length 1' TOTAL SETTING 275'Type Lube: Auto _____ Man. X Oil _____ Water X

Probe Control Setting: Upper _____ Color _____

(Ft. from top of casing) Lower _____ Color _____

Air Line Length 265' Size 3/8"

STARTER: Make _____ Size _____

Heater Size _____ Amps _____ Fuse Type _____ Size _____

OLD PUMP & REPAIR PUMP DATA

Make _____ Model _____

Type _____ Serial No. _____

MOTOR: Make _____ H.P. _____ Phase _____ Speed _____

Model _____ Serial No. _____

Frame _____ Amps _____ Volts _____ Ratchet? _____

Base Type _____ Set On _____ Grouted? _____

Tank Size _____ Switch Set _____ Where? _____

Size of Shaft, Tube or Cable _____ Ft. _____

Size of Drop Pipe or Column _____ Ft. _____

Unit Type _____ No. Stages _____

Length of Unit _____ Tailpipe: Ft. _____ Size _____

Strainer Size _____ Type _____ Length _____ TOTAL SETTING _____

Type Lube: Auto _____ Man. _____ Oil _____ Water _____

Probe Control Setting: Upper _____ Color _____

(Ft. from top of casing) Lower _____ Color _____

Air Line Length _____ Size _____

STARTER: Make _____ Size _____

Heater Size _____ Amps _____ Fuse Type _____ Size _____

Date Original Installation _____ By _____

JUL 16 1971

See "Remarks" other side

95-8867



RECEIVED

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.

JUN 8 1977

1. WELL OWNER

Name Avondale Irrigation Dist.
Address Heaven Blvd. Hayden Lake, Id.
Owner's Permit No. 95-7558 W.R.

2. NATURE OF WORK

95-77-N-80

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☐ Domestic ☒ Irrigation ☐ Test ☐ Other (specify type)
☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 16 inches Total depth 417 feet
Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
<u>3.75</u> inches	<u>16</u> inches	<u>0</u> feet	<u>320</u> feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☒ Yes ☐ No

Was a packer or seal used? ☒ Yes ☐ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☒ Yes ☐ No

Manufacturer's name WAP Johnson

Type Standard Steel Model No. 304

Diameter 2 1/2 inch slot size 3/32 Set from 320 feet to 365 feet

Diameter 2 1/2 inch slot size 3/32 Set from 365 feet to 417 feet

Gravel packed? ☐ Yes ☐ No Size of gravel _____

Placed from _____ feet to _____ feet

Surface seal depth 20 Material used in seal: ☒ Cement grout

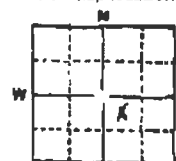
☐ Pudding clay ☐ Well cuttings

Sealing procedure used ☐ Slurry pit ☒ Temporary surface casing

☐ Overbore to seal depth

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____

Lot No. _____ Block No. _____

County Kootenai

NW 1/4 Sec 14, T. 51, N. 4 SW

7. WATER LEVEL

Static water level 297 feet below land surface

Flowing? ☐ Yes ☐ No G.P.M. flow _____

Temperature _____ ° F. Quality _____

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☒ Pump ☐ Sailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped
<u>1000</u>	<u>14</u>	<u>4</u>

