

STATE OF IDAHO  
DEPARTMENT OF WATER RESOURCES  
BENEFICIAL USE FIELD REPORT

**A. GENERAL INFORMATION**

**Permit No:** 95-17204  
**Exam Date:** 09/22/2022

1. Current Owner:  
LEWELLEN CREEK WATER ASSN INC 28570 N LEWELLEN CREEK RD ATHOL ID 83801-8610
2. Accompanied by: Drew Wenstrom  
Phone No: 208-770-9149  
Address: Same as above  
Relationship to permit Holder: Permit Holders' representative – Water Assn President.

**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 L1 ( NW¼ NW¼), Sec. 19, Twp 53N, Rge 02W, B.M. KOOTENAI County  
GROUND WATER L1 ( NW¼ NW¼), Sec. 19, Twp 53N, Rge 02W, B.M. KOOTENAI County

Method of Determination: GPS; POD(s) are located at -116°38.0136, 47°55.9779 well D0069419 and  
-116°38.027, 47°55.8649 well D0069867.

**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 |        |
| 53N | 02W | 19  |    |    |    |    |    | X<br>L1 |    |    |    |    |    |    |    |    |    |    |        |

Method of Determination: beneficial use field examination and ArcMap aerial imagery.

3.
  - ☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components.
  - ☒ 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 1:24,000 or greater.
  - ☒ Aerial Photo Attached (required for irrigation of 10+ acres).
  - ☒ Photo of Diversion and System Attached

4.

| Well or Diversion ID No.* | Motor Make        | Hp | Motor MODEL No. | Pump Make | Pump Serial No. or Discharge Size |
|---------------------------|-------------------|----|-----------------|-----------|-----------------------------------|
| D0069419                  | FRANKLIN ELECTRIC | 3  | 2823028310      |           |                                   |
| D0069867                  | FRANKLIN ELECTRIC | 3  | 2823028110      |           |                                   |

**D. FLOW MEASUREMENTS**

1.

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

2. Measurements: I was unable to perform flow measurement due to inadequate pipe requirements. Water from each well is pumped directly to two vaulted storage reservoirs prior to distribution to domestic uses using a smaller hp pump. Two Theoretic Pump Equations were calculated with the combined total diversion rate equaling 0.06 cfs considering department rounding standards.

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

Measured Method: Two Theoretic Pump Equations as follows:

- D0069419 – 3 hp pump installed at depth of 985 ft with operating pressure of 45 PSI = 8.7 gpm or 0.019 cfs.
- D0069867 – 3 hp pump installed at depth of 485 ft with operating pressure of 45 PSI = 16.1 gpm or 0.036 cfs
- Combined total = 24.8 gpm or 0.055 cfs = **0.06 cfs** considering department rounding standards.

**F. VOLUME CALCULATIONS**

1. Volume Calculations for irrigation: N/A
2. Volume Calculations for Other Uses: maximum diversion volume equals 6 homes x 1.2 af per home = **7.2 af**.

**G. NARRATIVE/REMARKS/COMMENTS**

Beneficial use field exam performed on 9/22/2022 with the Applicant's representative, Drew Wenstrom – Lewellen Creek Water Assoc Inc. President, showed two groundwater wells being used for domestic purposes. The PODs and diverting works are as follows:

- Northern well POD – D0069419 with 3 hp Franklin Electric well pump & motor. A theoretic pump equation was used to derive the flow rate of 8.7 gpm or 0.02 cfs considering department rounding standards. This is a reasonable rate considering the well driller report designated a yield of 4 gpm at time of well construction.
- Southern well POD – D0069867 with 3 hp Franklin Electric well pump & motor. A theoretic pump equation was used to derive the flow rate of 16.1 gpm or 0.04 cfs considering department rounding standards. This is a reasonable rate considering the well driller report designated a yield of 20 gpm at time of well construction.
- Two 3,000-gallon community storage cisterns are installed, co-located with the Northern well that are interconnected and use a 1.5 hp VFD pump with ¾ hp motor Franklin Electric transfer pump to distribute water to six home's service connections.

