

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 87-10081
Exam Date: 09/01/2020

1. Current Owner:
ADAM REED 1729 LEXINGTON AVE MOSCOW ID 83843
2. Accompanied by: Adam Reed
Phone No: 208-596-7963
Address: Same as above
Relationship to permit Holder: Permit Holder

3. SOURCE:
GROUND WATER

Method of Determination: Arcmap and DRG.

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NO Overlap

Water Right No.	Source	Purpose of Use	Basis
87-12250	GROUNDWATER	DOMESTIC	Beneficial Use Claim, Recommended Active Status.

Comments: Right 87-12250 is a beneficial use claim filed in the Palouse River Basin Adjudication, pending court decision to become a decreed right. 87-12250 uses groundwater for domestic purposes that overlap this rights irrigation POU. Condition 928 was added to the permit during licensing review to mitigate potential overlap concerns regarding the ½ acre irrigation use included with domestic beneficial use.

2. Other water rights with the same point-of-diversion: NO Overlap

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

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

GROUND WATER NW¼ SW¼, Sec. 28, Twp 40N, Rge 05W, B.M. LATAH County

Method of Determination: GPS. POD located at -116° 58.823, 46° 46.722, well tag D0067943.

PLACE OF USE: IRRIGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
40N	05W	28										3.8							3.8

Total Acres: 3.8

Method of Determination: Field exam and Arcmap aerial imagery years 2015, 2017, and 2019.

3.

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

X Indicate weir size/pipe as applicable.

Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be

X 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
D0067943		1/2			

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
5 GAL BUCKET MEASUREMENT						

2. Measurements: a 5 gallon bucket measurement was taken from a frost free hydrant co-located with the well, resulting in a flow rate of 5 gal / 34.68 sec x 60 sec/min = 8.65 gpm = **0.02 cfs**, considering department rounding standards.

E. FLOW CALCULATIONS

Measured Method: 5 GAL Bucket Test = (5 gal / 34.68 sec) x 60 sec/min = 8.65 gpm = 0.02 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 3.8 \text{ acres} \times 3.0 \text{ afa} = 11.4 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.02 \text{ cfs} \times 231 \text{ days} \times 1.9835 = 9.2$$

V = Smaller of $V_{I.R.}$ and $V_{D.R.}$ = 9.2 af – due to protest conditions associated with right 87-10081, the irrigation volume is limited to **3.0 af** for licensing purposes.

2. Volume Calculations for Other Uses:

Maximum diversion volume = 3.0 af (protest settlement agreement volume)

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 9/1/2020 with the applicant, Adam Reed, showed a groundwater well (D0067943) being used for irrigation purposes. At the POD, the water system has a ½ HP pump that diverts water to 6ea 5,000 gallon storage tanks prior to distribution via a pressure tank and lines to irrigate using a drip irrigation system. A 5 gallon bucket measurement was completed resulting in a diversion rate equal to $5 \text{ gal} / 34.68 \text{ sec} \times 60 \text{ sec/min} = 8.65 \text{ gpm} = 0.02 \text{ cfs}$, considering department rounding standards, which will be applied as the maximum diversion rate on the license. The department's standard diversion rate for 3.8 acres = 0.11 cfs, but the applicant is limited to the well pump performance at time of field exam. The applicant stated the well is a low producing well, which led him to incorporate storage tanks, provide volume coverage during irrigating periods throughout the season.

During the field exam, multiple greenhouse structures and row crop fields were observed, that the applicant used to grow numerous agriculture crops and a small fruit tree orchard. Mr. Reed stated he rotated crops seasonally in order to comply with a prior settlement agreement between Latah County and himself regarding the irrigation occurring on his property. During the exam, field maps were developed of the irrigation POU; during licensing review, Arcmap aerial imagery (years 2015, 2017, & 2019) were used to trace out the irrigation POU equal to 3.8 acres. The annual volume associated with the irrigated acreage equals the smaller value of V_{IR} and $V_{DR} = 0.02 \text{ cfs} \times 231 \text{ days} \times 1.9835 = 9.2 \text{ af}$, but due to settlement agreement the maximum diversion volume equals **3.0 af**, which will be carried forward to licensing.

