

STATE OF IDAHO  
DEPARTMENT OF WATER RESOURCES  
BENEFICIAL USE FIELD REPORT

**A. GENERAL INFORMATION**

Permit No: 67-15325 &amp; 67-15526

Exam Date: 04/11/2025

## 1. Current Owner:

KENNETH BILLINGTON AND TANYA BILLINGTON **2310 WAITE RD MIDVALE ID 83645-5078**

## 2. Accompanied by: KEN BILLINGTON

Phone No: **541-540-2260**

Address: SAME AS ABOVE

Relationship to permit Holder: PERMIT HOLDER

**3. SOURCE:**

GROUND WATER

Method of Determination: Garmin GPS, GIS imagery, and Washington County tax parcel data.**B. OVERLAP REVIEW**

## 1. Other water rights with the same place of use:

NO Overlap

| Water Right No. | Source | Purpose of Use | Basis |
|-----------------|--------|----------------|-------|
| NONE            | NA     | NA             | NA    |

Comments: No irrigation or domestic rights overlap the permitted place of use (POU).

## 2. Other water rights with the same point-of-diversion:

NO Overlap

| Water Right No. | Source | Purpose of Use | Basis |
|-----------------|--------|----------------|-------|
| NONE            | NA     | NA             | NA    |

Comments: No water rights share the points of diversion (PODs) with the permitted use.**C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:

GROUND WATER L7 ( SW¼ SW¼), Sec. 6, Twp 13N, Rge 03W, B.M. WASHINGTON County

**GPS COORDS: N 44.48697° - W 116.75262° (Domestic Well)**

GROUND WATER L7 ( SW¼ SW¼), Sec. 6, Twp 13N, Rge 03W, B.M. WASHINGTON County

**GPS COORDS: N 44.48696° - W 116.75256° (Irrigation Well)**Method of Determination: GARMIN GPS.**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  |        |
| 13N | 04W | 1   |    |    |    |    |    |    |    |    |     |    |     |    |    |    |    | 1.2 | 1.2    |
| 13N | 03W | 6   |    |    |    |    |    |    |    |    | 1.0 |    | 8.1 |    |    |    |    |     | 9.1    |
|     |     |     |    |    |    |    |    |    |    |    | L6  |    | L7  |    |    |    |    |     |        |

Total Acres: 10.3

Method of Determination: GIS imagery, Google Earth Pro, and Washington County tax parcel data. The areas developed in the permit holders parcel include areas outside of the permit POU in the SESE of section 1 and the NWSW of section 6 (red acreage identified above). The permit was amended for licensing to include the 2.2 acres outside of the permit POU.

**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 |        |
| 13N | 03W | 6   |    |    |    |    |    |    |    |    |    |    | X  |    |    |    |    |    |        |
|     |     |     |    |    |    |    |    |    |    |    |    |    | L7 |    |    |    |    |    |        |

Method of Determination: GIS imagery, Google Earth Pro, and Washington County tax parcel data.

## 3.

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

X

4.

| Well or Diversion ID No.* | Motor Make | Hp | Motor Serial No. | Pump Make | Pump Serial No. or Discharge Size |
|---------------------------|------------|----|------------------|-----------|-----------------------------------|
|                           |            |    |                  |           |                                   |
|                           |            |    |                  |           |                                   |

**D. FLOW MEASUREMENTS**

1.

| Measurement Equipment | Type               | Make | Model No. | ID State No. | Size | Calib. Date |
|-----------------------|--------------------|------|-----------|--------------|------|-------------|
| Panametric            | Acoustic Flowmeter | GE   | PT878     | 305120       |      | 04/02/2025  |

2. Measurements: Closed conduit clamp on measurements using #402 transducers.

**E. FLOW CALCULATIONS**

Measured Method: Recorded a log of 10 x 1-minute measurements clamped onto the 4" aluminum pipe for the wheel line. The tripod guns with 10mm tips each have a dedicated 600ft spool of 2 1/4" poly line to allow them to reach the lower southern field and the areas north of the home. The permit holder provided specification sheets for the guns, which were used for a theoretical measurement.