United Crown Pump & Drilling installed the water system diverting works. I spoke with an installer's representative by phone during licensing review to better understand how the two wells, located some distance from each other interacted and whether they were part of a co-mingled system or stand-alone system(s). The installer verified that the two well pumps divert directly to the community storage cisterns and that telemetry wiring was installed that activate both well pumps simultaneously when system pressures drop sufficiently to activate the well pumps. Due to the well pumps diverting directly

to storage tanks, I was unable to take flow measurements during the exam necessitating the theoretic pump equations. I'm recommending a maximum diversion rate of **0.06 cfs** based on the sum of two equations for domestic use, which is less than the permit approved value, but the applicant is limited by pump(s) performance as installed at time of exam.

Mr. Wenstrom and I walked & drove the domestic POU during the exam, and I sketched out water lines and domestic use on field maps. A main water line distributes water from the two tanks to six homes. Each parcel's service stub water box is co-located with a frost-free hydrant; photographs were taken to illustrate the hydrants. Each of the six homes on the system uses water for in-home and up to ½ acre of irrigation for lawn, garden, and landscape watering. During licensing review, I used ArcMap aerial imagery to trace out the six homes providing a polygon large enough to sufficiently capture home, ½ acre irrigation, and driveways. I'm recommended the maximum diversion volume of 6 homes x 1.2 af per home = **7.2 af** for licensing purposes.

I removed conditions 26A and 046 from the permit during licensing review. Condition 187 was replaced with a text version limiting each home to ½ acre irrigation per parcel for 6 homes. I've added conditions X59 & X60 to accurately describe POD/POU located within a subdivision and multiple parcel(s) designated by parcel number. All other conditions on the permit shall be carried forward to licensing. There are no overlapping water right concerns toward licensing this permit.

Have conditions of permit approval been met?    X    Yes    No

## H. RECOMMENDATIONS

## 1. Recommended Amounts

| <b><u>Beneficial Use</u></b> | <b><u>Period of Use</u></b> | <b><u>Rate of Diversion</u></b> | <b><u>Annual Volume</u></b> |
|------------------------------|-----------------------------|---------------------------------|-----------------------------|
| DOMESTIC                     | 01/01 to 12/31              | 0.06 CFS                        | 7.2 AF                      |