9. LITHOLOGIC LOG

Hole Diam.	Depth		Material	Water	
	From	To		Yes	No
<u>22</u>	<u>0</u>	<u>32</u>	<u>Dark tan soil</u>		
<u>22</u>	<u>1</u>	<u>20</u>	<u>Gravel sand w/ silt</u>		
<u>16</u>	<u>20</u>	<u>51</u>	<u>Gravel sand tight</u>		
<u>16</u>	<u>51</u>	<u>724</u>	<u>Gravel sand & silt tight</u>		
<u>16</u>	<u>104</u>	<u>199</u>	<u>Gravel sand loose - 3/4 in</u>		
<u>16</u>	<u>199</u>	<u>312</u>	<u>Gravel sand 1/2 in med</u>		
<u>16</u>	<u>312</u>	<u>391</u>	<u>Gravel sand med fine</u>		
<u>16</u>	<u>391</u>	<u>392</u>	<u>Gravel sand</u>		
<u>16</u>	<u>392</u>	<u>398</u>	<u>Gravel sand 3/4 in med</u>		
<u>16</u>	<u>398</u>	<u>414</u>	<u>Sand & gravel med</u>		
<u>16</u>	<u>414</u>	<u>418</u>	<u>Gravel sand & gravel med</u>		
<u>16</u>	<u>418</u>	<u>435</u>	<u>Gravel sand med</u>		
<u>16</u>	<u>435</u>	<u>436</u>	<u>Gravel sand coarse</u>		
<u>16</u>	<u>436</u>	<u>438</u>	<u>Sand coarse some gravel</u>		
<u>16</u>	<u>438</u>	<u>452</u>	<u>Sand & gravel coarse</u>		
<u>16</u>	<u>452</u>	<u>482</u>	<u>Sand & gravel coarse</u>		
<u>16</u>	<u>482</u>	<u>489</u>	<u>Sand coarse</u>		
<u>16</u>	<u>489</u>	<u>494</u>	<u>Sand coarse & gravel</u>		
<u>16</u>	<u>494</u>	<u>496</u>	<u>Sand coarse</u>		
<u>16</u>	<u>496</u>	<u>497</u>	<u>Clay sand</u>		

10.

Work started Sept 18 - 77 finished Jan 17 - 1977

11. DRILLERS CERTIFICATION

Firm Name E.H. Hakman Drilling Co. Firm No. 105

Address 601 S. Pine Rd. Date 4/16/77

Signed by (Firm Official) E.H. Hakman

and John H. Hakman

(Operator)

95-8867

Miles
H 1

USE TYPEWRITER OR
BALL POINT PEN

State of Idaho
Department of Water Resources

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 20 days after the completion or abandonment of the well.

RECEIVED

JUN 6 1977

1. WELL OWNER

Name Woodlake Engineering Dist.
Address Hyden Ave. Hayden Lake, ID
Owner's Permit No. 95-7558 WR

7. WATER LEVEL

Static water level 282 feet below land surface
Flowing? ☐ Yes ☐ No G.P.M. flow _____
Temperature _____ ° F. Quality _____
Artesian closed-in pressure _____ p.s.i.
Controlled by ☐ Valve ☐ Cap ☐ Plug

2. NATURE OF WORK

95-77-N-79
☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning)

8. WELL TEST DATA

☐ Pump ☐ Bailor ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped
<u>3700</u>	<u>9</u>	<u>7</u>

3. PROPOSED USE

☐ Domestic ☒ Irrigation ☐ Test ☐ Other (specify type)
☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 20.00 inches Total depth 388 feet
Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
<u>37.5</u> inches	<u>20.00</u> inches	<u>4</u> feet	<u>340</u> feet

Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To

Well screen installed? ☒ Yes ☐ No

Manufacturer's name WAP Johnson

Type Standard Steel Model No. 304

Diameter 18.75 inch slot size 140 set from 283 feet to 353 feet

Diameter 20.00 inch slot size 70 set from 353 feet to 388 feet

5' dia. 18" OD casing with perforations

10' of riser with packer on top of screen.

Gravel packed? ☐ Yes ☒ No Size of gravel _____

Placed from _____ feet to _____ feet

Surface seal depth 40 Material used in seal ☒ Cement grout

☒ Padding clay ☐ Wall cuttings

Sealing procedure used ☐ Slurry pit ☒ Temporary surface casing

☐ Overbore to seal depth

6. LOCATION OF WELL

Sketch map location must agree with written location. 95

Subdivision Name _____
Lot No. _____ Block No. _____

County Kootenai

NW 1/4 SE 1/4 Sec. 14 T. 51 N. R. 4 E/W

10.

Work started Nov-28-77 finished Jan 31 77

11. DRILLERS CERTIFICATION

Firm Name E.D. Holman Drilling Co. Firm No. 105

Address 401 S. Pine St. Blaine, ID Date 1/16/78

Signed by (Sign Official) [Signature]

and

Operator Dor Koch

USE ADDITIONAL SHEETS IF NECESSARY

FORWARD THE WHITE COPY TO THE DEPARTMENT

miles
#2

012893

95-8867

USE TYPEWRITER OR
BALL POINT PEN

State of Idaho
Department of Water Resources



RECEIVED
JUN 8 1977

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 10 days after the completion or abandonment of the well.