**TABLE 1- Wheel Line Measurement Log**

| Time 25/04/11 | Velocity ft / sec | Vol ft^3 / Sec | FWD Totalizer (GAL) |
|---------------|-------------------|----------------|---------------------|
| 11:05         | 0.62              | 0.044          | 459,215.17          |
| 11:06         | 0.62              | 0.044          | 458,234.61          |
| 11:07         | 0.61              | 0.044          | 458,254.66          |
| 11:08         | 0.62              | 0.044          | 458,274.12          |
| 11:09         | 0.62              | 0.044          | 458,293.63          |
| 11:10         | 0.6               | 0.043          | 458,312.98          |
| 11:11         | 0.61              | 0.043          | 458,332.20          |
| 11:12         | 0.61              | 0.043          | 458,352.13          |
| 11:13         | 0.61              | 0.043          | 458,371.34          |
| 11:14         | 0.61              | 0.043          | 458,390.67          |
| 11:15         | 0.61              | 0.043          | 458,410.00          |

Wheel line avg rate= 0.04cfs

208-232-0890

208-989 209

MR50  
1.67" x 555"  
PERFORMANCE CHART  
MICRO RAIN

Water Application in inches

| PSI @ nozzle | 80 % Wetted Radius | 80 % Wetted Dia. | GPM | Ac/Run | .4"  | .5" | .6" | .8" | 1" | 1.2" | 1.4" | 1.5" | 2" |
|--------------|--------------------|------------------|-----|--------|------|-----|-----|-----|----|------|------|------|----|
| 10 mm .36"   | 29                 | 58               | 94  | 23     | 1.31 | 60  | 54  | 40  | 32 | 24   | 20   | 18   |    |
|              | 44                 | 67               | 106 | 26     | 1.52 | 64  | 71  | 43  | 70 | 32   | 68   | 26   | 51 |
|              | 58                 | 75               | 121 | 33     | 1.72 | 66  | 91  | 44  | 80 | 33   | 66   | 27   | 66 |

| PSI @ nozzle | 80 % Wetted Radius | 80 % Wetted Dia. | GPM | Ac/Run | .4"  | .5" | .6" | .8" | 1"  | 1.2" | 1.4" | 1.5" | 2"  |
|--------------|--------------------|------------------|-----|--------|------|-----|-----|-----|-----|------|------|------|-----|
| 12 mm .47"   | 29                 | 62               | 99  | 33     | 1.36 | 81  | 62  | 54  | 61  | 40   | 32   | 23   | 90  |
|              | 44                 | 89               | 110 | 40     | 1.55 | 88  | 62  | 59  | 81  | 44   | 36   | 29   | 79  |
|              | 58                 | 77               | 123 | 46     | 1.75 | 90  | 106 | 60  | 104 | 45   | 103  | 36   | 102 |

| PSI @ nozzle | 80 % Wetted Radius | 80 % Wetted Dia. | GPM | Ac/Run | .4"  | .5" | .6" | .8" | 1"  | 1.2" | 1.4" | 1.5" | 2"  |
|--------------|--------------------|------------------|-----|--------|------|-----|-----|-----|-----|------|------|------|-----|
| 14 mm .58"   | 29                 | 69               | 110 | 51     | 1.55 | 112 | 82  | 75  | 80  | 56   | 79   | 45   | 78  |
|              | 44                 | 82               | 131 | 60     | 1.88 | 111 | 106 | 74  | 104 | 55   | 103  | 44   | 102 |
|              |                    |                  |     |        |      | 116 | 144 | 77  | 142 | 58   | 140  | 46   | 138 |

$$\text{MR-50 12mm gun rate @ 60 psi} = 46 \text{ GPM (ea.)} \times 2 = \underline{92 \text{ GPM (0.21cfs)}}$$

$$0.04\text{cfs (wheel line)} + 0.21\text{cfs } 2 \times \text{MR-50 Guns} = \underline{0.25\text{cfs total rate}}$$

**Theoretical Calculations:****Domestic pump (set depth 100', 1-Hp, @40-60psi, 40 psi observed)**

$$Q = (1.0 \text{ Hp})(8.8)(0.90 \text{ efficiency}) / (100 \text{ ft lift}) + (2.31) * (40 \text{ psi}) = 0.04\text{cfs}$$

**Domestic Recommendation= 0.04cfs**

Irrigation Pump (set depth 160', 5-Hp, @60psi)

$$Q = (5.0 \text{ Hp})(8.8)(.95 \text{ eff}) / (160 \text{ lift in ft}) + (2.31) * (60 \text{ pressure psi}) = 0.14\text{cfs}$$

**Measured Rate= 0.25cfs (@60psi throughout system)****BU limited Rate= 0.21cfs (@0.02cfs/acre)****IRR Recommendation= 0.21cfs****Comments/recommendations:**

**Right 67-15325** – I recommend that the license is issued with a maximum rate of 0.21cfs for the irrigation of 10.3 acres, supported by measurements and specifications, limited by the beneficial use developed (10.3 acres) and the irrigation standard rate (1.0cfs/50acres). I will not limit the rate based on the theoretical calculations, as the system was observed maintaining 60psi while fully operable.