**Totals:** 0.06 CFS 7.2 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

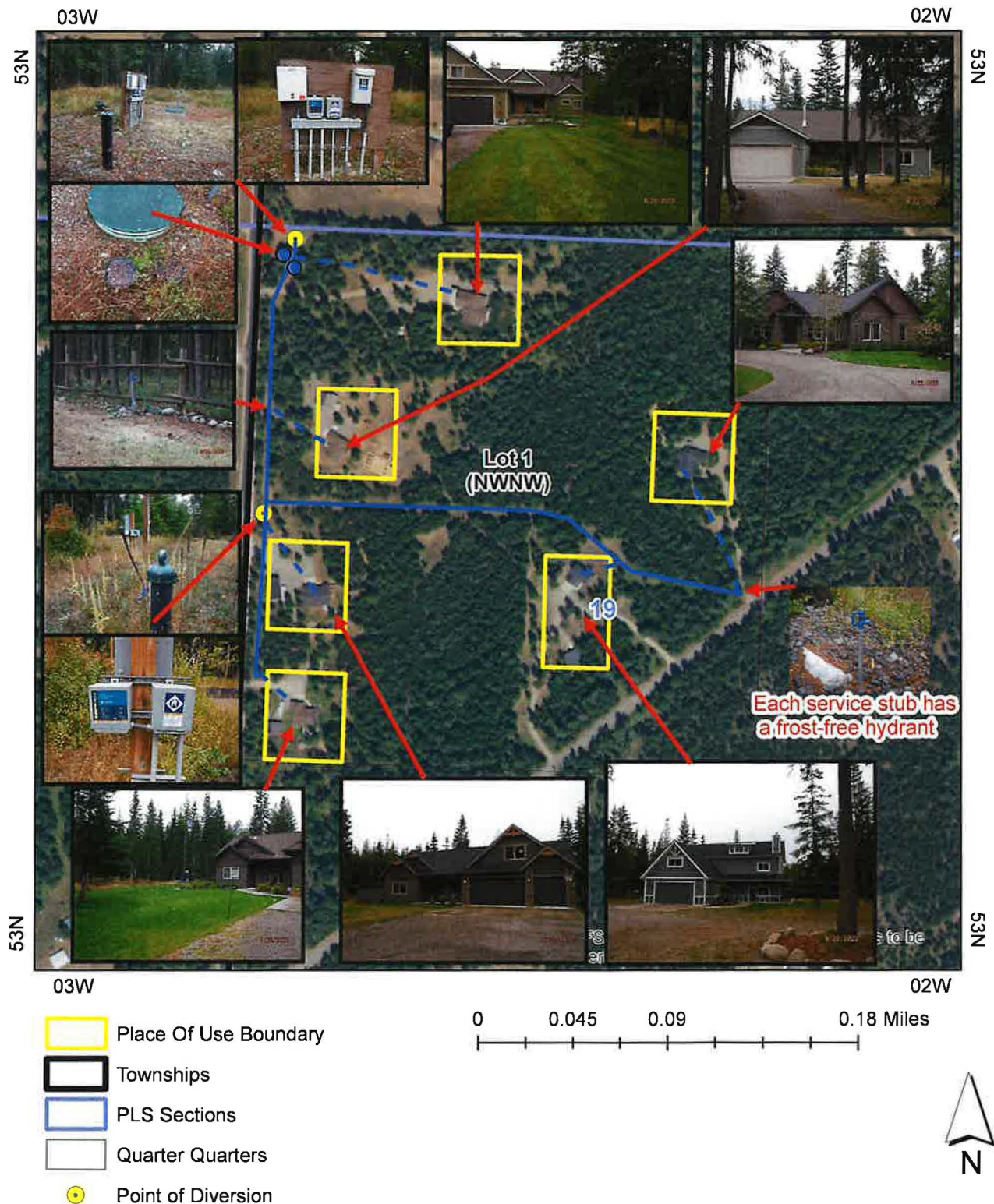
## I. AUTHENTICATION

Luke Bates -

Field Examiner's Name                      Date 1/8/2024

Reviewer Thane Bell Date 6/7/2024

This map depicts the DOMESTIC system diagram.



