

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-09317

Exam Date: 8/2/2016

1. Current Owner:
JOS SOUTH SHORE AT GARFIELD BAY OWNERS 14740 LITTLE SPRINGS RD LAS VEGAS NV 89161
2. Accompanied by: Robert Davidson
Relationship to Permit Holder: Owner
3. **SOURCE:**
GROUND WATER

TRIBUTARY:**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 L1 (SE¼NE¼) Sec. 21, Twp 56N, Rge 01W, B.M. BONNER County

GROUND WATER L1 (SE¼NE¼) Sec. 21, Twp 56N, Rge 01W, B.M. BONNER County

Method of Determination: GPS and maps. POD locations at

D0051681: 48° 11.243, 116° 26.508 (A0020007)

D0051689: 48° 11.253, 116° 26.515 (A0020006)

2.

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	
56N	01W	21			X	X L 1									X L 2				

Method of Determination: Google Earth and Arc map.

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.

X Indicate weir size/pipe as applicable.X Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.X Aerial Photo Attached (required for irrigation of 10+ acres).X Photo of Diversion and System Attached

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
D0051681	UNKNOWN	10			
D0051689	UNKNOWN	10			

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

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date

2. Measurements: UNABLE TO PERFORM FLOW MEASUREMENT BECAUSE PIPES WERE BURIED AND WERE NOT ACCESABLE AND SYSTEM DID NOT HAVE STORAGE SO COULD NOT TURN SYSTEM ON.

E. FLOW CALCULATIONS

Measured Method: THEORETICAL PUMPING EQUATION ATTACHED.

X Additional Computation Sheets Attached

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

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

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

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$$

2. Volume Calculations for Other Uses: DOMESTIC FOR 8 HOMES WITH UP TO ½ ACRE OF IRRIGATION

$$8 \text{ HOMES} \times 1.2 \text{ AF} = 9.6 \text{ AF}$$

G. NARRATIVE/REMARKS/COMMENTS

Field exam with Robert Davidson showed two wells serving a small sub-division. The permit was only issued for only 1 point of diversion but 2 wells were drilled. Because both wells were drilled within a week of each and both were drilled as public supply wells, the 2nd will be added through amendment at time of licensing. At time of exam, there was only 1 home built and using water from the system. The rest of the lots were all stubbed in with water and sewer lines. Because there was no storage and only 1 home was on system it was impossible to perform a flow measurement to determine maximum flow rate. Theoretical pumping equation was necessary to determine system capacity. Mr. Davidson had bought the system from a bank and didn't have any idea how the system worked. I was able to find that each well had a 10 hp pump and the system was running at 60 psi. Theoretical pumping equation estimates wells are capable of a combined 0.22 cfs. The permit was applied for as domestic for 8 homes with 4 acres of irrigation. The license will be modified to show no irrigation, but will show domestic for 8 homes with irrigation of up to ½ acre per lot. During license review, it was found that there were 9 taxlots along with a well lot. The permit was issued for domestic for 8 homes. The home that was built was done so on the utility lot. It was decided by Mr. Davidson to leave off Lot 6 at time of licensing and if a home were to be built on that lot he would apply for a new permit then. License will be issued for 0.13 cfs with annual volume of 9.6 acre feet.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
DOMESTIC	01/01 to 12/31	0.13 CFS	9.6 AF
	<u>Totals:</u>	0.130 CFS	9.60 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 ☐ None