Department of Water Resources
Water District Office

1. WELL OWNER

Name Arundale Irrigation Dist. Inc.
Address Hayden Ave. Hayden Lake Idaho
Owner's Permit No. 95-7558 WR

2. WATER LEVEL

Static water level 293 feet below land surface
Flowing? ☐ Yes ☐ No G.P.M. flow _____
Temperature _____ ° F. Quality _____
Artesian closed-in pressure _____ p.s.i.
Controlled by ☐ Valve ☐ Cap ☐ Plug

3. NATURE OF WORK

95-77-N-78
☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning)

4. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other
Discharge G.P.M. _____ Draw Down _____ Hours Pumped _____

5. PROPOSED USE

☐ Domestic ☒ Irrigation ☐ Test ☐ Other (specify type) _____
☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

6. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

7. WELL CONSTRUCTION

Diameter of hole 20 inches Total depth 388 feet
Casing schedule: ☒ Steel ☐ Concrete
Thickness _____ Diameter _____ From _____ To _____
375 inches 20 inches + 7 feet 370 feet
_____ inches _____ inches _____ feet _____ feet
_____ inches _____ inches _____ feet _____ feet
_____ inches _____ inches _____ feet _____ feet
_____ inches _____ inches _____ feet _____ feet
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches
Number _____ From _____ To _____
_____ perforations _____ feet _____ feet
_____ perforations _____ feet _____ feet
_____ perforations _____ feet _____ feet

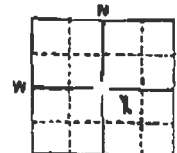
Well screen installed? ☒ Yes ☐ No
Manufacturer's name Wap Johnson
Type Stainless Steel Model No. 304
Diameter 20 inch size 20 Set from 365 feet to 385 feet
Diameter 20 inch size 20 Set from 355 feet to 385 feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____
Placed from _____ feet to _____ feet

Surface seal depth 40 Material used in seal ☒ Cement grout
☒ Pudding clay ☐ Well cuttings
Sealing procedure used ☐ Slurry pit ☒ Temporary surface casing
☐ Overbore to seal depth

8. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____

County Kootenai

NW 1/4 Sec 14 T. 51 N. R. 4 E.W.

9.

Work started 2/4/77 finished 3/21/77

10. DRILLER'S CERTIFICATION

Firm Name E.H. Johnson & Son, Inc. Firm No. 125
Address 610 S. Pine St. Hayden, Idaho Date 4/14/77
Signed by (Firm Official) E.H. Johnson
and [Signature]
(Sealing)

USE ADDITIONAL SHEETS IF NECESSARY

FORWARD THE WELL REPORT TO THE DEPARTMENT

miles
#3

012352

R

95-8867

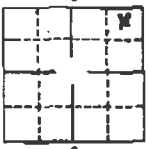
RECEIVED

FEB 07 1994

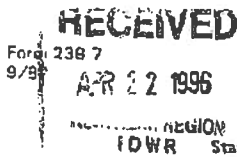
STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORTUSE BALLPOINT OR
BALLPOINT PEN

Airport

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.

