

STATE OF IDAHO  
DEPARTMENT OF WATER RESOURCES  
BENEFICIAL USE FIELD REPORT

**A. GENERAL INFORMATION**

**Permit No:** 95-17172  
**Exam Date:** 08/26/2021

1. Current Owner:  
HIGH PRAIRIE WATER ASSN INC 10063 N NAVION DR HAYDEN ID 83835-5040
2. Accompanied by: Mike Curry  
Phone No: 208-660-2041  
Address: Same as above  
Relationship to permit Holder: Permit holder's representative.

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

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

GROUND WATER NW¼ SE¼, Sec. 24, Twp 51N, Rge 06W, B.M. KOOTENAI County (D0053835)  
GROUND WATER SW¼ SE¼, Sec. 24, Twp 51N, Rge 06W, B.M. KOOTENAI County (D0084679)

Method of Determination: GPS. 2ea PODs located at -117°01.745, 47°44.747; well D-TAG D0053835 &  
-117°01.867, 47°45.172; well D-TAG D0084679.

**PLACE OF USE:** DOMESTIC

| Twp | Rng | Sec | NE |    |    |    | NW |    |    |    | SW |    |    |    | SE |    |    |    | Totals |
|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|
|     |     |     | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE |        |
| 51N | 06W | 24  |    |    |    |    |    |    |    |    |    |    |    |    |    | X  | X  |    |        |

Method of Determination: Field examination and Arcmap aerial imagery.

3.
  - X 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 |
|---------------------------|------------|-----|------------------|-----------|-----------------------------------|
| D0084679                  |            | 5   |                  |           |                                   |
| D0053835                  |            | 1.5 |                  |           |                                   |

**D. FLOW MEASUREMENTS**

1.

| Measurement Equipment | Type | Make | Model No. | Serial No. | Size | Calib. Date |
|-----------------------|------|------|-----------|------------|------|-------------|
| NONE                  |      |      |           |            |      |             |

2. Measurements: Unable to perform flow measurements due to inadequate pipe requirements. Main water lines from each well routed direct to 2ea 3,000-gallon storage tanks prior to distribution to water uses. Two theoretic pump equations were developed deriving flow rates for each well, with the combined diversion rate equaling 64.3 gpm or 0.14 cfs considering department rounding standards.

**E. FLOW CALCULATIONS**  X   Additional Computation Sheets Attached

Measured Method: 2ea theoretical pumping equations estimate flow as follows:

- D0084679 – 5 hp pump at 185 ft with 55 PSI operating pressure equals 50.7 gpm or 0.11 cfs
- D0053835 – 1.5 hp pump at 223 ft with 55 PSI operating pressure equals 13.6 gpm or 0.03 cfs
- Combined diversion rate = 50.7 gpm + 13.6 gpm = 64.3 gpm or 0.14 cfs considering department rounding standards.

**F. VOLUME CALCULATIONS**

1. Volume Calculations for irrigation: N/A
2. Volume Calculations for Other Uses:

Domestic annual volume & maximum diversion volume = 9 homes w/half acre irrigation x 1.2 af per home = **10.8 af**.

**G. NARRATIVE/REMARKS/COMMENTS**

Field exam performed on 8/26/2021 with the applicant's representative, Mike Curry, showed 2ea groundwater wells diverting water for domestic uses. At the POD(s), well D0084679 & D0053835 pipe direct to two 3,000-gal storage tanks prior to distribution for beneficial uses. I was unable to perform flow measurements due to inadequate pipe requirements, and theoretic pump equations were developed to derive the diversion rate from each well as follows:

- D0084679 – 5 hp pump at 185 ft with 55 PSI operating pressure equals 50.7 gpm or 0.11 cfs
- D0053835 – 1.5 hp pump at 223 ft with 55 PSI operating pressure equals 13.6 gpm or 0.03 cfs

The combined diversion rate equals 64.3 gpm or 0.14 cfs considering department rounding standards. The maximum diversion rate permit approved for development equals 0.13 cfs, which is 0.01 cfs less than the theoretical derived rate. The potential for over diversion of 0.01 cfs (4.5 gpm) is not being considered a concern for enlargement of the water right, as the theoretic equation may have a margin of error and/or friction loss in the system may result in a slightly lower pumping capacity for the applicant's water system. The permit approved diversion rate of **0.13 cfs** is recommended to license this water right.

