

STATE OF IDAHO  
DEPARTMENT OF WATER RESOURCES  
BENEFICIAL USE FIELD REPORT

**A. GENERAL INFORMATION**

Permit No: 95-9352

Exam Date: 8/7/2008

1. Current Owner: STEVE WHITE  
10895 N POINT HAYDEN DR  
HAYDEN LAKE ID 83835  
(208)7623151
2. Accompanied by: *Steve white*  
Phone No: *(208) 762.3151*  
Address: *10895 N Point Hayden DR*  
Relationship to Permit Holder: *Owner*

3. SOURCE TRIBUTARY  
HAYDEN LAKE SINKS

**B. OVERLAP REVIEW**

1. Other water rights with the same place of use: *95-8, 95-7185, 95-8937*
2. Other water rights with the same point of diversion: *NONE*

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

HAYDEN LAKE SW1/4NE1/4NE1/4 Sec. 18, Twp 51N, Rge 03W, B.M.  
KOOTENAI County

Method of Determination: *GPS (Garmin), USGS 'Hayden Lake' 7.5' Quadrangle*

2.

PLACE OF USE: IRRIGATION

| Twp | Rge | Sec | NE  |    |    |    | NW |    |    |    | SW |    |    |    | SE |    |    |    | Totals |
|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|
| 51N | 03W | 18  | NE  | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE | 4.2    |
|     |     |     | 4.2 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |

Total Acres: 4.2

95-9352

## Method of Determination:

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

| <u>ID No.*</u> | <u>Motor Make</u> | <u>Hp</u> | <u>Motor Serial No.</u> | <u>Pump Make</u> | <u>Pump Serial No. or Discharge Size</u> |
|----------------|-------------------|-----------|-------------------------|------------------|------------------------------------------|
| 724503         | Franklin          | 7.5       | NA                      | Grundfos         | MDL 5675 High Capacity Submersible       |

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

## D. FLOW MEASUREMENTS

1. None (Sealed System: See Pump Curve (Attached) & Pump Equations (Below))

| <u>Measurement Equipment</u> | <u>Type</u> | <u>Make</u> | <u>Model No.</u> | <u>Serial No.</u> | <u>Size</u> | <u>Calib. Date</u> |
|------------------------------|-------------|-------------|------------------|-------------------|-------------|--------------------|
|                              |             |             |                  |                   |             |                    |
|                              |             |             |                  |                   |             |                    |

2. Measurements:

## E. FLOW CALCULATIONS

\_\_\_\_ Additional Computation Sheets Attached

Measured Method:

| PUMP                   | EQUATIONS    | WATER RIGHT |           | No. 95-9352             |                      |                        |
|------------------------|--------------|-------------|-----------|-------------------------|----------------------|------------------------|
|                        |              | HP          | H in feet | Efficiency as a decimal | Pumping lift in feet | System Pressure in PSI |
| Q =                    | HP*8.8*Eff/H | 7.5         | 278.7755  | 0.7                     | 140                  | 60                     |
| Q = 0.166 CFS = 76 GPM |              |             |           |                         |                      |                        |

## F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = (4.2) \times (3.0) = 12.6 \text{ AF}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = (0.13) \times (246) \times (1.9835) = 63.43 \text{ AF}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 12.6 \text{ AF}$$

2. Volume Calculations for Other Uses: NONE

95-9352

**G. NARRATIVE/REMARKS/COMMENTS**

Coordinates at Diversion from Hayden Lake

47 Degrees 46 Minutes 15.0 Seconds North latitude.  
116 Degrees 44 Minutes 50.8 Seconds West longitude.

7.5 HP Grundfos FPS 4400 High Capacity Submersible Pump MDL # S675

The submersible pump lifts water underneath a narrow road to the top of bluff overlooking Hayden Lake. Vertical elevation change is 140 feet from the lake surface to the irrigated area that begins on the edge of the bluff.

The water line from the lake passes an electronic control station that is used to control 24 irrigation sprinkler zones. A underground vault about 30 feet from the control station houses a small pressure tank for the irrigation system. Irrigation, using lake water, occurs using surface level sprinklers.

The 4.2 acre lawn extends from the edge of the bluff eastward to Point Hayden Drive. The land rises an additional 10-15 feet in elevation over the distance between the edge of the bluff where irrigation starts and North Point Hayden Drive.

Spigots seen in the yard are not part of the irrigation system. These are connected to a potable water system using water from the North Kootenai Water District.