Condition 046 and 26A were removed from the permit during licensing review. Condition R58 was updated to reflect the irrigation of 3.8 acres found put to beneficial use during the field exam. Condition 928 was added describing that Some of the water use authorized by this right is claimed with an earlier priority date on Palouse River Basin Adjudication Claim No. 87-12250. If Claim 87-12250 is decreed as it is claimed, this right shall be diminished by the amount necessary to avoid any redundancy of water rights. All other conditions on permit will remain on the license. Overlap concerns: Right 87-12250 is a beneficial use claim filed in the Palouse River Basin Adjudication, pending court decision to become a decreed right. 87-12250 uses groundwater for domestic purposes that overlap this rights irrigation POU. Condition 928 was added to the permit during licensing review to mitigate potential overlap concerns regarding the ½ acre irrigation use included with domestic beneficial use. There are no additional overlap concerns for this water right.

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>Rate of Diversion</u>	<u>Annual Volume</u>
IRRIGATION	03/15 to 10/31	0.02 CFS	3.0 AF

Totals: 0.02 CFS 3.0 AF

2. Recommended Amendments

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

 Change P.U. as reflected above Add P.U. as reflected above X None

I. AUTHENTICATION

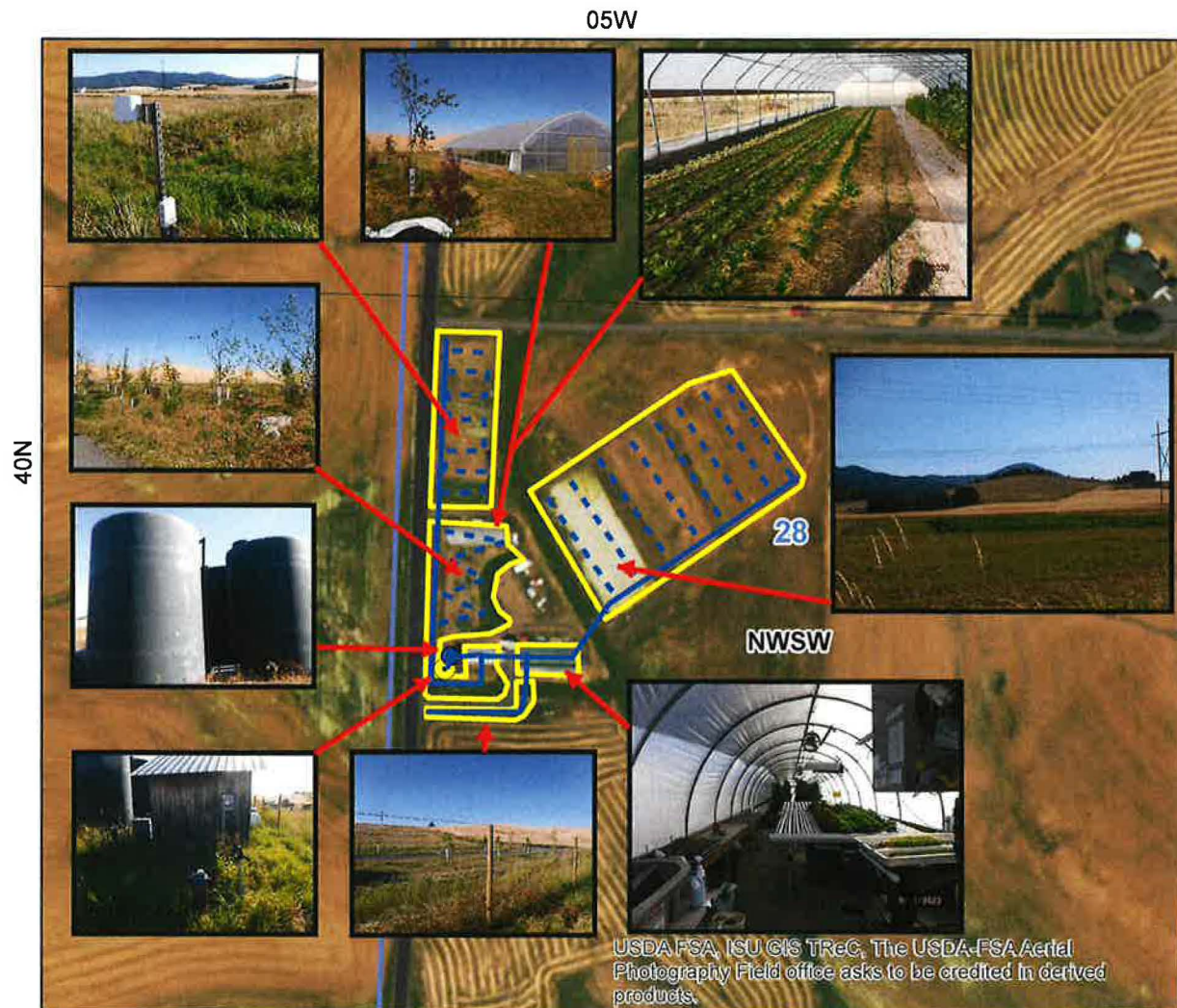
Luke Bates - Water Resource Agent

Field Examiner's Name *Luke Bates* Date 11/25/2020

Reviewer *Adam Reed* Date 11/27/2020

State of Idaho
Department of Water Resources
Attachment to Field Exam
87-10081

IRRIGATION system diagram.



-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters

0 0.035 0.07 0.14 Miles




IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

1. WELL TAG NO. D 0067943

Drilling Permit No. 8741083

Water right or injection well # _____