**Right 67-15526** – I recommend that the license is issued with a maximum rate of 0.04cfs for domestic use in 1 home, based on the theoretical calculation and Administrative Memo #22.

**F. VOLUME CALCULATIONS****1. Volume Calculations for irrigation: IRRIGATION (WR 67-15325)**

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 10.3 \text{ acres} \times 4 \text{ AF annually} = 41.2 \text{ AF}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.21\text{cfs} \times 231 \text{ days} \times 1.9835 = 96.2 \text{ AF}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 41.2 \text{ AF}$$

**2. Volume Calculations for Other Uses: DOMESTIC (WR 67-15526)**

Administrative Memo #22 states an annual volume of 1.2 AF is acceptable for 1 domestic home, with up to ½ acre of irrigation.

**Comments/Recommendations:**

**Right 67-15325** - I recommend the license is issued with an annual volume of 41.2 AF for the irrigation of 10.3 acres, per the standard headgate calculation above.

**Right 67-15526** - I recommend the license is issued with an annual volume of 1.2 AF for domestic use in 1 home with up to ½ acre of irrigation, per Administrative Memo #22.

**G. NARRATIVE/REMARKS/COMMENTS**

On April 1, 2024, the Department received the Statement of Completion for permit 67-15325, stating in section 3 that the use was developed for 1 home, 11 acres of irrigation, and stockwater for 13 cows and horses. On April 11, 2025, a field examination was conducted with the permit holders (Ken & Tanya Billington) as escorts. The permit describes the irrigated area within the SWSW of section 6, however, the appurtenant parcel and area developed included approximately 1 acre in the NWSW of section 6 and 1.2 acres in the SESE of section 1. Ken Billington described the systems for domestic, and irrigation uses as diverting from separate wells with separate delivery systems. Therefore, **the license was split into parent right 67-15325 for the irrigation of 11 acres (with the amended POU) and right 67-15526 for domestic use in 1 home with up to ½ acre of irrigation** for the landscaping and garden near the home.

The irrigation system is delivered through a buried 4" PVC mainline which splits into 2 rows of risers for delivery of water in the north and south of the POU (see system diagram, Figure 1). During the field examination the wheel line in the northwest field and MR50 irrigation guns were operated simultaneously. The MR50's can be set up throughout the POU by attaching a 600' reel of poly pipe to the risers running north to south along the center of the POU. The system was able to maintain an operating pressure of 60psi upon the combined operation of wheel line and guns. Photos were taken of the irrigation guns with 12 mm tips, specification sheets were provided by the permit holder, and a Panametric flow meter took measurements

with the acoustic flowmeter on hand. The recommended rate for the license was based on the specifications sheet, observations of the system operating, and the measurements taken at the wheel line.

The domestic system delivers water from the well head through a buried 1" pipe to a 20-Gal Pentair Wellmate pressure tank in the shop to the east with a bathroom (photos 23-25), then it is delivered to the home. A buried sprinkler system with 11 zones in the lawn and landscaped beds around the home. In the system there are 9 rotary sprinkler head zones and 2 drip line zones which operate in sequence. The permit holder also uses a heat exchanger in the home to aid in cooling in summer months. Water passing through the network of tubing throughout the home (heat exchanger) drains to an excavated drainage pond with a surface area measuring approximately 0.13 acre and a maximum depth of approximately 12 ft stated by the permit holder. Although the pond is mostly filled by high groundwater levels locally the drainage from the domestic system helps to maintain the water level year-round. I let the permit holder know that it would be a good idea to pursue a storage right for the pond to abate any concerns.

I recommend that license be split and issued separately for the irrigation of 10.3 acres with a maximum rate of 0.21cfs (right 67-15325), and domestic use in 1 home with up to ½ acre of irrigation and maximum rate of 0.04cfs (right 67-15526). I recommend an annual volume of 41.2 AF for the irrigation of 10.3 acres. Per the field headgate standard calculation in section f of this report and an annual volume of 1.2 AF for domestic use in 1 home with up to ½ acre of irrigation, per Administrative Memo #22. Finally, I recommend that the license for irrigation is issued with conditions R64, 01M, & 103, and the license for domestic use is issued with conditions X01, 187 & 103. Conditions 046 & 26A should be removed per current guidance and condition 121 should be replaced with 103, per current guidance. WB5 should be removed at licensing as it was only added to the permit under the assumption that the uses to be developed were proposed to be delivered using 1 system.