1. WELL OWNER Name <u>AVONDALE IRRIGATION DIST</u> Address <u>P.O. Box 81</u> <u>HAYDEN LAKE ID. 83835</u> Owner's Permit No. <u>95-93-C-0038000</u> <u>WR # 95-08774</u>		7. WATER LEVEL Static water level <u>301</u> feet below land surface. Flowing? ☐ Yes ☒ No G.P.M. flow <u>NOT TESTED</u> Artesian closed-in pressure _____ p.s.i. Controlled by: ☐ Valve ☐ Cap ☐ Plug Temperature <u>47</u> °F. Quality <u>Good</u> Describe artesian or temperature zones below _____																																									
2. NATURE OF WORK ☒ New well ☐ Deepened ☐ Replacement ☐ Abandoned (describe abandonment procedure such as materials, plug depths, etc. in lithologic log)		8. WELL TEST DATA <u>TO BE TESTED BY OTHERS</u> ☐ Pump ☐ Bailor ☐ Air ☐ Other _____																																									
3. PROPOSED USE ☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection ☐ Other _____ (specify type)		9. LITHOLOGIC LOG <u>89563</u>																																									
4. METHOD DRILLED ☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary ☒ Cable ☐ Dug ☐ Other _____		<table border="1"><thead><tr><th>Bore Diam.</th><th>Depth From To</th><th>Material</th><th>Water Yes No</th></tr></thead><tbody><tr><td>24</td><td>0 20</td><td>GRAVEL 3" MINUS</td><td>X</td></tr><tr><td>16</td><td>20 98</td><td>GRAVEL 3" MINUS</td><td>X</td></tr><tr><td>16</td><td>98 121</td><td>GRAVEL + SAND COMBINATION</td><td>X</td></tr><tr><td>16</td><td>121 185</td><td>GRAVEL + SAND 3" MINUS</td><td>X</td></tr><tr><td>16</td><td>185 214</td><td>GRAVEL + SAND 1" MINUS</td><td>X</td></tr><tr><td>16</td><td>214 247</td><td>GRAVEL + SAND 2" MINUS</td><td>X</td></tr><tr><td>16</td><td>247 283</td><td>GRAVEL + SAND 1" MINUS</td><td>X</td></tr><tr><td>16</td><td>283 308</td><td>FINE SAND</td><td>X</td></tr><tr><td>16</td><td>308 382</td><td>GRAVEL + SAND 1" MINUS</td><td>X</td></tr></tbody></table>		Bore Diam.	Depth From To	Material	Water Yes No	24	0 20	GRAVEL 3" MINUS	X	16	20 98	GRAVEL 3" MINUS	X	16	98 121	GRAVEL + SAND COMBINATION	X	16	121 185	GRAVEL + SAND 3" MINUS	X	16	185 214	GRAVEL + SAND 1" MINUS	X	16	214 247	GRAVEL + SAND 2" MINUS	X	16	247 283	GRAVEL + SAND 1" MINUS	X	16	283 308	FINE SAND	X	16	308 382	GRAVEL + SAND 1" MINUS	X
Bore Diam.	Depth From To	Material	Water Yes No																																								
24	0 20	GRAVEL 3" MINUS	X																																								
16	20 98	GRAVEL 3" MINUS	X																																								
16	98 121	GRAVEL + SAND COMBINATION	X																																								
16	121 185	GRAVEL + SAND 3" MINUS	X																																								
16	185 214	GRAVEL + SAND 1" MINUS	X																																								
16	214 247	GRAVEL + SAND 2" MINUS	X																																								
16	247 283	GRAVEL + SAND 1" MINUS	X																																								
16	283 308	FINE SAND	X																																								
16	308 382	GRAVEL + SAND 1" MINUS	X																																								
5. WELL CONSTRUCTION Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____ Thickness _____ Diameter _____ From _____ To _____ <u>375</u> inches <u>16</u> inches <u>2</u> feet <u>342</u> feet _____ inches _____ inches _____ feet _____ feet _____ inches _____ inches _____ feet _____ feet _____ inches _____ inches _____ feet _____ feet Was casing drive shoe used? ☒ Yes ☐ No Was a packer or seal used? ☐ Yes ☒ No Perforated? ☐ Yes ☒ No How perforated? ☐ Factory ☐ Knife ☐ Torch Size of perforation _____ inches by _____ inches Number _____ From _____ To _____ _____ perforations _____ feet _____ feet _____ perforations _____ feet _____ feet _____ perforations _____ feet _____ feet Well screen installed? ☒ Yes ☐ No Manufacturer's name <u>JOHNSON</u> Type <u>STAINLESS STEEL</u> Model No. <u>TELESCOPE</u> Diameter <u>16</u> Slot size <u>1/8"</u> Set from <u>342</u> feet to <u>382</u> feet Diameter _____ Slot size _____ Set from _____ feet to _____ feet Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____ Placed from _____ feet to _____ feet Surface seal depth <u>2 FT</u> Material used in seal: ☒ Cement grout ☐ Bentonite ☐ Pudding clay ☐ _____ Sealing procedure used: ☐ Slurry pit ☒ Temp. surface casing ☐ Overbore to seal depth Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between struts Describe access port <u>2" pipe + 2" plug</u>		RECEIVED JAN 19 1994 NORTHERN REGION IDWR 10. Work started <u>OCT 15/93</u> Finished <u>DEC 23/93</u>																																									
6. LOCATION OF WELL Sketch map location must agree with written location.  Subdivision Name _____ Lot No. _____ Block No. _____ County <u>KOOTENAI</u> <u>NE 1/4 NE 1/4 Sec. 15, T. 51 N. R. 4 E</u>		11. DRILLERS CERTIFICATION ☒ I/We certify that all minimum well construction standards were complied with at the time the rig was removed. Firm Name <u>HOLMAN DRIG. CORP</u> Firm No. <u>108</u> Address <u>E3410 9TH AVE</u> Date <u>1/14/94</u> <u>SPOKANE WA 99202</u> Signed by (Firm Official) <u>Arnold E. Holman</u> and (Operator) <u>James J. Hickey</u>																																									