2. OWNER: Adam Reed

Name Adam Reed

Address 1729 Lexington Ave

City Moscow State ID Zip 83843

3. WELL LOCATION:

Twp. 40 North ☒ or South ☐ Rge. 5 East ☐ or West ☒

Sec. 28 1/4 NW 1/4 SW 1/4

Gov't Lot _____ County Latah

Lat. 46 ° 46.727 (Deg. and Decimal minutes)

Long. 116 ° 58.821 (Deg. and Decimal minutes)

Address of Well Site 3180 Foot Hill Rd

City Moscow

(Give at least name of road + distance to Road or Landmark)

Lot. _____ Blk. _____ Sub. Name _____

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection

☐ Other _____

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well

☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft ³)	Placement method/procedure
Bentonite (hole plug)	0	38	21 sacks	top pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/Schedule	Material	Casing Liner	Threaded	Welded
6"	+2	163	250	steel	☒	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 163

9. PERFORATIONS/SCREENS:

Perforations ☒ Y ☐ N Method tooling

Manufactured screen ☐ Y ☒ N Type _____

Method of installation _____

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
70	90	1/2" x 1/4"	4	6"	steel	250

Length of Headpipe _____ Length of Tailpipe _____

Packer ☐ Y ☒ N Type _____

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft ³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 80 Static water level (ft) 12

Water temp. (°F) 51° Bottom hole temp. (°F) _____

Describe access port _____

Well test: _____ Test method: _____

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
160	15	60	☐	☐	☒	☐

Water quality test or comments: good

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water	
				Y	N
10	0	14	dirt		☒
10	14	20	clay + sand		☒
10	20	40	tan tan clay		☒
6	40	63	grey sandy clay		☒
6	63	75	coarse white sand		☒
6	75	143	med. sandy brown clay	☒	
6	143	151	brownish red clay		☒
6	151	159	grey clay		☒
6	159	171	grey silt		☒
6	171	200	soft red + white clay		☒