Have conditions of permit approval been met? ☒ 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 (67-15325) | 03/15 to 10/31       | 0.21 CFS                 | 41.2 AF              |
| DOMESTIC (67-15526)   | 01/01 to 12/31       | 0.04 CFS                 | 1.2 AF               |

|                            |                       |                 |                |
|----------------------------|-----------------------|-----------------|----------------|
| <b>67-15325 IRRIGATION</b> | <b><u>Totals:</u></b> | <b>0.21 CFS</b> | <b>41.2 AF</b> |
| <b>67-15526 DOMESTIC</b>   |                       | <b>0.04 CFS</b> | <b>1.2 AF</b>  |

### 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

Bob Howe - Water Resource Agent Sr.

Field Examiner's Name Bob Howe Date 5/27/2025

Reviewer Cody Date 5-28-2025

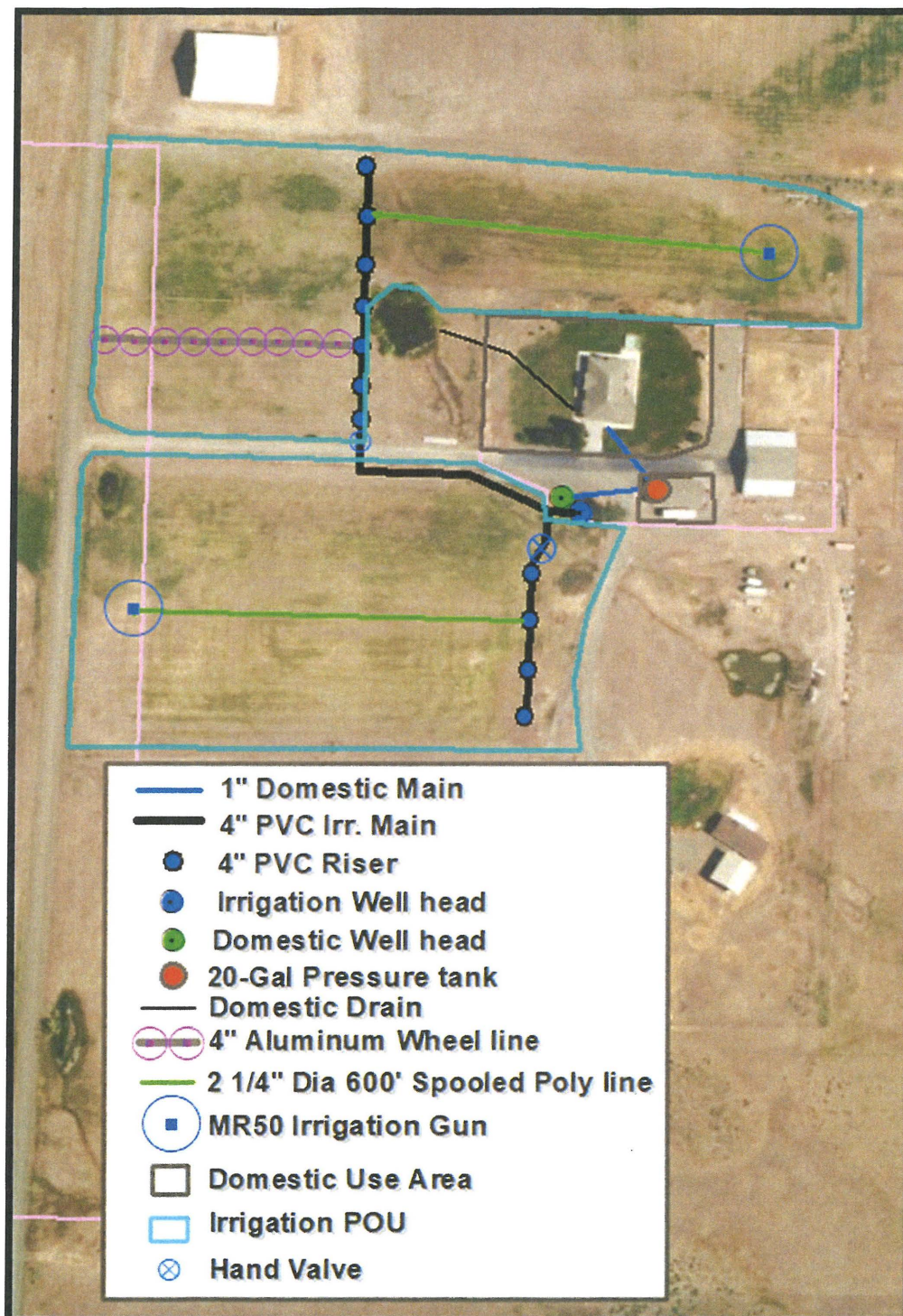