USE ADDITIONAL SHEETS IF NECESSARY - FOR THE STATE OF IDAHO



STATE OF IDAHO 754005
DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

USE TYPEWRITER OR
BALLPOINT PEN

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.

1. WELL OWNER Name <u>AVONDALE IRRIGATION DISTRICT</u> Address <u>P.O. BOX 81 HAYDEN LAKE ID.</u> <u>83835-0081</u> Owner's Permit No. <u>95-08909</u> <u>95-96-N-3</u>	7. WATER LEVEL Static water level <u>303</u> feet below land surface. Flowing? ☐ Yes ☒ No G.P.M. flow _____ Artesian closed-in pressure _____ p.s.i. Controlled by: ☐ Valve ☐ Cap ☐ Plug Temperature <u>48</u> OF. Quality <u>GOOD</u> Describe artesian or temperature zones below																															
2. NATURE OF WORK ☒ New well ☐ Deepened ☐ Replacement ☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)	8. WELL TEST DATA <u>N/A</u> ☐ Pump ☐ Bailer ☐ Air ☐ Other _____ <table border="1"><thead><tr><th>Discharge G.P.M.</th><th>Pumping Level</th><th>Hours Pumped</th></tr></thead><tbody><tr><td colspan="3"><u>NO TEST MADE</u></td></tr></tbody></table>	Discharge G.P.M.	Pumping Level	Hours Pumped	<u>NO TEST MADE</u>																											
Discharge G.P.M.	Pumping Level	Hours Pumped																														
<u>NO TEST MADE</u>																																
3. PROPOSED USE ☐ Domestic ☐ Irrigation ☐ Test ☒ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection ☐ Other _____ (specify type)	9. LITHOLOGIC LOG <table border="1"><thead><tr><th>Bore Diam.</th><th>Depth From To</th><th>Material</th><th>Water Yes No</th></tr></thead><tbody><tr><td>24</td><td>0 20</td><td>GRAVEL & SAND 3" MINUS</td><td>X</td></tr><tr><td>16</td><td>20 228</td><td>GRAVEL & SAND 3" MINUS</td><td>X</td></tr><tr><td>16</td><td>228 275</td><td>SAND COARSE</td><td>X</td></tr><tr><td>16</td><td>275 303</td><td>SAND COARSE WITH THIN CLAY LENSES</td><td>X</td></tr><tr><td>16</td><td>303 308</td><td>SAND COARSE WITH THIN CLAY LENSES</td><td>X</td></tr><tr><td>16</td><td>308 390</td><td>GRAVEL & SAND 1" MINUS</td><td>X</td></tr></tbody></table>	Bore Diam.	Depth From To	Material	Water Yes No	24	0 20	GRAVEL & SAND 3" MINUS	X	16	20 228	GRAVEL & SAND 3" MINUS	X	16	228 275	SAND COARSE	X	16	275 303	SAND COARSE WITH THIN CLAY LENSES	X	16	303 308	SAND COARSE WITH THIN CLAY LENSES	X	16	308 390	GRAVEL & SAND 1" MINUS	X			
Bore Diam.	Depth From To	Material	Water Yes No																													
24	0 20	GRAVEL & SAND 3" MINUS	X																													
16	20 228	GRAVEL & SAND 3" MINUS	X																													
16	228 275	SAND COARSE	X																													
16	275 303	SAND COARSE WITH THIN CLAY LENSES	X																													
16	303 308	SAND COARSE WITH THIN CLAY LENSES	X																													
16	308 390	GRAVEL & SAND 1" MINUS	X																													
4. METHOD DRILLED ☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary ☒ Cable ☐ Dug ☐ Other _____																																