The permit approved a single POD for development, and during the exam it was identified the applicants had connected to a second well due to the first not producing enough pumping capacity to serve the 9 homes. An application for Amendment (For Licensing Purposes) was mailed to the applicant on 8/27/2021 to add a POD and was received back on 9/2/2021. Well D0084679 located in the SW¼ SE¼, Sec. 24, Twp 51N, Rge 06W was added as the 2<sup>nd</sup> POD for licensing purposes.

During the exam, Mr. Curry and I went to each of the 9 parcels to take photographs of each home that is service connected. Field maps were used to verify the # of homes, and during licensing review Arcmap aerial imagery was used to trace out the domestic POU which incorporates up to 1/2 acre of irrigation per platted subdivision lot. The annual volume associated with domestic use equals 9 homes x 1.2 af per home = **10.8 af** which is recommended as the maximum diversion volume for licensing purposes.

Well D0084679 pumps water down hill to the lowest extent of the subdivision where 2ea 3,000 gallon community storage tanks reside. At this point water from the upper well joins water pumped from the lower well D0053835 prior to transfer pumps serving water to each home. Each homeowner also has a 1,500-gal storage tank co-located with their respective house to ensure adequate water is available during peak water use periods. Photographs of several personal 1,500-gal tanks were taken, in addition to lawn space around each home. Arcmap aerial imagery was used to validate no property owner was irrigating more than the ½ acre allotted with domestic use.

Conditions 046 & 26A were removed from the permit during licensing review. All other conditions on the permit shall be carried to licensing. There are no 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> |
|-----------------------|----------------------|--------------------------|----------------------|
| DOMESTIC              | 01/01 to 12/31       | 0.13 CFS                 | 10.8 AF              |
| <b>Totals:</b>        |                      | 0.13 CFS                 | 10.8 AF              |

## 2. Recommended Amendments

         Change P.D. as reflected above        X   Add P.D. as reflected above               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 E. B. Date 11/16/2021

Reviewer Aide Fink Date 1/31/2022

DOMESTIC system diagram.



THEORETICAL PUMPING EQUATION(S) FOR WR# 95-17172

|                                                                                                                                                          |              |           |                  |                                |                             |                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|------------------|--------------------------------|-----------------------------|-------------------------------|
| Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 185 ft, and running at 55 psi. |              |           |                  |                                |                             |                               |
| <u><b>PUMP EQUATIONS</b></u>                                                                                                                             |              |           |                  |                                |                             |                               |
| <b>WATER RIGHT No. 95-17172</b>                                                                                                                          |              |           |                  |                                |                             |                               |
| <b>D0084679</b>                                                                                                                                          |              | <b>HP</b> | <b>H in feet</b> | <b>Efficiency as a decimal</b> | <b>Pumping lift in feet</b> | <b>System pressure in PSI</b> |
| Q =                                                                                                                                                      | HP*8.8*Eff/H | 5         | 312.2109         | 0.8                            | 185                         | 55                            |
| Q = <b>0.113 cfs</b> <b>50.7 gpm</b>                                                                                                                     |              |           |                  |                                |                             |                               |

THEORETICAL PUMPING EQUATION(S) FOR WR# 95-17172

|                                                                                                                                                          |              |           |                  |                                |                             |                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|------------------|--------------------------------|-----------------------------|-------------------------------|
| Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 223 ft, and running at 55 psi. |              |           |                  |                                |                             |                               |
| <u><b>PUMP EQUATIONS</b></u>                                                                                                                             |              |           |                  |                                |                             |                               |
| <b>WATER RIGHT No. 95-17172</b>                                                                                                                          |              |           |                  |                                |                             |                               |
| <b>D0053835</b>                                                                                                                                          |              | <b>HP</b> | <b>H in feet</b> | <b>Efficiency as a decimal</b> | <b>Pumping lift in feet</b> | <b>System pressure in PSI</b> |
| Q =                                                                                                                                                      | HP*8.8*Eff/H | 1.5       | 350.2109         | 0.8                            | 223                         | 55                            |
| Q = <b>0.030 cfs</b> <b>13.6 gpm</b>                                                                                                                     |              |           |                  |                                |                             |                               |

|                                                                            |  |
|----------------------------------------------------------------------------|--|
| COMBINED DIVERSION RATE = 50.7 GPM + 13.6 GPM = 64.3 GPM = <b>0.14 CFS</b> |  |
| CONSIDERING DEPARTMENT ROUNDING STANDARDS.                                 |  |

IDAHO DEPARTMENT OF WATER RESOURCES  
**WELL DRILLER'S REPORT**

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

1. WELL TAG NO. D 0053835

DRILLING PERMIT NO. 849909

Water Right or Injection Well No. \_\_\_\_\_

ENTERED

2. OWNER:

Name Sheila Leuer

Address 4574 High Prairie Rd

City Post Falls State ID Zip 83854

3. LOCATION OF WELL by legal description:

You must provide address or Lot, Blk, Sub. or Directions to well.