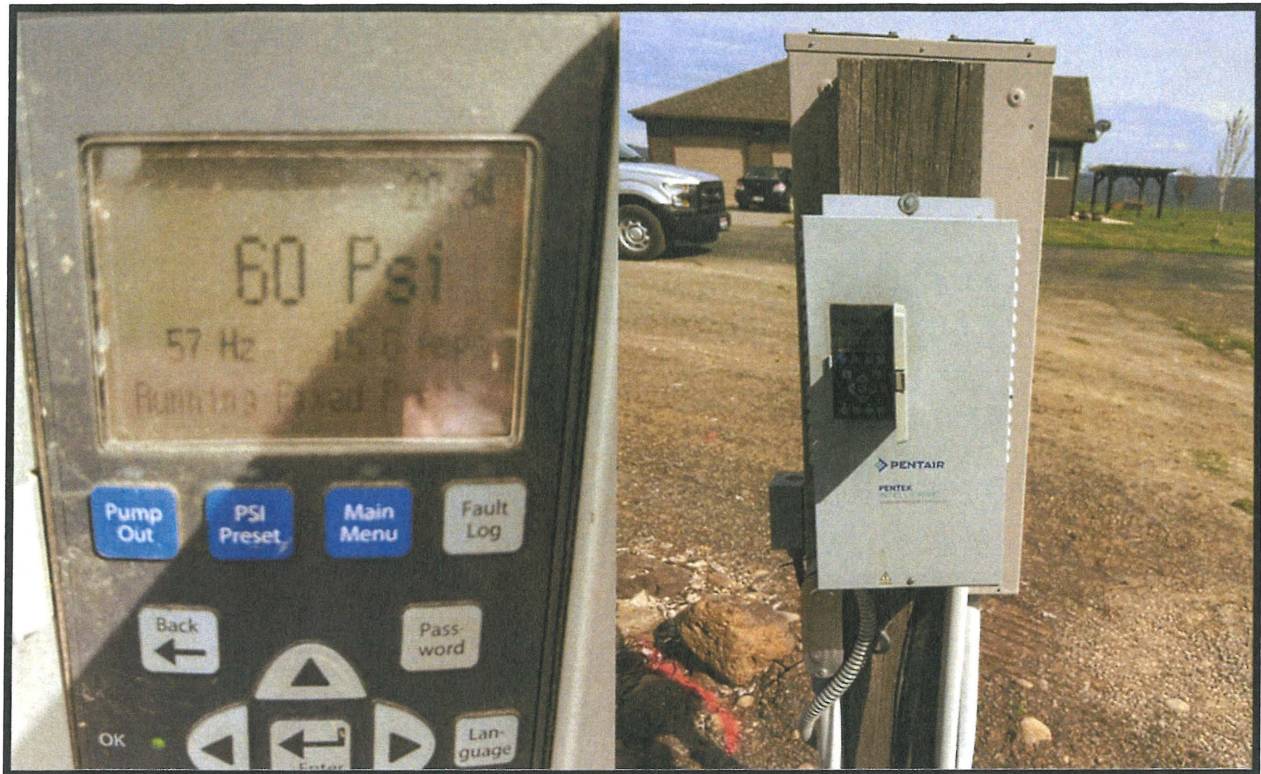
**Figure 1-System Diagram-** The domestic system described for right 67-15526. Areas outlined include internal domestic use and irrigated areas using the inground sprinkler system with 9 rotary head zones and 2 dripline zones (11 total zones). The domestic use POU in AdHoc has areas with frost free spigots for stockwater near the outbuildings. Hand valves can manually shut of each of the 4" irrigation lines split from the main line to the well head.



Photos 1 & 2- GPS Coordinates at irrigation well head (left) and domestic well head (right).



Photo 3- Facing west the irrigation well head is circled in red and the domestic well head is circled in blue.



Photos 4 & 5- Pentex Pentair VFD Controller for irrigation pump. The live reading held at 60psi through out the system measurement while running the wheel line and irrigation gun simultaneously.