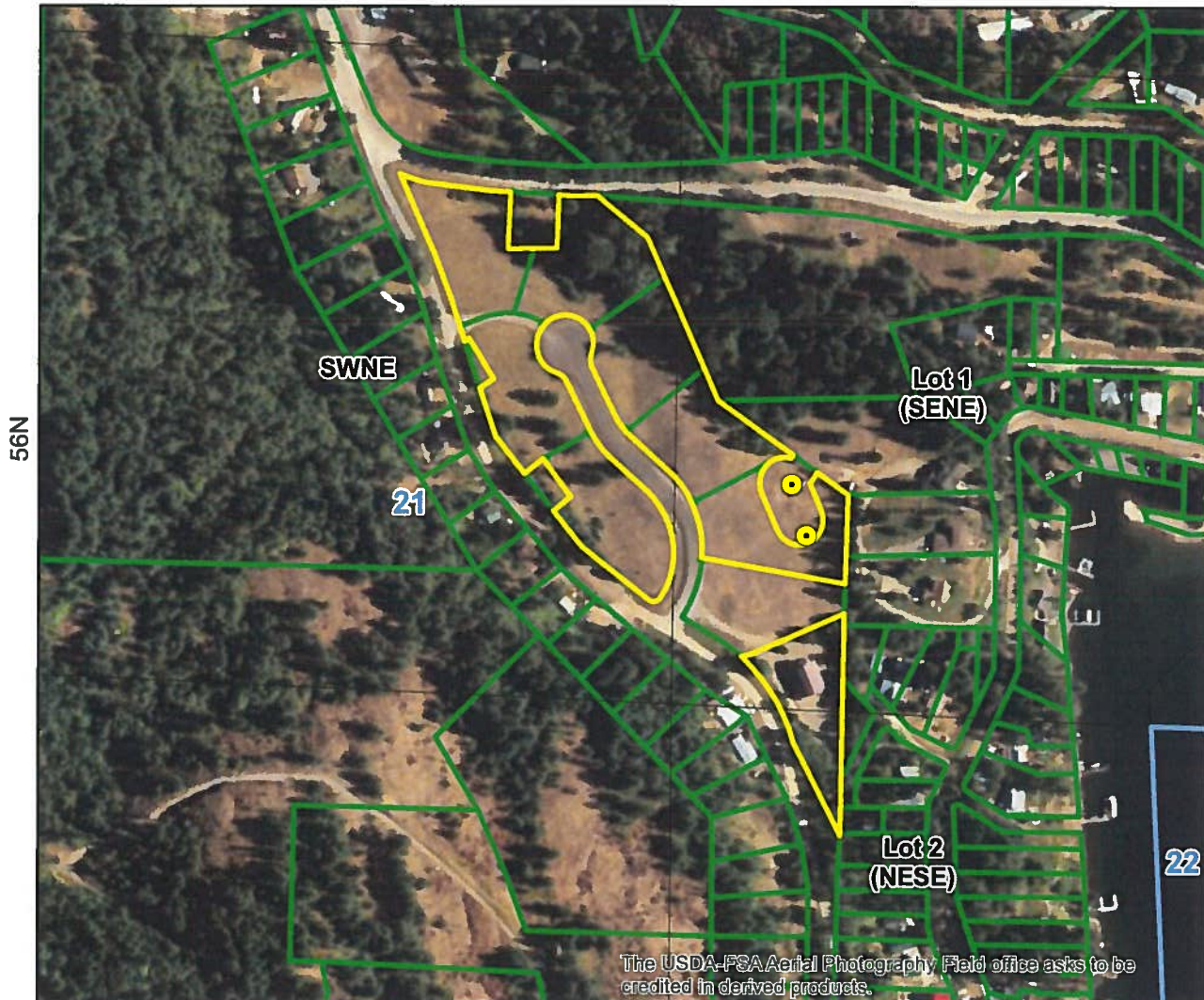
I. AUTHENTICATION

Field Examiner's Name Aden Fendrick Date 2-16-2017
 Reviewer Morgan Case Date 2/21/2017