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> |
|-----------------------|----------------------|-----------------------|----------------------|
| IRRIGATION            | 03/15 to 11/15       | 0.130 CFS             | 12.6 AF              |
| <u>Totals:</u>        |                      | 0.130 CFS             | 12.6 AF              |

**2. Recommended Amendments**

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None

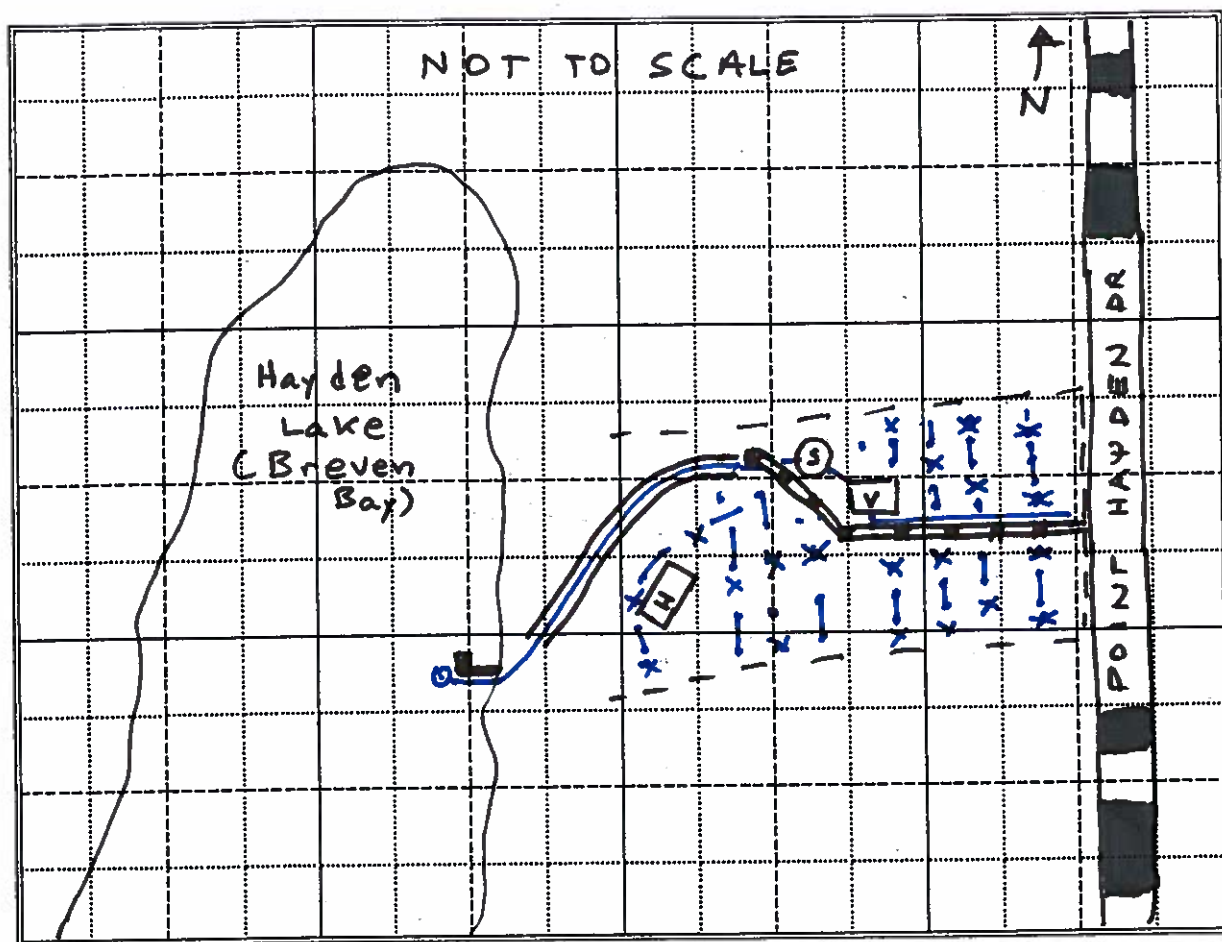
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

**I. AUTHENTICATION**

Field Examiner's Name William M. Meyer Date 8/11/08  
Reviewer [Signature] Date 8/13/08

95-9352

3. Delivery System Diagram: Indicate all major components and distances between components. Indicate weir size/ditch size/pipe i.d. as applicable.



Scale: 1" = \_\_\_\_\_

\_\_\_\_ Copy of USGS Quadrangle Attached Showing location(s) of point(s) of diversion and place(s) of use (required).