Twp. 51 North ☒ or South ☐

Rge. 6 East ☐ or West ☒

Sec. 24 1/4 SW 1/4 SE 1/4

Gov't Lot \_\_\_\_\_ County Kootenai

Lat: \_\_\_\_\_ Long: \_\_\_\_\_

Address of Well Site same as Above

Top of Hill City Hauser area

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

Lt. \_\_\_\_\_ Blk. \_\_\_\_\_ Sub. Name \_\_\_\_\_

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation  
☐ Thermal ☐ Injection ☐ Other \_\_\_\_\_

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 |
|--------------------------|------|-----|-----------------|-----------------------|
| Casing seal<br>Bentonite | 0    | 18' | 450#            | overbore              |

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 57'

Was drive shoe seal tested? ☒ Y ☐ N How? Air Pressure

8. CASING/LINER:

| Diameter | From   | To   | Gauge | Material | Casing                              | Liner                               | Welded                              | Threaded                            |
|----------|--------|------|-------|----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 6"       | +1     | 57'  | .250  | Steel    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 4"       | -4 1/2 | 238' | .220  | PVC      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

Length of Headpipe \_\_\_\_\_ Length of Tailpipe \_\_\_\_\_

Packer ☐ Y ☐ N Type \_\_\_\_\_

9. PERFORATIONS/SCREENS PACKER TYPE

Perforation Method saw cut (PVC only)

Screen Type & Method of Installation N/A

| From | To  | Slot Size | Number | Diameter | Material | Casing                   | Liner                               |
|------|-----|-----------|--------|----------|----------|--------------------------|-------------------------------------|
| -187 | 238 | 6"x4"     | 90     | 4"       | PVC      | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

10. FILTER PACK N/A

| Filter Material | From | To | Weight / Volume | Placement Method |
|-----------------|------|----|-----------------|------------------|
|                 |      |    |                 |                  |

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

56 ft. below ground Artesian pressure \_\_\_\_\_ lb.

Depth flow encountered \_\_\_\_\_ ft. Describe access port or control devices:

Bolted well cap

12. WELL TESTS:

| Yield gal./min.   | Drawdown | Pumping Level | Time |
|-------------------|----------|---------------|------|
| <u>42 1/2 GPM</u> |          |               |      |

Water Temp Cold

Bottom hole temp. Cold

Water Quality test or comments: looks Good + Clear

Depth first Water Encounter 155

13. LITHOLOGIC LOG: (Describe repairs or abandonment)

| Bore Dia. | From | To  | Remarks: Lithology, Water Quality & Temperature | Y                                   | N                                   |
|-----------|------|-----|-------------------------------------------------|-------------------------------------|-------------------------------------|
| 8"        | 0    | 34  | Sand + Gravel                                   |                                     |                                     |
| "         | 34   | 38  | Decomposed Granite                              |                                     |                                     |
| "         | 38   | 57  | Granite                                         |                                     |                                     |
| 6"        | 57   | 155 | Granite                                         |                                     | <input checked="" type="checkbox"/> |
| "         | 155  | 198 | Granite 20 GPM                                  | <input checked="" type="checkbox"/> |                                     |
| "         | 198  | 218 | Granite 20 GPM                                  | <input checked="" type="checkbox"/> |                                     |
| "         | 218  | 238 | Granite 2 1/2 GPM                               | <input checked="" type="checkbox"/> |                                     |

RECEIVED

DIC 17 2007

IDWR/North



**AQUA DRILLING  
& EXPLORATION INC.**  
PO BOX 2850  
HAYDEN, ID 83835-2850

Completed Depth 238' (Measurable)