State of Idaho
Department of Water Resources
Attachment to Field Exam
96-9317

DOMESTIC

01W



-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Taxlots

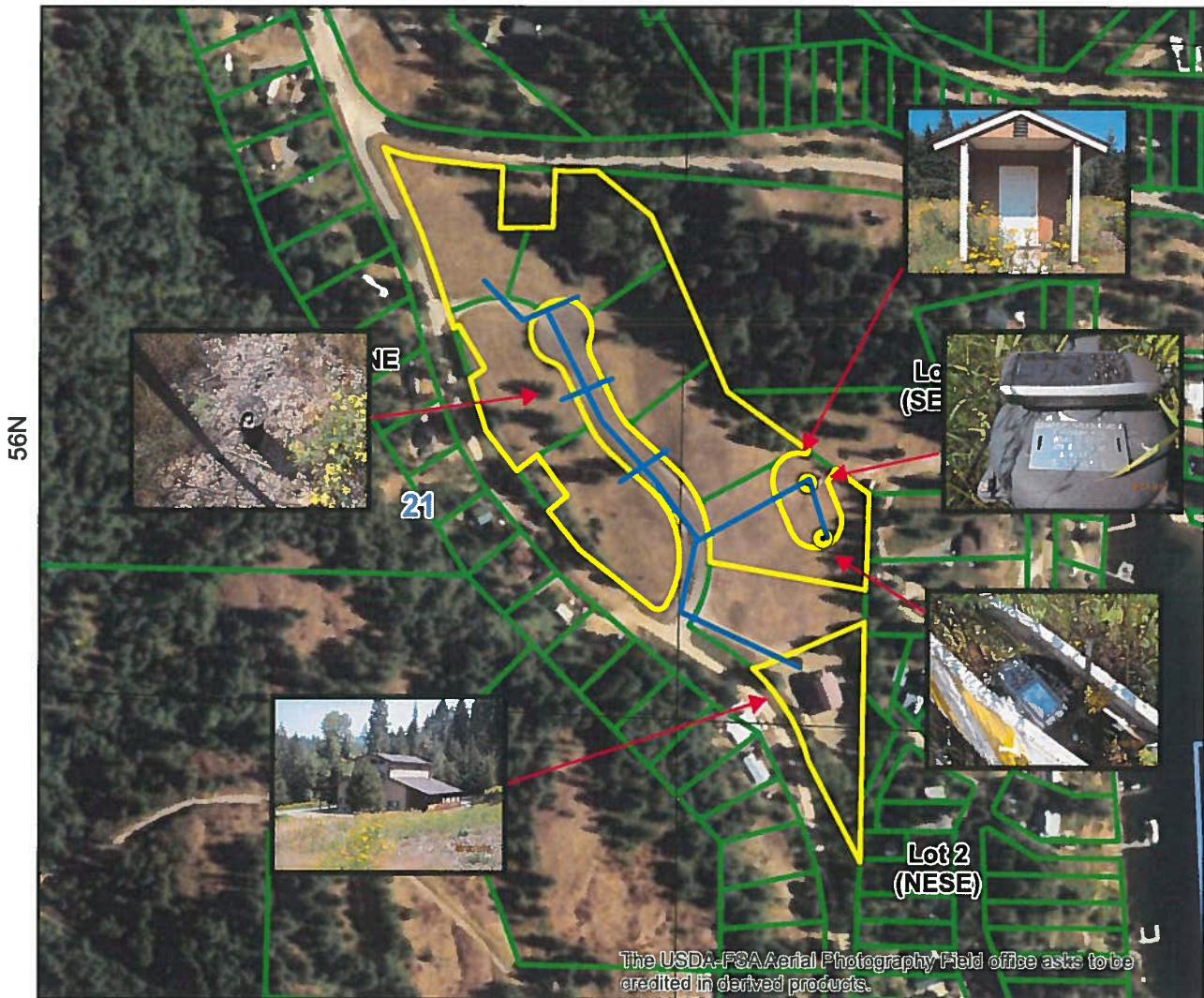
0 0.045 0.09 0.18 Miles



State of Idaho
Department of Water Resources
Attachment to Field Exam
96-9317

SYSTEM DIAGRAM

01W



-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Taxlots

0 0.0425 0.085 0.17 Miles



THEORETICAL PUMPING EQUATION FOR WATER RIGHT 96-9317

SYSTEM HAD 1 HOME WITH 7 LOTS STUBBED IN. THERE WAS NO STORAGE SO WE WERE UNABLE TO TURN SYSTEM ON. EACH WELL HAD A 10 HP PUMP RUNNING AT 60 PSI.