\_\_\_\_ Aerial Photo Attached (required for irrigation of 10+ acres)

\_\_\_\_ Photo of Diversion and System Attached



Dock



Fence



Gravel/Dirt Trail



Paved Road



Submersible Pump



Pipeline



Sprinkler Line



House

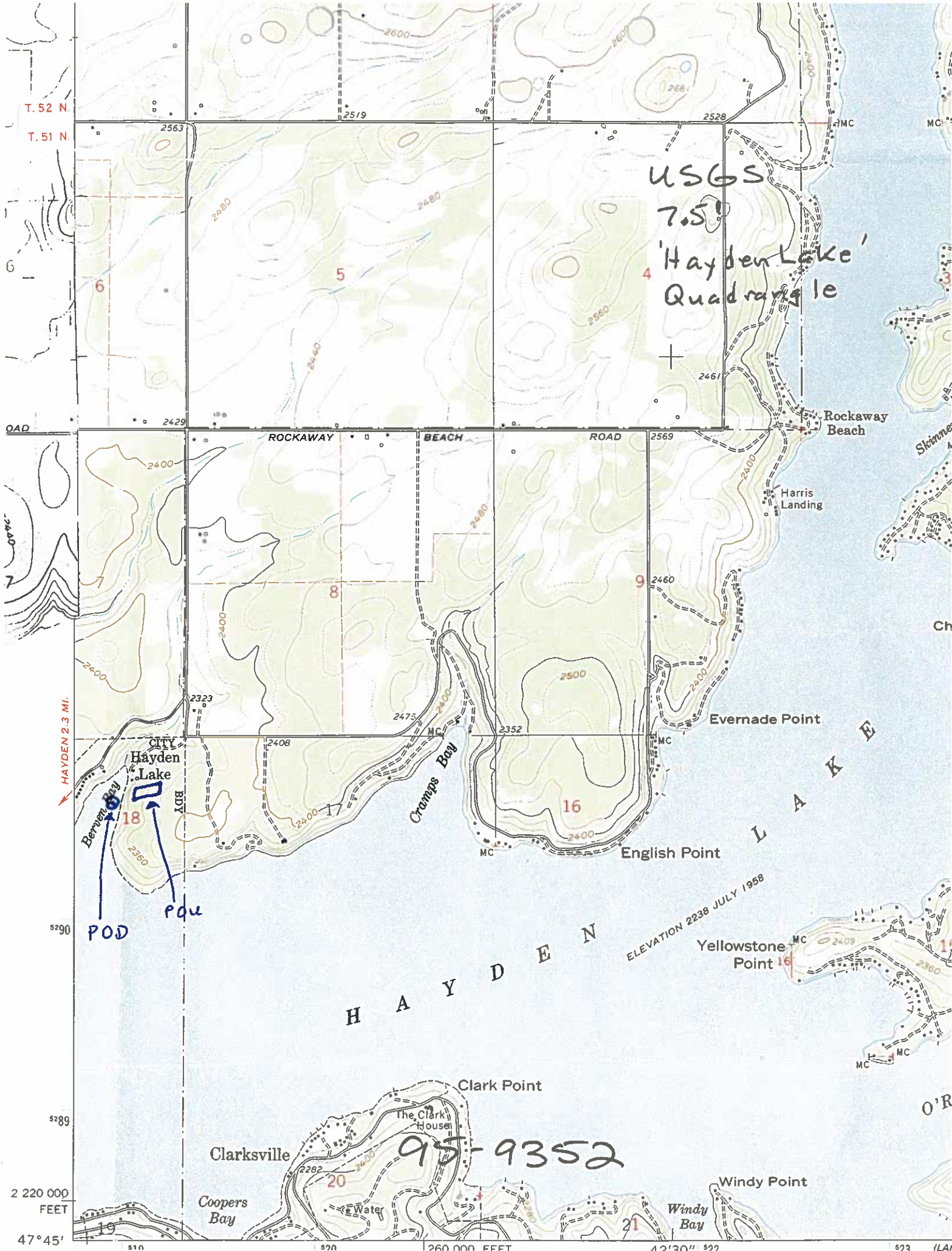


Control Station



Vault

95-9352



USGS  
7.5'  
'Hayden Lake'  
Quadrangle

95-9352

POD  
POU

T. 52 N.  
T. 51 N.

47° 45'

ELEVATION 2238 JULY 1958

2 220 000  
FEET

1260 000 FEET

12' 30" 522

522 (LAI)

**95-9352**



95-9352

**95-9352**



95-9352



Bureau of Land Management - General Land Office Records



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## Survey Details

[Home](#) > [Survey Search](#) > [Results List](#) > [Survey Details](#)

|                 |                                                          |
|-----------------|----------------------------------------------------------|
| Original Survey | <b>Meanders Of Haden Lake</b><br>• Twp 51N-3W, ID, Boise |
|-----------------|----------------------------------------------------------|

[Survey Details](#) [Plat Details](#) [Plat Image](#) [Field Note Images](#)

Description: ---

[Basic Viewer](#) [JavaScript Viewer](#) [Plug-In Viewer](#) [Download Image File](#)

95-9352

- Want to try one of our more powerful viewers? Please check our [Browser Compatibility Guide](#) for



95-9352 Submerged pump  
at POU .JPG



95-9352 Two Inch water Line  
Climbing out of Hayden La...