RECEIVED

MAR 27 2015

IDWR / NORTH

Completed Depth (Measurable): 165

Date Started: 3/11/15 Date Completed: 3/13/15

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 Brett Uhlenkott Drilling No. 709

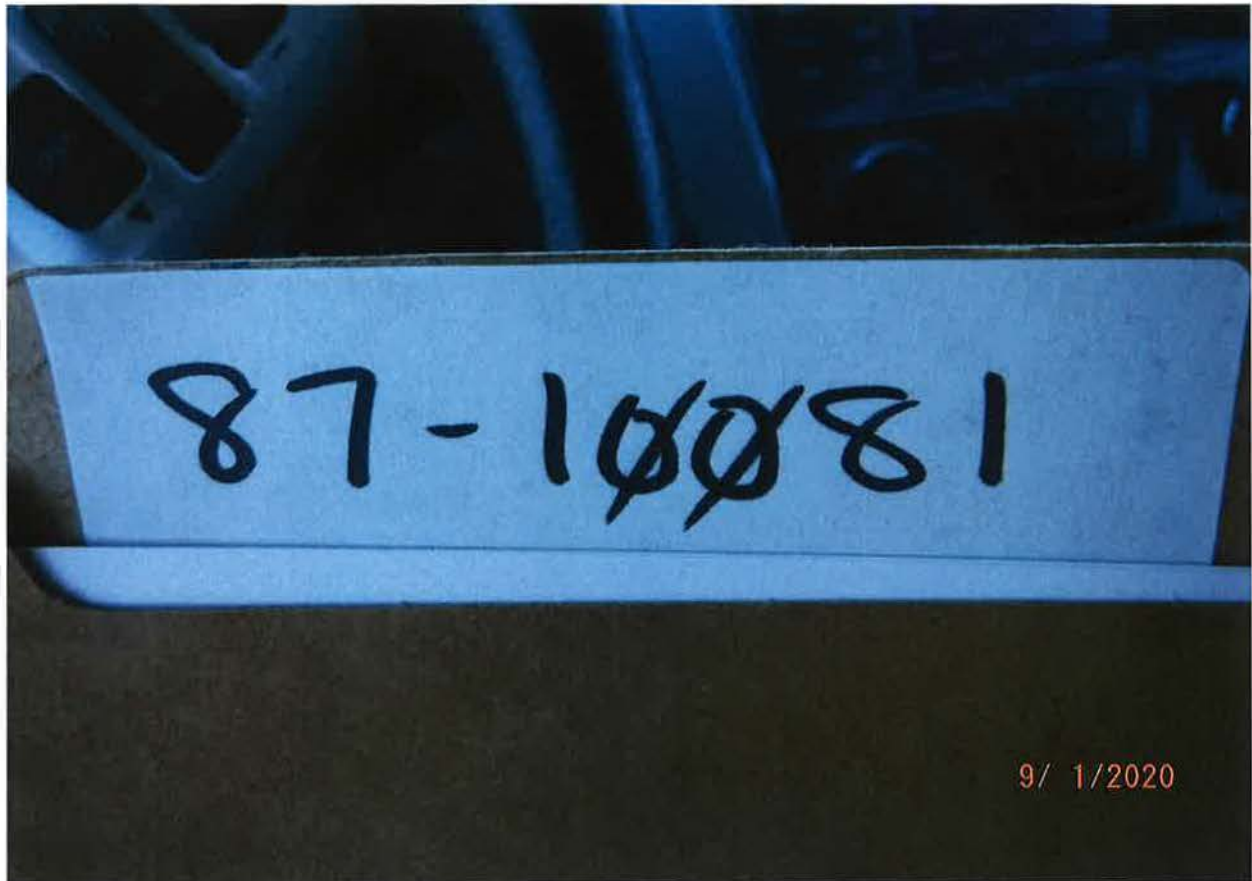
*Principal Driller Brett Uhlenkott Date 3/20/15