PUMP EQUATIONS WATER RIGHT No. 96-9317						
		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	$\frac{HP \cdot 8.8 \cdot \text{Eff}}{H}$	10	$\frac{563.775}{5}$	0.8	425	60
Q = 0.125 cfs 56.1 gpm						

PUMPING EQUATION FOR WELL D0051689

PUMP EQUATIONS WATER RIGHT No. 96-9317						
		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	$\frac{HP \cdot 8.8 \cdot \text{Eff}}{H}$	10	$\frac{703.775}{5}$	0.8	565	60
Q = 0.100 cfs 45.0 gpm						

PUMPING EQUATION FOR WELL D0051681

LICENSE WILL BE ISSUED FOR DOMESTIC FOR 8 HOMES WITH IRRIGATION OF UP TO ½ ACRE WITH A DIVERSION RATE OF 0.13 CFS.

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only			
Well ID No. _____			
Inspected by _____			
Twp _____	Rge _____	Sec _____	
1/4 _____	1/4 _____	1/4 _____	
Lat: _____	Long: _____	_____	

1. WELL TAG NO. D 51681
 DRILLING PERMIT NO. 845623
 Water Right or Injection Well No. 96-9317



2. OWNER:
 Name Damon Arnett
 Address P.O. Box 464
 City Sagle State Id Zip 83860

3. LOCATION OF WELL by legal description:
 You must provide address or Lot, Blk, Sub. or Directions to well.
 Twp. 56 N North ☒ or South ☐
 Rge. 01 East ☐ or West ☒
 Sec. 21 NE 1/4 SE 1/4 NW 1/4
 Gov't Lot _____ County BONNER
 Lat: _____ Long: _____
 Address of Well Site Midas Rd - old Golf Course
 City Sagle
 Lt. 5 Blk. _____ Sub. Name Jo's South Shore
at Garfield Bay

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other Public well

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD:
☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

Seal Material	From	To	Weight / Volume	Seal Placement Method
Bentonite Grout	58	0	12.50 sacks	Trimmed - Pumped

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 58'
 Was drive shoe seal tested? ☒ Y ☐ N How? Air Pressure

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6	+2	58'	12.88	Steel	☒	☐	☒	☐
4	-30	580	12.88	PUC	☐	☒	☒	☐

Length of Headpipe _____ Length of Tailpipe _____
 Packer ☐ Y ☐ N Type N/A

9. PERFORATIONS/SCREENS PACKER TYPE
 Perforation Method Saw Cut
 Screen Type & Method of Installation _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
400	170	1/8x6	230	4	PUC	☐	☒

10. FILTER PACK

Filter Material	From	To	Weight / Volume	Placement Method

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
12 ft. below ground Artesian pressure _____ lb.
 Depth flow encountered _____ ft. Describe access port or control devices: _____

56N 1W 21

12. WELL TESTS:

Yield gal./min.	Drawdown	Pumping Level	Time
<u>25 GPM</u>			<u>10 Hours</u>

Water Temp. _____ Bottom hole temp. _____
 Water Quality test or comments: _____

13. LITHOLOGIC LOG: (Describe repairs or abandonment) Depth first Water Encounter 30
 Water

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Y	N
11	0	2	Soil		☒
11	2	23	Gravel and Sand		☒
11	23	30	Broken Shale	☒	
10	30	58	Shale		☒
6	58	168	Shale		☒
6	168	170	Fractured Shale 3 GPM	☒	
6	170	221	Shale		☒
6	221	235	Fractured Shale 13 GPM	☒	
6	235	237	Fractured Shale		☒
6	237	355	Shale		☒
6	355	356	Fractured Shale 9 GPM	☒	
6	356	600	Shale		☒

RECEIVED
 MAR 21 2007
 IDWR/North
 RECEIVED
 MAR 28 2007
 IDWR/North

Completed Depth 580' (Measurable)
 Date: Started 2-15-07 Completed 3-7-07

14. DRILLER'S CERTIFICATION
 I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
 Company Name Horsley Drilling Inc. Firm No. 632
 Principal Driller C. Mack Horsley Date 3-12-07
 and Driller or Operator II _____ Date _____
 Operator I _____ Date _____
 Principal Driller and Rig Operator Required.
 Operator I must have signature of Driller/Operator II.