95-9352 Underground Vault  
with Pressure tank.JPG



95-9352 Irrigation Electronic  
Control Station.JPG



95-9352 Irrigated Area  
POU.JPG



95-9352 Electrical Box at  
Bottom of Pipeline to Cont...



95-9352 Two Inch Water  
Line to Submersible Pu...

95-9352



95-9352 Submerged pump at POU

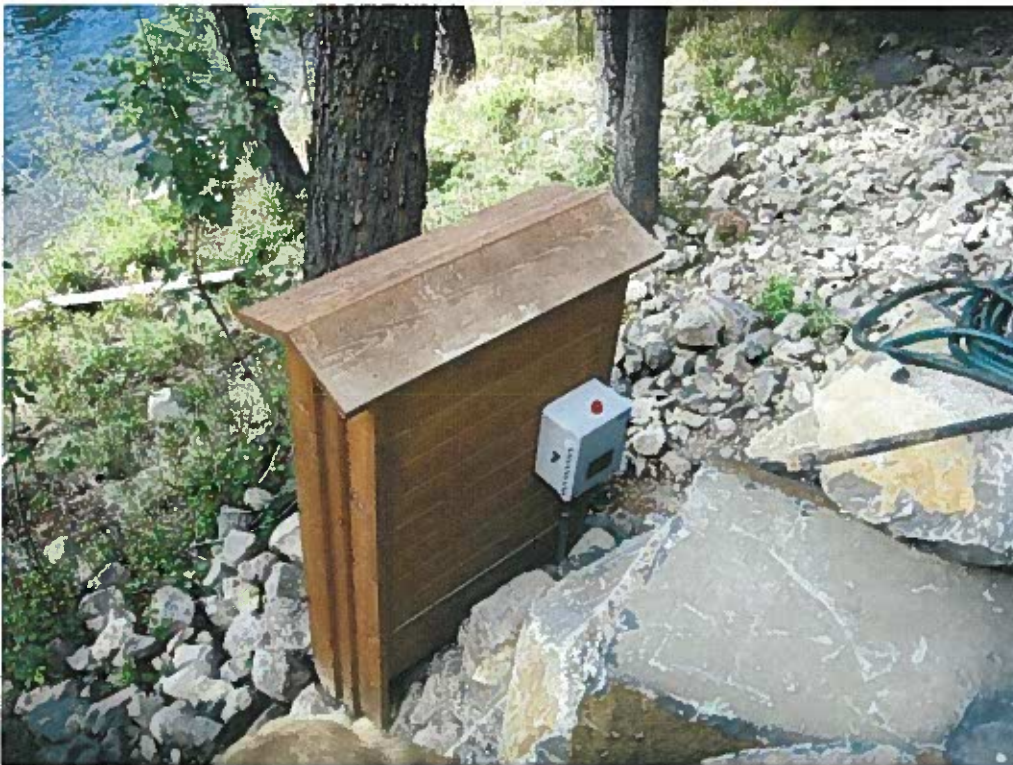


95-9352 Two Inch Water line to Submersible Pump

95-9352



95-9352 Two Inch Water line climbing out of Hayden Lake



95-9352 Electrical Box At Bottom Of Pipeline To Control Station

95-9352



95-9352 Irrigation Electronic Control Station



95-9352 Underground Vault with Pressure Tank

95-9352



95-9352 Irrigated Area POU

95-9352



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8-7-08 @ 4:34PM

TO: <sup>Shaun</sup> ~~SEAN~~ MAXEY @ IDWR

RE: STEVE WHITE IRR. SYSTEM

<sup>Shaun</sup>  
~~SEAN~~:

Pump mfg. is JACUZZI<sup>®</sup>/FRANKLIN -

SEE PUMP CURVE

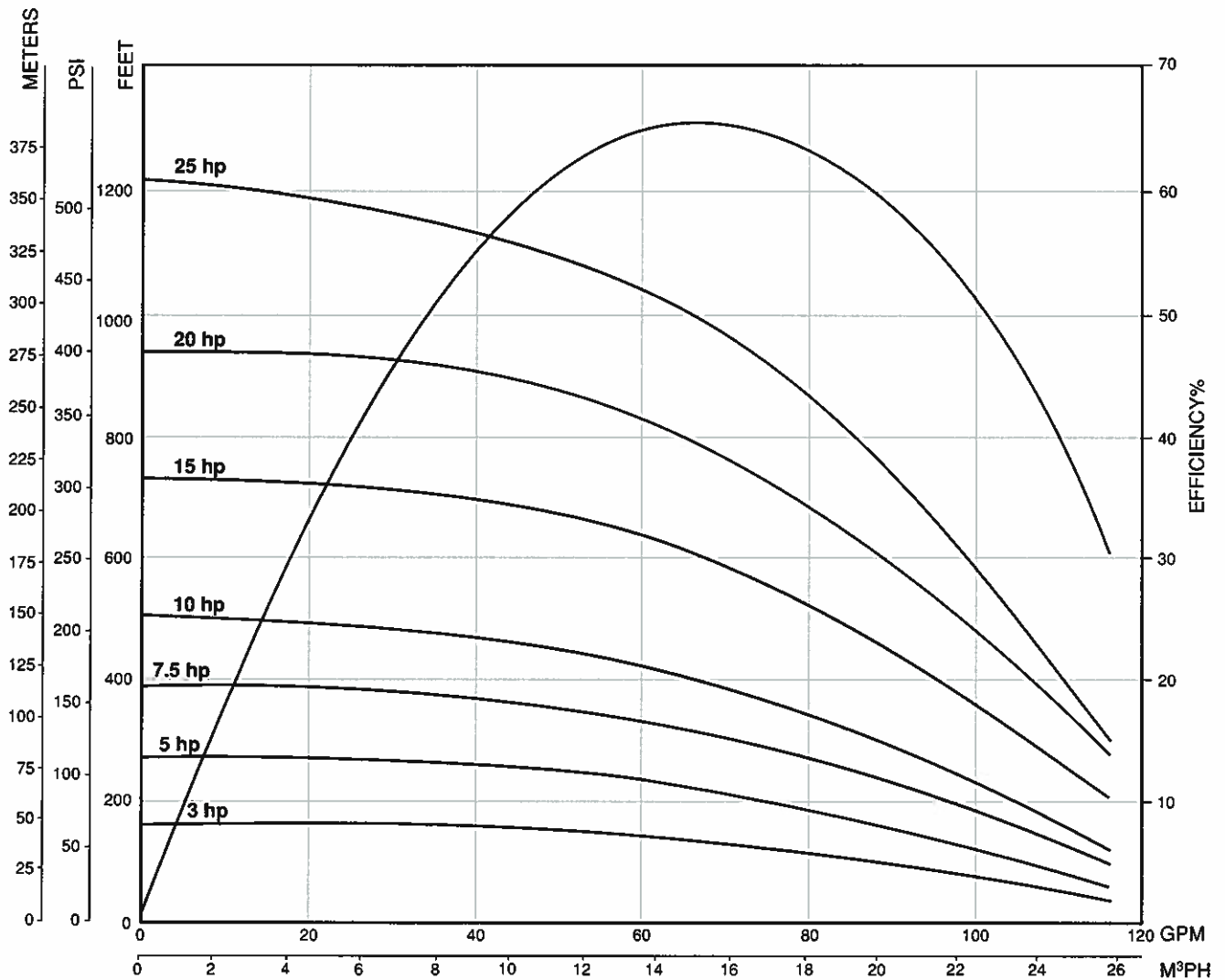
Rich Agueros

95-9352

TOTAL 3 PAGES

## 6" Submersible Pump

### FPS 4400 High Capacity 75 GPM Performance Curves



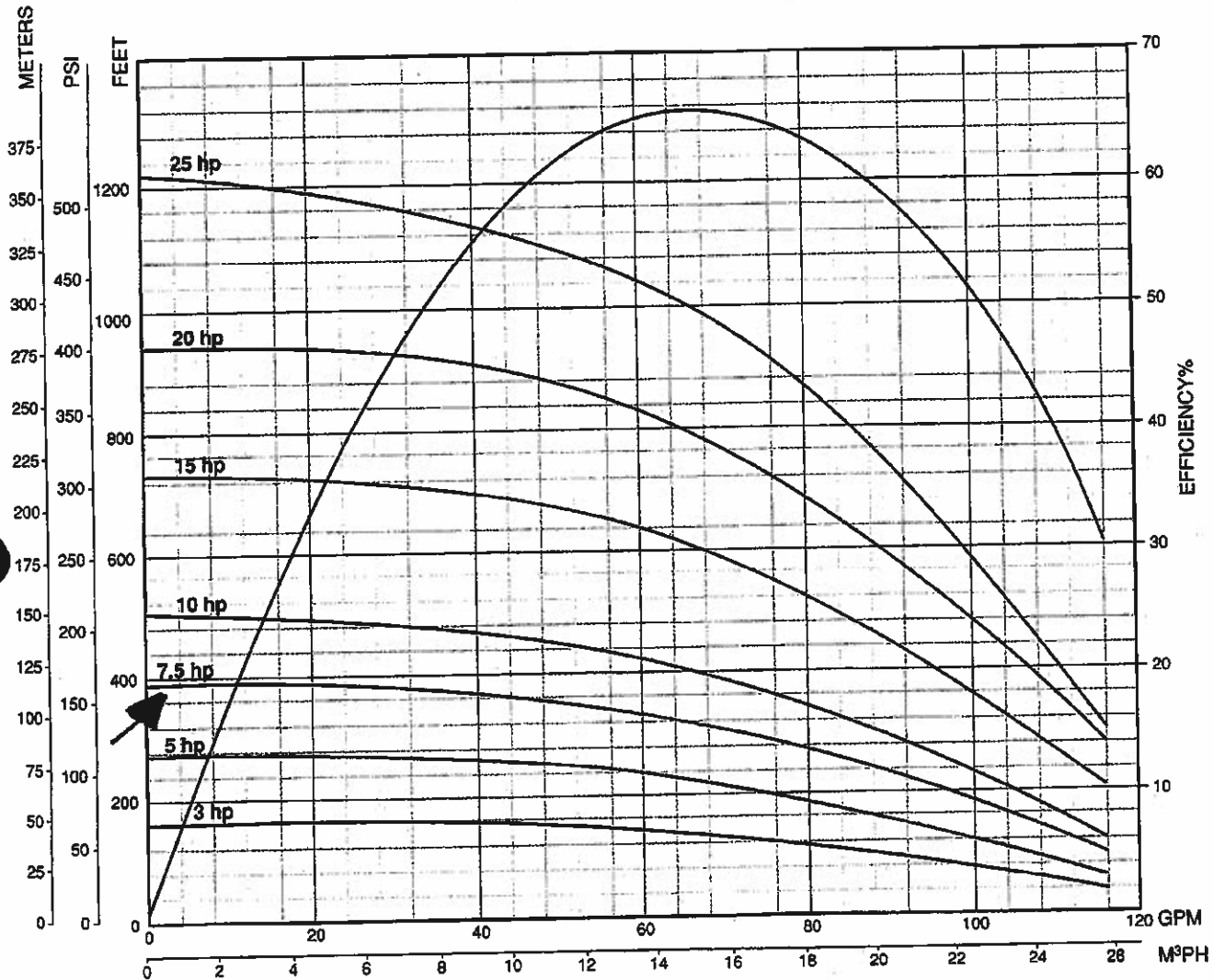
95-9352

8/7/08 TO SHAWN MAREY RE: STEVE WHITE  
LAKE PUMP

## 6" Submersible Pump

FPS 4400 High Capacity  
75 GPM Performance Curves

P#1



MDL.# 5675-8XX PumpEND

6" 7 1/2 HP 230V 1Ø MOTOR

95-9352

## 6" Submersible Pump

### FPS 4400 High Capacity 75 GPM Performance Charts

#### Capacities in U.S. Gallons per Minute

| HP           | PSI | Depth to Pumping Water Level, or Lift, in Feet<br>Shaded Areas Indicate Most Efficient Performance |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
|--------------|-----|----------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|-----|-----|------------------|-----------------|
|              |     | 40                                                                                                 | 60  | 80  | 100 | 120 | 140 | 160 | 180 | 200 | 250 | 300 | 350 | 400 | 450 | 500  | 550  | 600  | 650  | 700 | 750 | 800 | 850 | 900 | 950 |                  | 1000            |
| 3            | 0   | 115                                                                                                | 104 | 96  | 86  | 74  | 55  |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |                  | Shut-off 163 ft |
|              | 20  | 93                                                                                                 | 82  | 70  | 51  |     |     |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
|              | 30  | 80                                                                                                 | 67  | 46  |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
|              | 40  | 65                                                                                                 | 41  |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
|              | 50  | 37                                                                                                 |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
| Shut-off PSI |     | 53                                                                                                 | 45  | 36  | 27  | 19  | 10  |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
| 5            | 0   | -                                                                                                  | -   | 105 | 102 | 96  | 89  | 83  | 76  | 65  |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     | Shut-off 261 ft  |                 |
|              | 20  | 105                                                                                                | 100 | 93  | 88  | 82  | 73  | 65  | 52  |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
|              | 30  | 99                                                                                                 | 92  | 87  | 80  | 72  | 64  | 49  |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
|              | 40  | 92                                                                                                 | 88  | 79  | 69  | 62  | 45  |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
|              | 50  | 85                                                                                                 | 76  | 69  | 62  | 44  |     |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
| Shut-off PSI |     | 96                                                                                                 | 87  | 78  | 70  | 61  | 52  | 44  | 35  | 26  |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