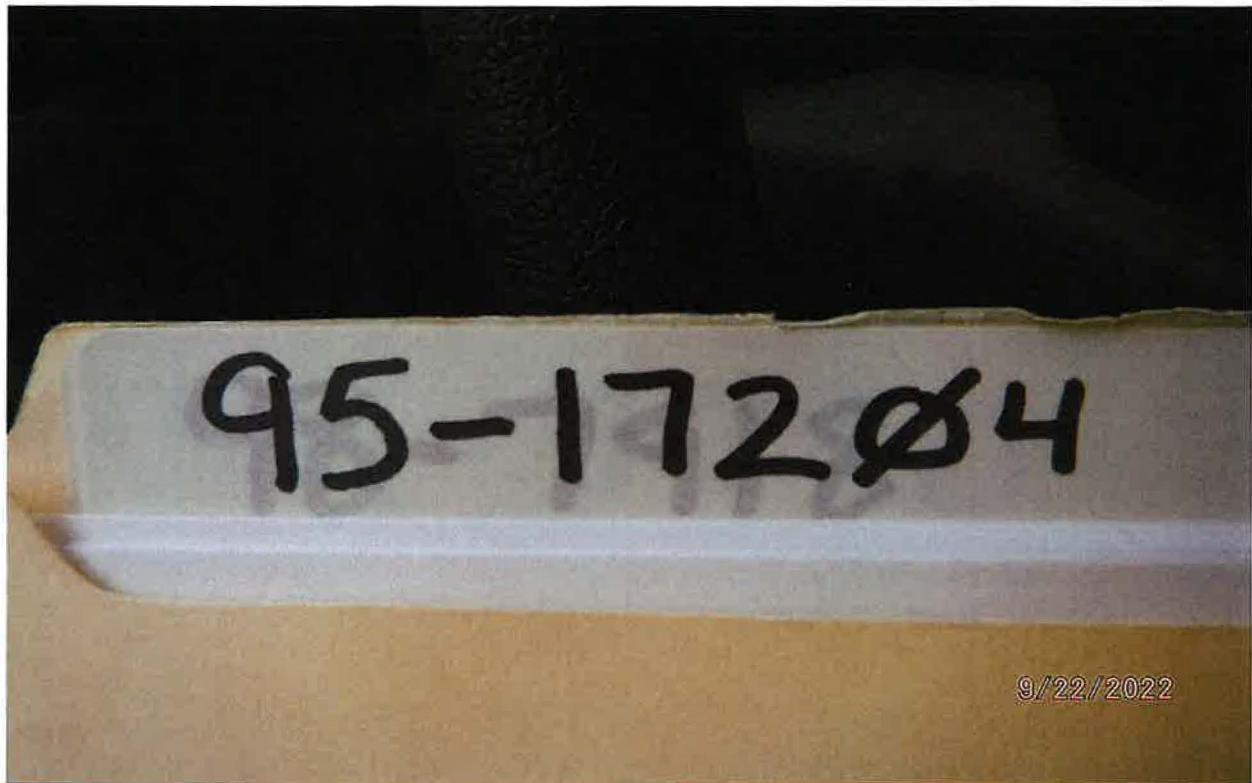
THEORETICAL PUMPING EQUATION(S) FOR WR# 95-17204

|                                                                                                                                                          |           |                  |                                |                             |                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------|--------------------------------|-----------------------------|-------------------------------|
| Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 985 ft, and running at 45 psi. |           |                  |                                |                             |                               |
| <u><b>PUMP EQUATION</b></u>                                                                                                                              |           |                  |                                |                             |                               |
| <b>WATER RIGHT No. 95-17204</b>                                                                                                                          |           |                  |                                |                             |                               |
| <b>D0069419</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                                                                                                                                         | 3         | 1089.082         | 0.8                            | 985                         | 45                            |
| Q = <b>0.019 cfs</b> <b>8.7 gpm</b>                                                                                                                      |           |                  |                                |                             |                               |

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 485 ft, and running at 45 psi.

| <u>PUMP EQUATION</u>     |              |    |           |                         |                      |                        |
|--------------------------|--------------|----|-----------|-------------------------|----------------------|------------------------|
| WATER RIGHT No. 95-17204 |              |    |           |                         |                      |                        |
| D0069867                 |              | HP | H in feet | Efficiency as a decimal | Pumping lift in feet | System pressure in PSI |
| Q =                      | HP*8.8*Eff/H | 3  | 589.0816  | 0.8                     | 485                  | 45                     |
| Q = 0.036 cfs 16.1 gpm   |              |    |           |                         |                      |                        |

MAXIMUM DIVERSION RATE = 8.7 GPM + 16.1 GPM = **24.8 GPM** OR **0.06 CFS**  
 CONSIDERING DEPARTMENT ROUNDING STANDARDS.