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only			
Well ID No. _____			
Inspected by _____			
Twp _____	Rge _____	Sec _____	
_____ 1/4	_____ 1/4	_____ 1/4	
Lat: _____		Long: _____	

1. WELL TAG NO. D 51689 51689
 DRILLING PERMIT NO. 845530
 Water Right or Injection Well No. _____



2. OWNER:
 Name Damon Arnett
 Address P.O. Box 464
 City Sagle State ID Zip 83810

3. LOCATION OF WELL by legal description:
 You must provide address or Lot, Blk, Sub. or Directions to well.
 Twp. 56 North ☒ or South ☐
 Rge. 01 East ☐ or West ☒
 Sec. 21 NE 1/4 SE 1/4 1/4
 Gov't Lot _____ County Banner
 Lat: _____ Long: _____
 Address of Well Site Corner of Midas RD and Garfield Bay Rd. City Sagle
 (Give at least name of road - Distance to Road or Landmark)
 Lt. 44 Blk. _____ Sub. Name Jo's South Shore at Garfield Bay

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other Public Drinking

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD:
☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

Seal Material	From	To	Weight / Volume	Seal Placement Method
Bentonite Grout	58	0	24-50 Bags	Trimmed, Pumped

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 58'
 Was drive shoe seal tested? ☒ Y ☐ N How? Air Pressure

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6	+2	58'	288	STEEL	☒	☐	☒	☐
4	-30	440	200	PVC	☐	☒	☒	☐

Length of Headpipe N/A Length of Tailpipe N/A
 Packer ☐ Y ☐ N Type N/A

9. PERFORATIONS/SCREENS PACKER TYPE

Perforation Method SAW CUT
 Screen Type & Method of Installation _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
440	200	18x6	200	4	PVC	☒	☒

10. FILTER PACK

Filter Material	From	To	Weight / Volume	Placement Method
N/A			N/A	

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

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

12. WELL TESTS:

☐ Pump	☐ Bailer	☒ Air	☐ Flowing Artesian
Yield gal./min.	Drawdown	Pumping Level	Time
<u>15</u>			<u>4 Hours</u>

Water Temp. _____ Bottom hole temp. _____

Water Quality test or comments: _____

13. LITHOLOGIC LOG: (Describe repairs or abandonment) Depth first Water Encounter 30

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Y	N
11	0	7	Gravel		X
11	7	21	Sand and Gravel		X
11	21	30	Broken Shale with Sand	X	
10	30	35	Broken Shale		X
10	35	57	Shale		X
6	58	172	Shale		X
6	172	173	Fractured Shale		X
6	173	216	Shale		X
6	216	217	Fractured Shale 1.5 GPM	X	
6	217	274	Shale		X
6	274	276	Fractured Shale 9.5 GPM	X	
6	276	362	Shale		X
6	362	363	Fractured Shale 2 GPM	X	
6	363	410	Shale		X
6	410	412	Fractured Shale 2 GPM	X	
6	412	440	Shale		X

RECEIVED
MAR 21 2007
IDWR/NORTH

Completed Depth 440' (Measurable)
 Date: Started 3-7-07 Completed 3-10-07

14. DRILLER'S CERTIFICATION

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

Company Name Horsley Drilling inc. Firm No. 632

Principal Driller C. Mark Horsley Date 3-12-07
 and Driller or Operator II _____ Date _____

Operator I _____ Date _____

Principal Driller and Rig Operator Required.
 Operator I must have signature of Driller/Operator II.

56 N 01 W 21



Well D0051681 given IDWR tag A0020007. 10hp pump in well.