| 7.5          | 0   | -                                                                                                  | -   | -   | -   | -   | 107 | 103 | 99  | 94  | 84  | 69  | 50  |     |     |      |      |      |      |     |     |     |     |     |     | Shut-off 392 ft  |                 |
|              | 20  | -                                                                                                  | 109 | 105 | 100 | 97  | 94  | 90  | 85  | 79  | 71  | 50  |     |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
|              | 30  | 108                                                                                                | 104 | 100 | 97  | 93  | 88  | 83  | 78  | 69  | 63  | 40  |     |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
|              | 40  | 108                                                                                                | 104 | 99  | 96  | 93  | 88  | 83  | 77  | 73  | 51  |     |     |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
|              | 50  | 103                                                                                                | 100 | 96  | 92  | 87  | 82  | 75  | 70  | 63  | 40  |     |     |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
| Shut-off PSI |     | 152                                                                                                | 144 | 135 | 126 | 118 | 109 | 100 | 92  | 83  | 61  | 40  | 18  |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
| 10           | 0   | -                                                                                                  | -   | -   | -   | -   | -   | 110 | 106 | 104 | 97  | 88  | 77  | 65  | 48  |      |      |      |      |     |     |     |     |     |     | Shut-off 460 ft  |                 |
|              | 20  | -                                                                                                  | -   | -   | -   | 109 | 106 | 103 | 99  | 96  | 88  | 79  | 66  | 48  |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
|              | 30  | -                                                                                                  | -   | -   | -   | 108 | 106 | 102 | 99  | 96  | 93  | 84  | 74  | 60  | 40  |      |      |      |      |     |     |     |     |     |     |                  |                 |
|              | 40  | -                                                                                                  | -   | 108 | 105 | 102 | 99  | 96  | 92  | 89  | 80  | 68  | 52  |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
|              | 50  | -                                                                                                  | 108 | 103 | 102 | 99  | 93  | 92  | 89  | 84  | 74  | 62  | 42  |     |     |      |      |      |      |     |     |     |     |     |     |                  |                 |
| Shut-off PSI |     | 202                                                                                                | 193 | 184 | 176 | 167 | 158 | 150 | 141 | 132 | 111 | 89  | 67  | 46  | 24  |      |      |      |      |     |     |     |     |     |     |                  |                 |
| 15           | 0   | -                                                                                                  | -   | -   | -   | -   | -   | -   | -   | -   | 110 | 105 | 100 | 95  | 89  | 81   | 74   | 65   | 56   | 39  |     |     |     |     |     | Shut-off 732 ft  |                 |