*Driller _____ Date _____

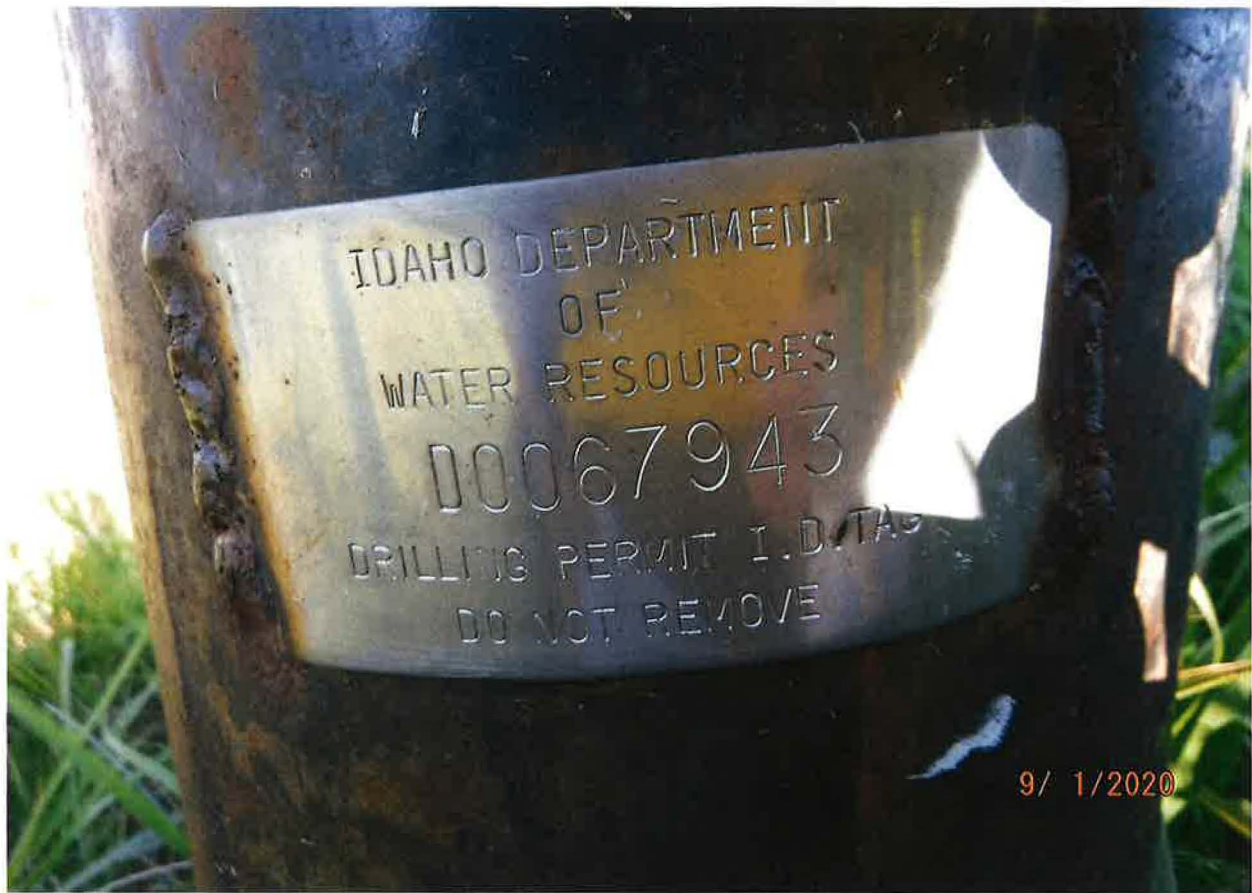
*Operator II _____ Date _____

Operator I Dustin Shick Date 3/20/15

* Signature of Principal Driller and rig operator are required.