Well tag D0051681.



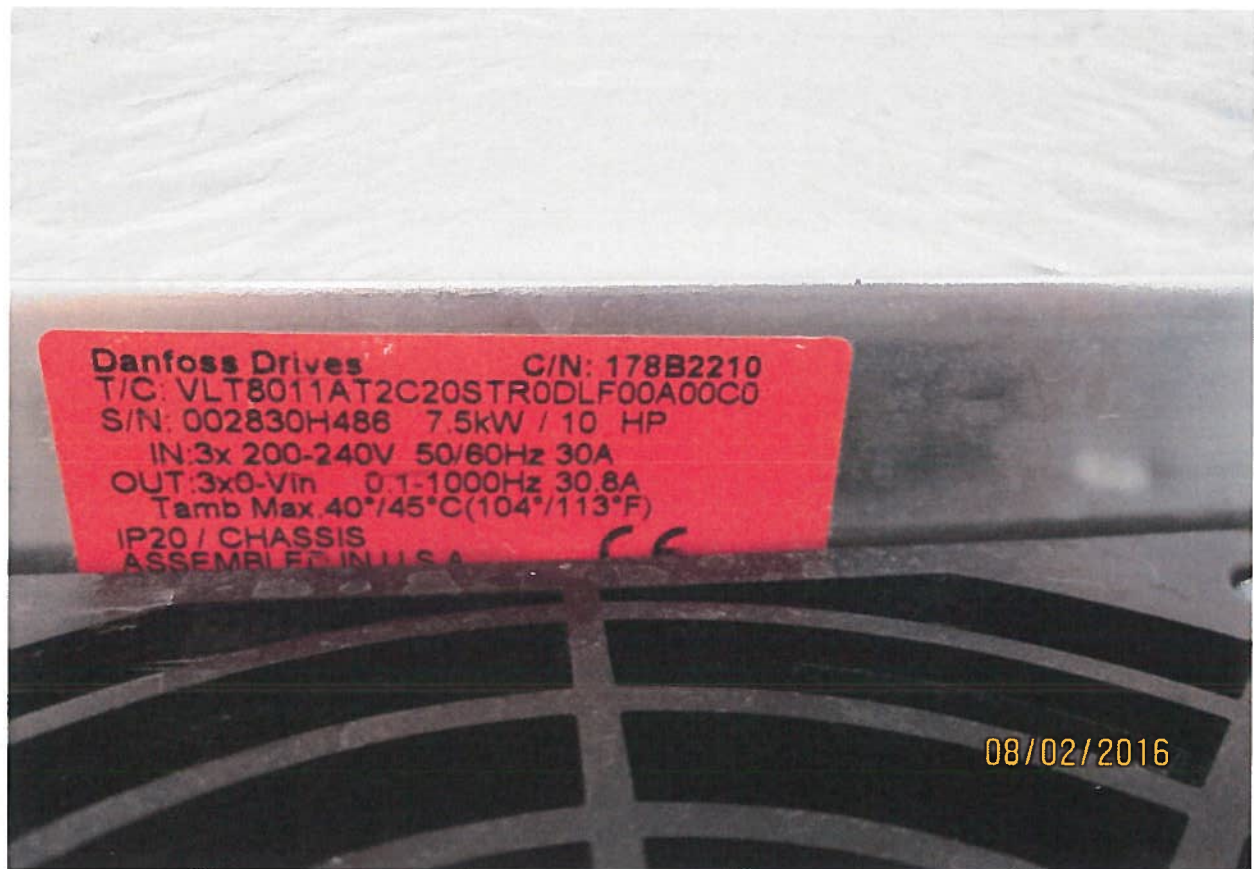
Well D0051689 given IDWR tag A0020006. 10hp pump in well.



Well tag D0051689.



Pump house.



10hp pump in each well.



Picture is blurry, but shows automated system running at 60 psi.



Only existing home on system.





Various water stub-in along road.



Sub division road.



Sewer, water, and electric lines.