|              | 20  | -                                                                                                  | -   | -   | -   | -   | -   | -   | -   | -   | 110 | 105 | 101 | 94  | 89  | 81   | 76   | 67   | 58   | 41  |     |     |     |     |     |                  |                 |
|              | 30  | -                                                                                                  | -   | -   | -   | -   | -   | -   | -   | -   | 110 | 104 | 98  | 92  | 86  | 80   | 72   | 66   | 49   |     |     |     |     |     |     |                  |                 |
|              | 40  | -                                                                                                  | -   | -   | -   | -   | -   | -   | 110 | 107 | 102 | 96  | 90  | 82  | 75  | 70   | 58   | 40   |      |     |     |     |     |     |     |                  |                 |
|              | 50  | -                                                                                                  | -   | -   | -   | -   | -   | 110 | 107 | 104 | 99  | 94  | 86  | 80  | 72  | 65   | 49   | 30   |      |     |     |     |     |     |     |                  |                 |
| Shut-off PSI |     | 300                                                                                                | 291 | 282 | 274 | 265 | 256 | 248 | 239 | 230 | 209 | 187 | 165 | 144 | 122 | 101  | 79   | 57   | 36   | 14  |     |     |     |     |     |                  |                 |
| 20           | 0   | -                                                                                                  | -   | -   | -   | -   | -   | -   | -   | -   | -   | 110 | 106 | 103 | 98  | 92   | 88   | 83   | 78   | 69  | 63  | 54  | 40  |     |     | Shut-off 939 ft  |                 |
|              | 20  | -                                                                                                  | -   | -   | -   | -   | -   | -   | -   | -   | -   | 110 | 106 | 102 | 98  | 91   | 89   | 84   | 78   | 72  | 64  | 58  | 44  |     |     |                  |                 |
|              | 30  | -                                                                                                  | -   | -   | -   | -   | -   | -   | -   | -   | -   | 110 | 109 | 105 | 98  | 94   | 90   | 86   | 80   | 75  | 69  | 61  | 50  | 35  |     |                  |                 |
|              | 40  | -                                                                                                  | -   | -   | -   | -   | -   | -   | -   | -   | -   | 110 | 107 | 102 | 98  | 91   | 88   | 84   | 79   | 72  | 68  | 55  | 45  |     |     |                  |                 |
|              | 50  | -                                                                                                  | -   | -   | -   | -   | -   | -   | -   | -   | 110 | 109 | 105 | 100 | 95  | 91   | 87   | 80   | 75   | 70  | 63  | 52  | 38  |     |     |                  |                 |
| Shut-off PSI |     | 389                                                                                                | 381 | 372 | 363 | 355 | 346 | 337 | 329 | 320 | 298 | 277 | 255 | 233 | 212 | 190  | 168  | 147  | 125  | 103 | 82  | 60  | 39  | 17  |     |                  |                 |
| HP           | PSI | 300                                                                                                | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000 | 1050 | 1100 | 1150 |     |     |     |     |     |     |                  |                 |
| 25           | 0   | -                                                                                                  | -   | 110 | 107 | 102 | 99  | 96  | 94  | 91  | 86  | 83  | 78  | 75  | 71  | 65   | 58   | 51   | 38   |     |     |     |     |     |     | Shut-off 1210 ft |                 |