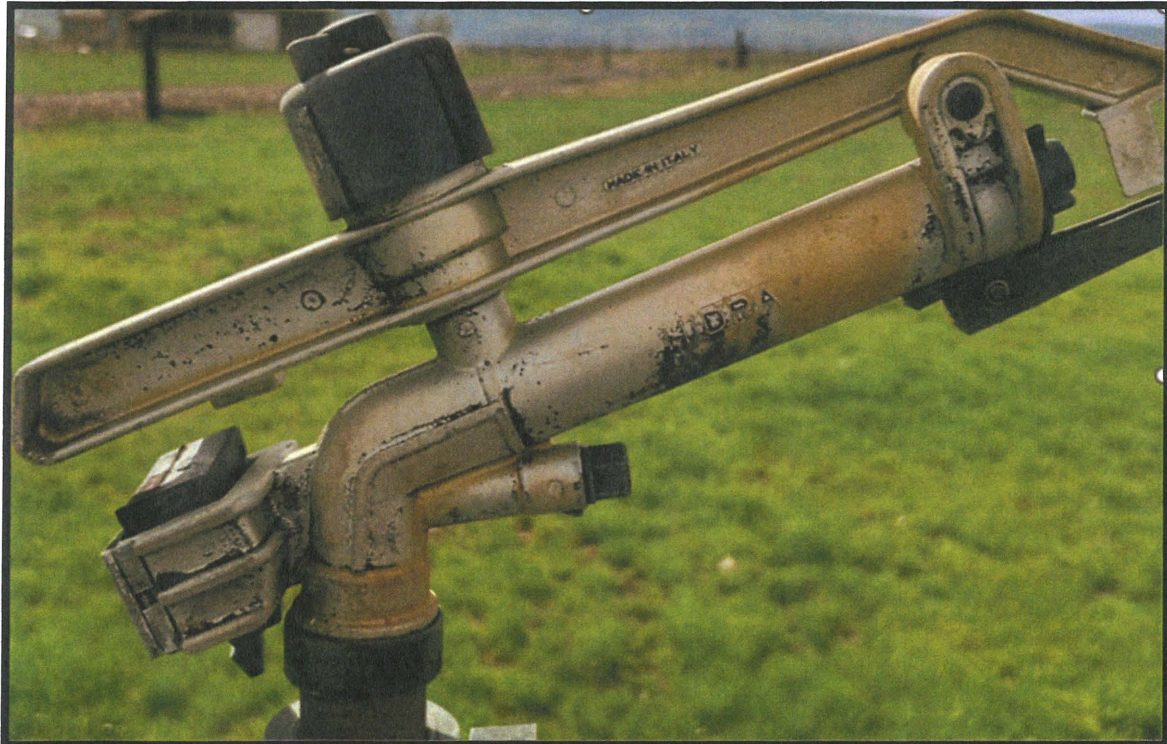
|                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |       |            |    |          |     |         |      |        |      |         |   |                   |      |                |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------|------------|----|----------|-----|---------|------|--------|------|---------|---|-------------------|------|----------------|------|
| <p><b>WARNING</b><br/>Submersible pump installed in well. Display this notice on the disconnect box, or other prominent position.</p> <p>Hazardous voltage. Disconnect power before working on equipment. This unit to be serviced only by trained persons. Comply with grounding and code requirements.</p> <p>P42B0010A2 - 01</p> | <p><b>ADVERTISSEMENT</b><br/>Pompe submersible installée dans le puits. Coller cet avis sur la boîte de sectionnement ou dans un endroit bien visible.</p> <p>Tension dangereuse. Avant d'intervenir sur l'équipement, couper le courant qui l'alimente. Cet équipement ne doit être entretenu que par des personnes qualifiées. Se conformer aux conditions de mise à la terre et aux codes.</p> | <p><b>ADVERTENCIA</b><br/>Bomba sumergible instalada en el pozo. Exhibir este aviso en la caja de desconexión o en otro lugar prominente.</p> <p>Tensión peligrosa. Desconectar la corriente eléctrica antes de trabajar en la máquina. Sólo personas capacitadas deben reparar o dar mantenimiento a esta unidad. Se debe cumplir con los requerimientos normativos y de puesta a tierra.</p> <p>CONTINUOUS DUTY</p> | <p><b>Attach this label to the Control box</b></p> <p>Model 62S50-12-BP      Weight 29 lb<br/>Ver. A 98914843P120440002</p> <table border="1"> <tr> <td></td> <td>60 Hz</td> </tr> <tr> <td>Q (US GPM)</td> <td>62</td> </tr> <tr> <td>H (feet)</td> <td>244</td> </tr> <tr> <td>n (RPM)</td> <td>3450</td> </tr> <tr> <td>ηp (%)</td> <td>69.8</td> </tr> <tr> <td>P2 (hp)</td> <td>5</td> </tr> <tr> <td>PEI<sub>cl</sub></td> <td>0.88</td> </tr> <tr> <td>Imp. Dia (in.)</td> <td>2.78</td> </tr> </table> <p>WARNING shock Hazard.<br/>Not for use in pool or marine applications</p> <p>EP 5017151</p> <p><b>Intertek</b></p> <p>Energy Performance Verified<br/>Rendement Énergétique Vérifié</p> <p>Assembled in US</p> <p><b>GRUNDFOS</b></p> <p>DK-8850 Bjerringbro Denmark</p> <p>98998561</p> |  | 60 Hz | Q (US GPM) | 62 | H (feet) | 244 | n (RPM) | 3450 | ηp (%) | 69.8 | P2 (hp) | 5 | PEI <sub>cl</sub> | 0.88 | Imp. Dia (in.) | 2.78 |
|                                                                                                                                                                                                                                                                                                                                     | 60 Hz                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |       |            |    |          |     |         |      |        |      |         |   |                   |      |                |      |
| Q (US GPM)                                                                                                                                                                                                                                                                                                                          | 62                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |       |            |    |          |     |         |      |        |      |         |   |                   |      |                |      |
| H (feet)                                                                                                                                                                                                                                                                                                                            | 244                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |       |            |    |          |     |         |      |        |      |         |   |                   |      |                |      |
| n (RPM)                                                                                                                                                                                                                                                                                                                             | 3450                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |       |            |    |          |     |         |      |        |      |         |   |                   |      |                |      |
| ηp (%)                                                                                                                                                                                                                                                                                                                              | 69.8                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |       |            |    |          |     |         |      |        |      |         |   |                   |      |                |      |
| P2 (hp)                                                                                                                                                                                                                                                                                                                             | 5                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |       |            |    |          |     |         |      |        |      |         |   |                   |      |                |      |
| PEI <sub>cl</sub>                                                                                                                                                                                                                                                                                                                   | 0.88                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |       |            |    |          |     |         |      |        |      |         |   |                   |      |                |      |
| Imp. Dia (in.)                                                                                                                                                                                                                                                                                                                      | 2.78                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |       |            |    |          |     |         |      |        |      |         |   |                   |      |                |      |