5. WELL CONSTRUCTION Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____ <table border="1"><thead><tr><th>Thickness</th><th>Diameter</th><th>From</th><th>To</th></tr></thead><tbody><tr><td>375 inches</td><td>16 inches</td><td>4 feet</td><td>350 feet</td></tr><tr><td>375 inches</td><td>14 inches</td><td>348 feet</td><td>350 feet</td></tr><tr><td>_____ inches</td><td>_____ inches</td><td>_____ feet</td><td>_____ feet</td></tr><tr><td>_____ inches</td><td>_____ inches</td><td>_____ feet</td><td>_____ feet</td></tr></tbody></table> Was casing drive shoe used? ☒ Yes ☐ No Was a packer or seal used? ☒ Yes ☐ No Perforated? ☐ Yes ☒ No How perforated? ☐ Factory ☐ Knife ☐ Torch Size of perforation _____ inches by _____ inches <table border="1"><thead><tr><th>Number</th><th>From</th><th>To</th></tr></thead><tbody><tr><td>_____ perforations</td><td>_____ feet</td><td>_____ feet</td></tr><tr><td>_____ perforations</td><td>_____ feet</td><td>_____ feet</td></tr><tr><td>_____ perforations</td><td>_____ feet</td><td>_____ feet</td></tr></tbody></table> Well screen installed? ☒ Yes ☐ No Manufacturer's name <u>HALLIBURTON</u> Type <u>STAINLESS STEEL</u> Model No. <u>7EL330</u> Diameter <u>16</u> Slot size <u>100</u> Set from <u>350</u> feet to <u>355</u> feet Diameter <u>16</u> Slot size <u>150</u> Set from <u>355</u> feet to <u>390</u> feet Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____ Placed from _____ feet to _____ feet Surface seal depth <u>20 FT</u> Material used in seal: ☒ Cement grout ☐ Bentonite ☐ Pudding clay ☐ _____ Sealing procedure used: ☐ Slurry pit ☒ Temp. surface casing ☐ Overbore to seal depth Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld _____ ☐ Cemented between strata Describe access port <u>2" PIPE WITH THREADED CAP</u>	Thickness	Diameter	From	To	375 inches	16 inches	4 feet	350 feet	375 inches	14 inches	348 feet	350 feet	_____ inches	_____ inches	_____ feet	_____ feet	_____ inches	_____ inches	_____ feet	_____ feet	Number	From	To	_____ perforations	_____ feet	_____ feet	_____ perforations	_____ feet	_____ feet	_____ perforations	_____ feet	_____ feet
Thickness	Diameter	From	To																													
375 inches	16 inches	4 feet	350 feet																													
375 inches	14 inches	348 feet	350 feet																													
_____ inches	_____ inches	_____ feet	_____ feet																													
_____ inches	_____ inches	_____ feet	_____ feet																													
Number	From	To																														
_____ perforations	_____ feet	_____ feet																														
_____ perforations	_____ feet	_____ feet																														
_____ perforations	_____ feet	_____ feet																														
6. LOCATION OF WELL Sketch map location must agree with written location. <table border="1"><tr><td colspan="3">N</td></tr><tr><td>W</td><td>X</td><td>E</td></tr><tr><td colspan="3">S</td></tr></table> Subdivision Name _____ Lot No. _____ Block No. _____ County <u>MOOTENAI</u> <u>SW 1/4 NW 1/4 Sec. 15 T. 51 N. R. 4 E</u>	N			W	X	E	S			10. Work started <u>2-19-96</u> finished <u>April 9-96</u>																						
N																																
W	X	E																														
S																																
11. DRILLERS CERTIFICATION I/We certify that all minimum well construction standards were complied with at the time the rig was removed. Firm Name <u>HOLMAN DRILL CORP</u> Firm No. <u>108</u> <u>3410 E 9TH AVE</u> Address <u>SPokane WA 99202</u> Date <u>4-17-96</u> Signed by (Firm Official) <u>Arnold E Holman</u> and <u>Keneth Cherry</u> <u>95-88167</u>																																