Date: Started 11-8-07 Completed 11-11-07

14. DRILLER'S CERTIFICATION

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

Company Name AQUA DRILLING & EXPLORATION INC. Firm No. 163

Principal Driller Scott M. Braun Date 11-11-07

and Driller or Operator II Scott M. Braun Date \_\_\_\_\_

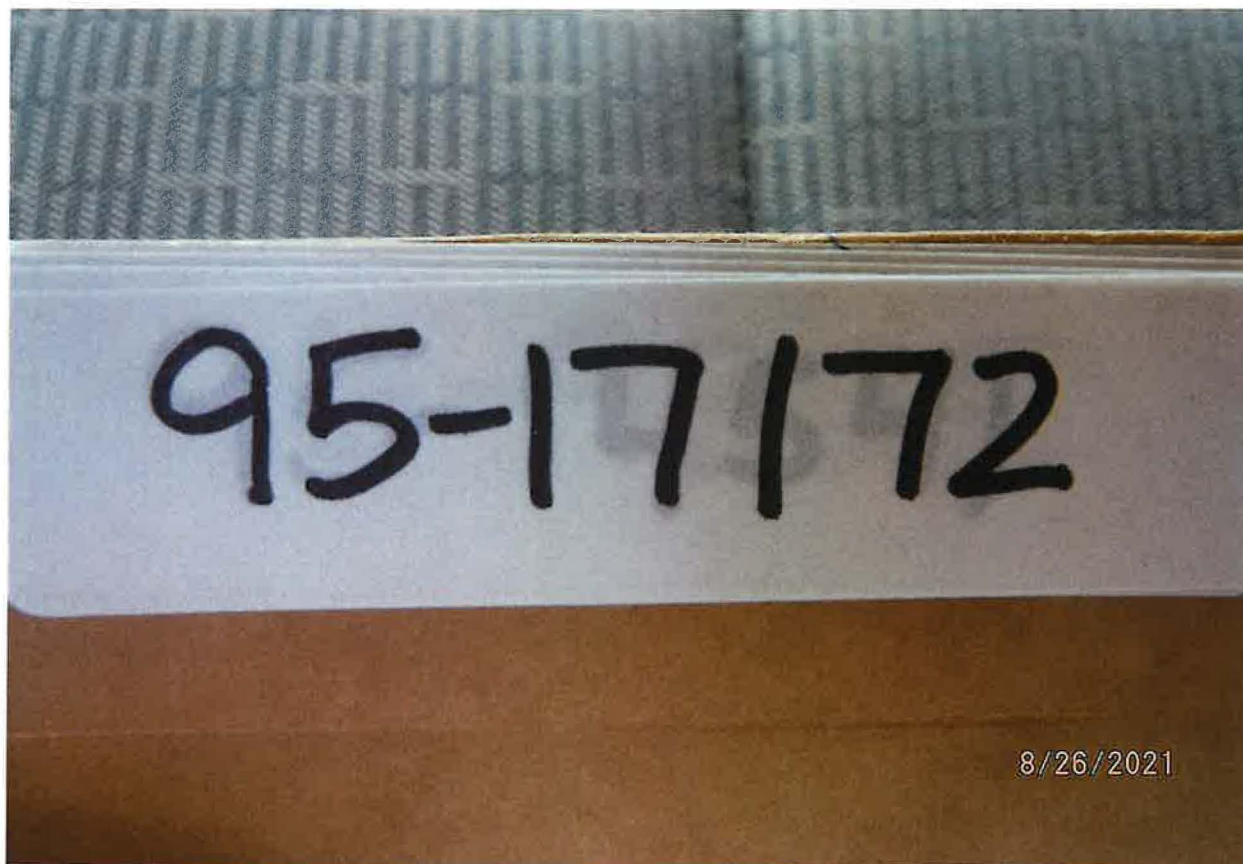
Operator I \_\_\_\_\_ Date \_\_\_\_\_

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

51N 6W 24

FORWARD WHITE COPY TO WATER RESOURCES

SILVER



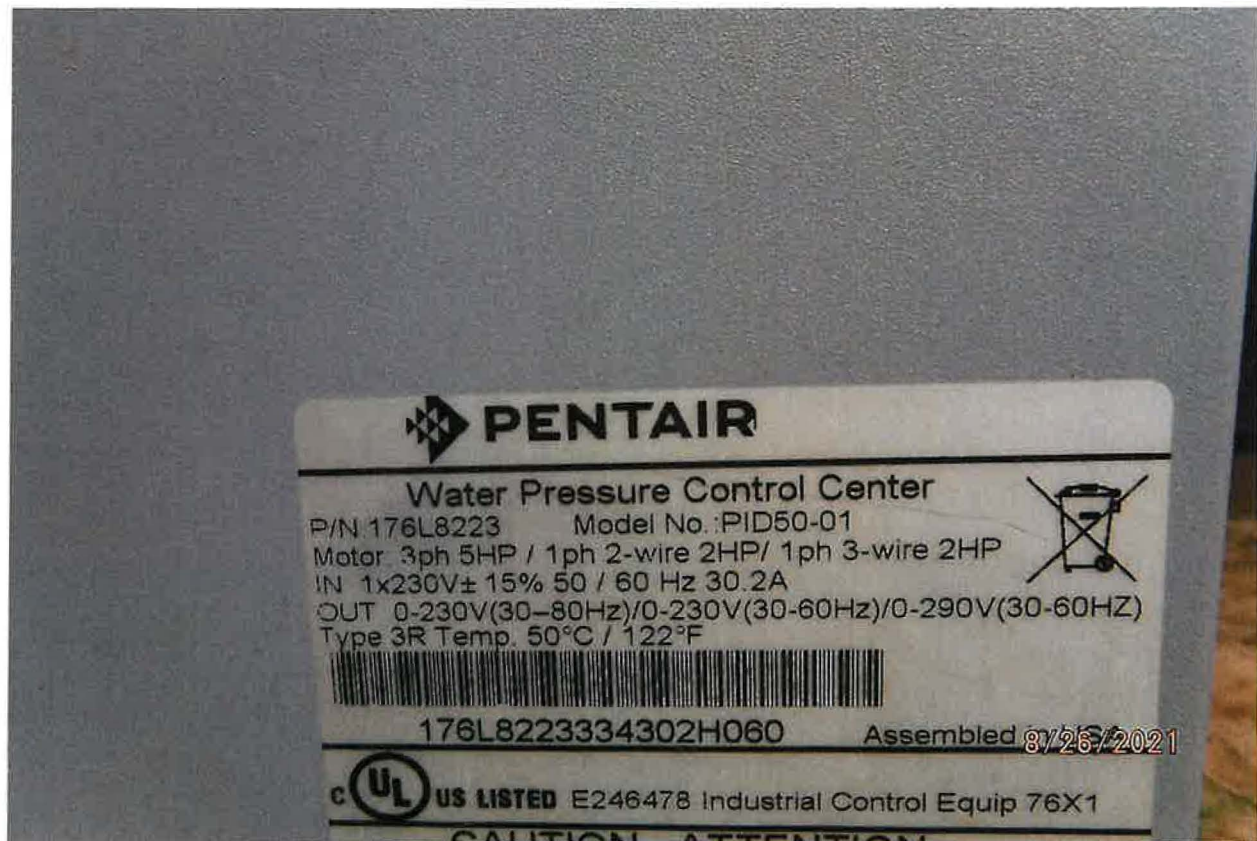
FIELD EXAM DATE 8/26/2021



POD – GROUNDWATER SOURCE - WELL D0084679



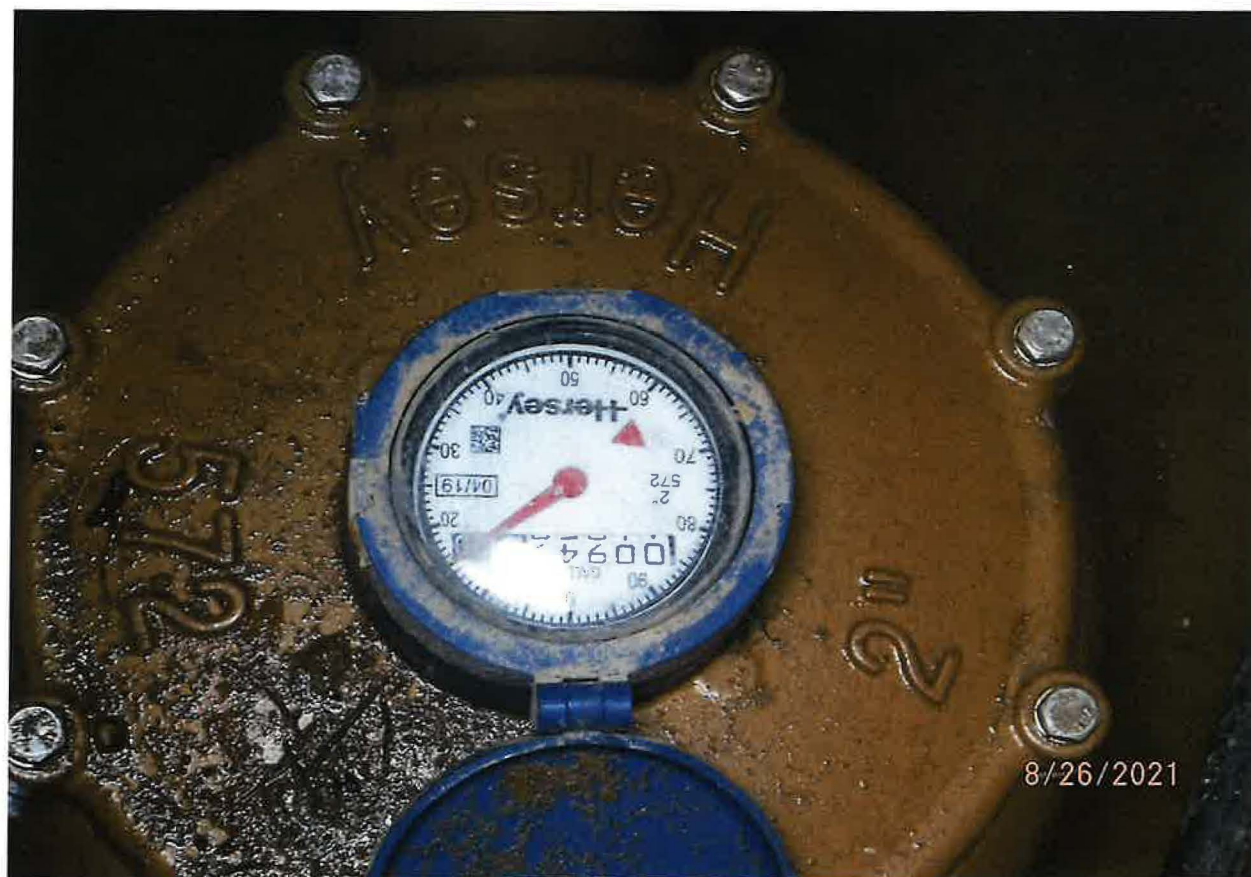