**230V 1Ph 60Hz .75kW**  
**6.7A 3450 RPM SF: 1.4**  
**SF MAX AMP 8.1 KVA CODE F**

**1HP**

U33-260A

Photos 6 & 7- Pump specifications tags. Domestic pump tag for 1 Hp submersible pump (left). Irrigation pump tag for submersible 5 Hp pump, set at 244'.



Photos 8 to 11- MR 50 Hydra irrigation gun with 600' reel of poly line (top image) and 12mm tips (lower right image).



**Photo 12-** Facing south-A row of 4" PVC risers (circled in blue) located in the southeast extent of the POU.



**Photo 13-** Facing southwest- The POU south of the driveway extending out the roadway at the western extent.



**Photo 14-** A row of 4" risers in the field north of the driveway and west of the home. Each is marked with a white rod. 4" flex line is used to connect the wheel line at each riser. The pond is visible in the upper right corner of the image.



Photo 15- Facing northeast standing at the west end of the driveway. The wheel line is running with 9 sprinkler heads.



Photo 16- 2000S sprinkler heads with 9/64" tips installed on the wheel lines.



Photo 17- Drainage pond for domestic use. The permit holder stated that it was excavated to 12ft maximum depth. The irrigated fields in the north and east of the pond are seen in the background of the image.



**Figure 2-** GIS measurement of the pond located west of the home. Areas irrigated using the risers are outlined in blue.



**Photo 18-** Facing east on Waite Rd. Irrigation is evident over the field from roadway to the driveway in the background from the permit holder's home in the upper left to the home in the upper right corner.