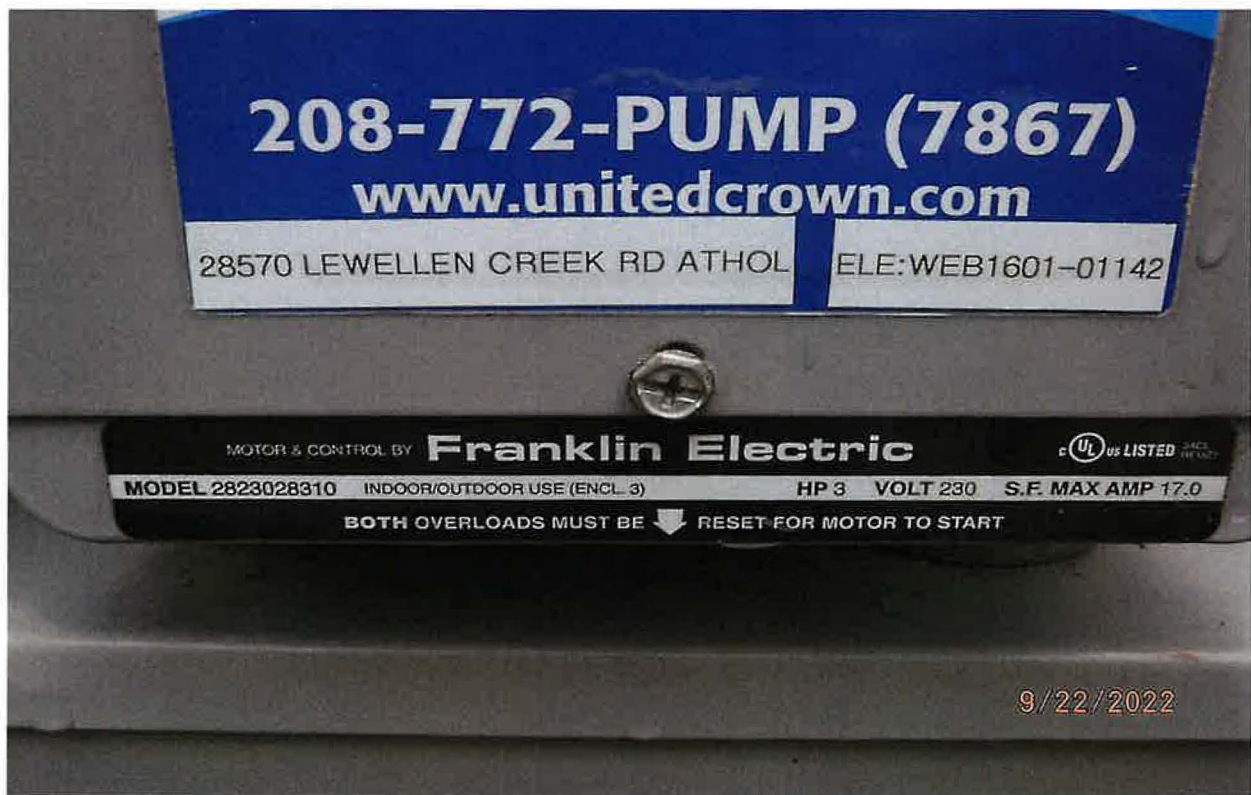
BENEFICIAL USE FIELD EXAM DATE 9/22/2022