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

Newbry, Ashley

From: Bob Chandler [bobchandlercda@gmail.com]
Sent: Thursday, December 11, 2014 11:34 AM
To: Newbry, Ashley
Cc: Bob Haynes
Subject: Re: Water Right Licenses 95-8687, 95-8774, 95-8867, 95-8909
Attachments: AID SCADA Overview.PNG; AID SCADA Miles Overview.PNG; Miles 2 Motor Plate.jpg

Ashley,

Per our conversation earlier today, I am submitting the needed information.

Attached you will find two (2) screen shots of our SCADA that include Miles individual pumping, Miles combined pumping, Miles pressures, Airport pressures, Finucane pumping and pressure. Also, I have attached a picture of name plate from our Miles #2 motor clarifying that it is a 200 hp motor.

Note: The combined total for Miles is a reading from the existing 20" meter, not the added up amount of each individual meter which would be 5058 gpm. Although the SCADA indicates the 20" meter combined rate is flowing around 4700 gpm, the actual meter itself showed 5150 gpm. This was an older meter and it was hard to retrofit a SCADA register to it. The individual meters reflect less flow when pumping against each other, just as the large 20" so I think that number is more representative than the actual 20" read. I guess I am saying the actual flow of all Miles pumps flowing simultaneously is 5058, rather than the 4700. If you were to read the meter such as Mr. Maxey (prior to our SCADA) you would credit us with 5150 gpm.

As discussed, Mr. Maxey's pressures were also incorrect, and you can see them reflected in the attached images.

Last, neither Miles nor the Airport pumps have pipes that restrict them when pumping.

Hopefully this will clear things up! I look forward to hearing back from you soon.

Bob

Bob Chandler
District Manager

Avondale Irrigation District
PO Box 81, Hayden ID 83835
Office (208) 772-5657
Mobile (208) 691-3428

On Wed, Dec 10, 2014 at 2:26 PM, Newbry, Ashley <Ashley.Newbry@idwr.idaho.gov> wrote:

Hello Mr. Bob Chandler,

I apologize for the time it has taken the Department to respond to your licensing concern. I am currently reviewing Sean Maxey's field examination reports in response to your letter. In attempt to re-investigate and "dial in" his calculations, I have come across a few questions that you or one of your operators could help with.

1. What is the average operating system pressure (in PSI) for each of your wells?

Sean estimated 59 psi for Finucane and 100 psi for the rest of the wells, but if you have your own data available or as records, I'd like to input that instead.

2. Are you able to produce pumping records which would show each well's maximum flow rate (either in GPM or CFS)?

3. It appears that the Miles Avenue wells and the Airport wells are set up like a manifold system (multiple wells share one distribution pipe to the mainline); are you aware of any pipes which might limit the ability for multiple pumps to run at capacity at the same time (for example, if the distribution pipe was undersized)?

We would like to resolve this concern quickly; If I don't hear from you within the next day or so, I will give you a call to follow up.

Thank you,

Ashley Newbry, EIT

Engineer Associate

Water Rights Section

Idaho Dept. of Water Resources

State Office

322 E. Front Street

PO Box 83720

Boise, ID 83720-0098

(208) 287-4800 X 4846

Keen, Shelley

From: Peppersack, Jeff
Sent: Friday, December 12, 2014 4:17 PM
To: Keen, Shelley
Subject: FW: Avondale letter
Attachments: Avondale letter.doc

Shelley,

I found copies of the Avondale letter in Emalee's basket. The letter was mailed, she just hasn't added copies to the water right files. Attached is the version that was signed and mailed.

Jeff

From: Peppersack, Jeff
Sent: Monday, December 08, 2014 11:08 AM
To: Rushing, Emalee
Subject: Avondale letter

Emalee,
Please prepare the attached for mailing.

Thanks,
Jeff