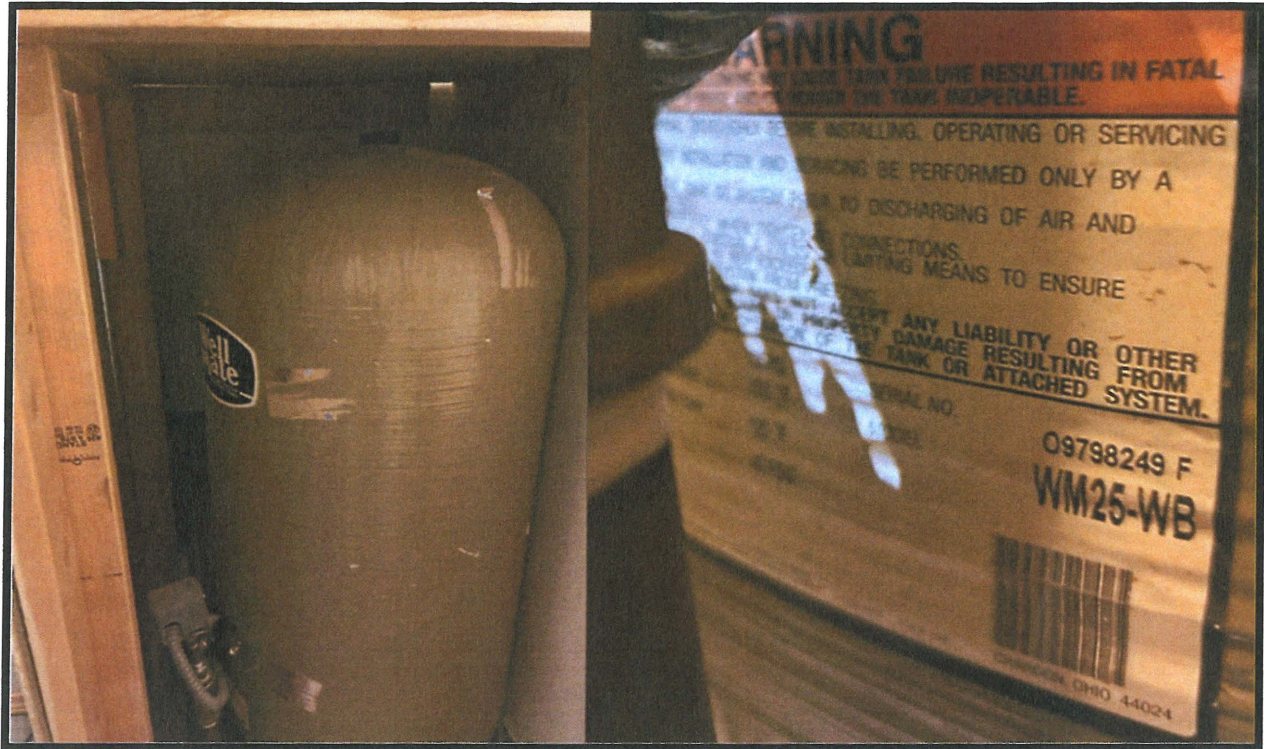
**Photos 19 & 20-** Facing north the domestic (circled in blue) and the irrigation (circled in red) well heads are in the foreground. The home and surrounding irrigated / landscaped areas are in frame.



**Photo 21-** Standing northeast of the home facing west. The lawn north of the home and the field north of the home. The strip between the field and lawn is one of the drip line zones irrigated using the domestic well.



**Photo 22-** Rain Bird rotary sprinkler heads found throughout the lawn surrounding the permit holder's home.



Photos 23 & 24- Wellmate 20-Gal pressure tank located in the bathroom within the shop south of the home.

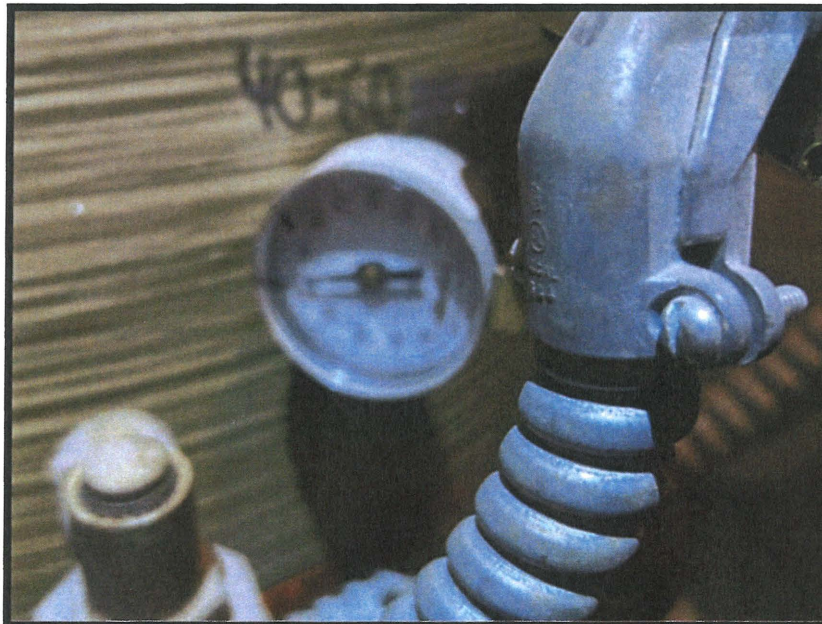


Photo 25- Pressure control gauge for pressure tank. At the time of the exam, the pressure was at 40psi. The permit holder explained it is a monologue setup, which is set up to run from 40-60 psi.