GROUNDWATER POD – D0069419



WELL D-TAG D0069419



3 HP PUMP MOTOR INSTALLED WELL D0069419



2 STORAGE TANKS IN COMMUNITY SYSTEM – SIZE UNKNOWN



1.5 HP PUMP WITH  $\frac{3}{4}$  HP MOTOR (VFD) TRANSFER PUMP INSTALLED IN STORAGE TANK



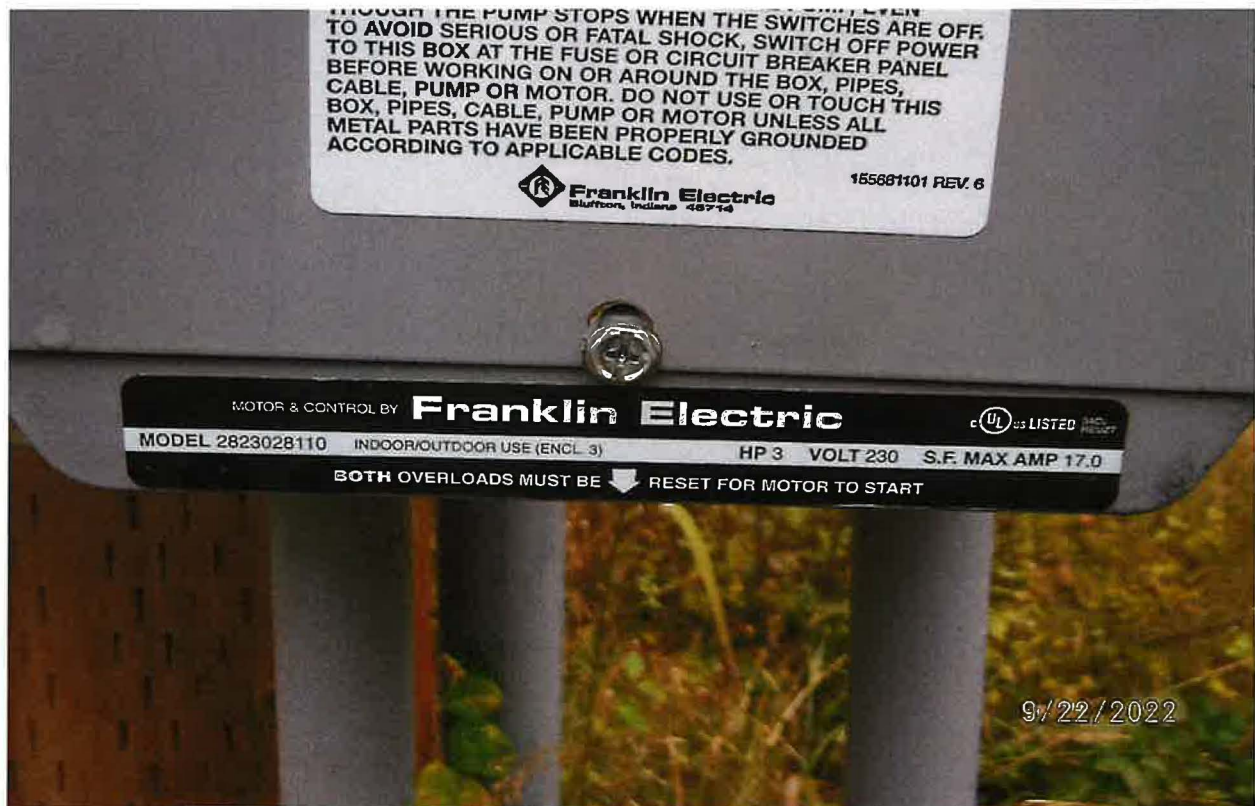
2<sup>ND</sup> POD – GROUNDWATER WELL D0069867



WELL D-TAG D0069867



CONTROL PANELS FOR D0069867



3 HP PUMP MOTOR INSTALLED IN WELL



DOMESTIC POU – 28750 N LEWELLEN CREEK RD; LT1, BLK 1, LEWELLEN CREEK ESTATES SUB. RPOL0420010010



FROST FREE HYDRANT FOR LT1, BLK1 WHERE HOME SERVICE LINE STUBS INTO WATER MAIN



DOMESTIC POU – 28678 N LEWELLEN CREEK RD; LT3, BLK 1, LEWELLEN CREEK ESTATES SUB. RPOL0420010030



FROST FREE HYDRANT FOR LT3, BLK1 WHERE HOME SERVICE LINE STUBS INTO WATER MAIN



DOMESTIC POU – 28570 N LEWELLEN CREEK RD; RP53N02W193400



FROST FREE HYDRANT FOR RP53N02W193400 WHERE HOME SERVICE LINE STUBS INTO WATER MAIN



DOMESTIC POU – 28450 N LEWELLEN CREEK RD; RP53N02W193500





DOMESTIC POU – 11683 E WHITETAIL DR; RP53N02W193300





DOMESTIC POU – 11769E WHITETAIL DR; LT2, BLK 1, LEWELLEN CREEK ESTATES SUB. RP0L0420010020