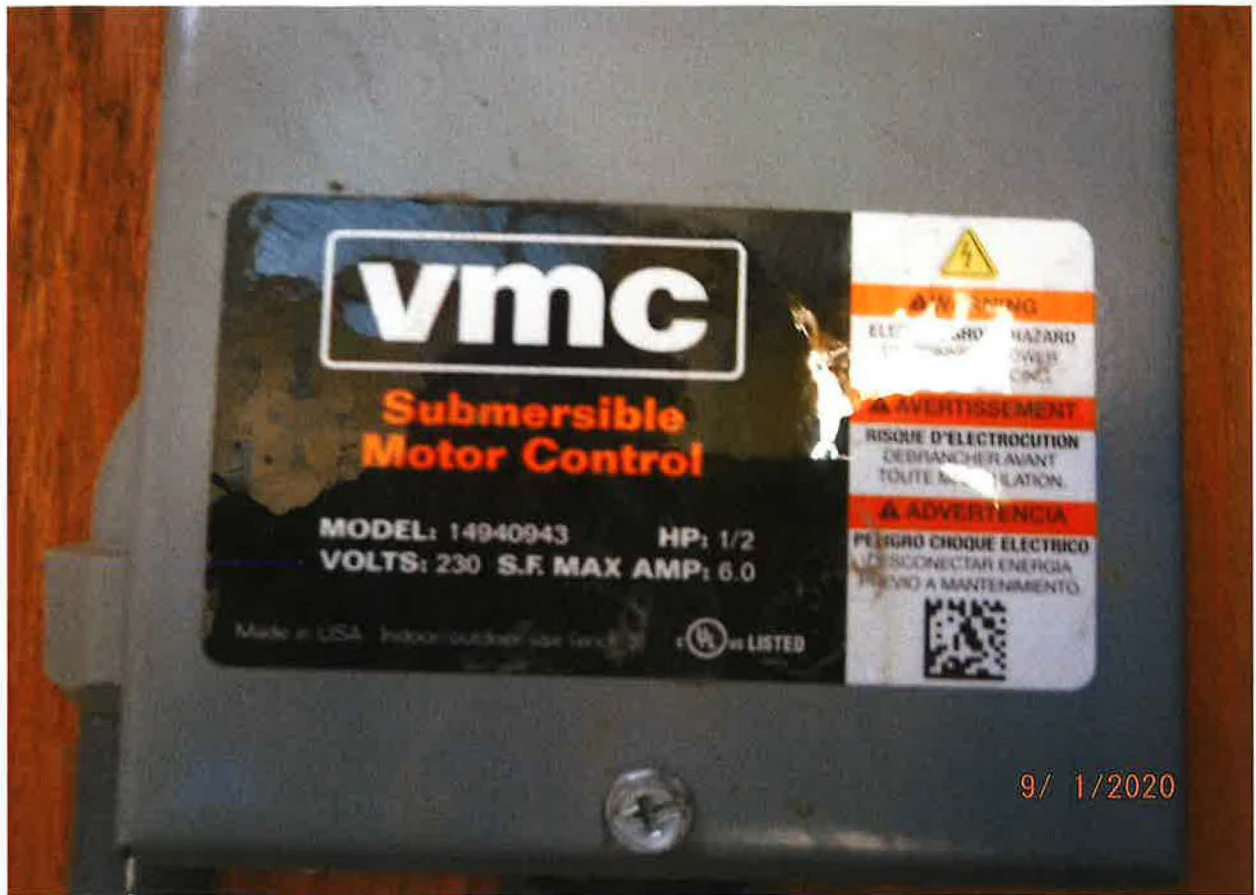
POD - WELL D0067943



WELL D-TAG D0067943



FROST FREE HYDRANT PIPED DIRECTLY OFF WELL MAIN LINE



½ HP WELL PUMP



WATER CONVEYANCE SYSTEM – PRESSURE TANK RECEIVES WATER FROM STORAGE TANKS



6EA 5,000 GAL STORAGE TANKS



IRRIGATION POU



IRRIGATION POU





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