WELL D-TAG D0084679



5 HP PUMP/MOTOR INSTALLED IN WELL D0084679



WELL D0084679 DIVERTING WORKS, INCLUDES PRESSURE TANK AND FLOWMETER



HERSEY FLOWMETER



POD – GROUNDWATER WELL D0053835

G TO APPLICABLE CODES.

155661101 REV. 6



**Franklin Electric**  
Bluffton, Indiana 46714



**Franklin Electric**

**UL** US LISTED 34CL REU27

R/OUTDOOR USE (ENCL. 3)

**HP 1/1.5**

**VOLT 230**

**S.F. MAX AMP 8.0/11.5**

**LOAD MUST BE RESET** ↓ **FOR MOTOR TO START**

8/26/2021

1.5 HP PUMP/MOTOR INSTALLED IN WELL D0053835



WATER SYSTEM CONTROL PANEL – INCLUDES 2EA 3,000 GAL STORAGE TANKS





WATER SYSTEM INCORPORATES A 1,500 GAL STORAGE TANK FOR EACH LOT – 9 TOTAL



DOMESTIC POU – 4574 N HIGH PRAIRIE RD, PARCEL No. RP51N06W248900



DOMESTIC POU – 8040 N PERPETUA LN, PARCEL No. RPOL0920020060





DOMESTIC POU – 8091 N PERPETUA LN, PARCEL No. RP0L0920010010



DOMESTIC POU – 8100 N PERPETUA LN, PARCEL No. RP0L092002005A



DOMESTIC POU – 8100 N PERPETUA LN, PARCEL No. RP0L092002004A



DOMESTIC POU – 18146 W EVERLAST DR, PARCEL No. RP0L092002003A



DOMESTIC POU – 18145 W EVERLAST DR, PARCEL No. RP0L092002002A



DOMESTIC POU – 18261 W EVERLAST DR, PARCEL No. RP0L0920020010



DOMESTIC POU – 8165 N PERPETUA LN, PARCEL No. RPOL0920010020