|              | 20  | -                                                                                                  | 110 | 107 | 103 | 100 | 96  | 93  | 90  | 86  | 82  | 79  | 75  | 72  | 66  | 60   | 51   | 39   |      |     |     |     |     |     |     |                  |                 |
|              | 30  | -                                                                                                  | 109 | 106 | 101 | 99  | 95  | 92  | 89  | 85  | 81  | 77  | 73  | 71  | 64  | 58   | 47   | 34   |      |     |     |     |     |     |     |                  |                 |
|              | 40  | 110                                                                                                | 107 | 104 | 100 | 97  | 93  | 91  | 87  | 82  | 79  | 75  | 71  | 67  | 62  | 52   | 42   |      |      |     |     |     |     |     |     |                  |                 |
|              | 50  | 109                                                                                                | 106 | 101 | 99  | 95  | 92  | 89  | 85  | 81  | 77  | 73  | 69  | 65  | 57  | 47   | 35   |      |      |     |     |     |     |     |     |                  |                 |
| Shut-off PSI |     | 394                                                                                                | 372 | 361 | 329 | 307 | 286 | 264 | 242 | 221 | 199 | 177 | 156 | 134 | 113 | 91   | 69   | 48   | 26   |     |     |     |     |     |     |                  |                 |

Discharge tapping 3" FNPT.

- Notes: 1. Performance shown does not include friction loss in the drop pipe.  
2. All performance data is based on rated motor nameplate voltage.

95-9352

P#2

**6" Submersible Pump****FPS 4400 High Capacity**  
75 GPM Performance Charts**Capacities In U.S. Gallons per Minute**

|    |     | Depth to Pumping Water Level, or Lift, in Feet<br>Shaded Areas Indicate Most Efficient Performance |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|----|-----|----------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|-----|-----|------|
| HP | PSI | 40                                                                                                 | 60  | 80  | 100 | 120 | 140 | 160 | 180 | 200 | 250 | 300 | 350 | 400 | 450 | 500  | 550  | 600  | 650  | 700 | 750 | 800 | 850 | 900 | 950 | 1000 |
|    | 115 | 104                                                                                                | 96  | 86  | 74  | 55  |     |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | 93  | 82                                                                                                 | 70  | 51  |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | 80  | 67                                                                                                 | 46  |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | 65  | 41                                                                                                 |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | 37  |                                                                                                    |     |     |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | -   | -                                                                                                  | 105 | 102 | 96  | 89  | 83  | 76  | 65  |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | 105 | 100                                                                                                | 93  | 88  | 82  | 73  | 65  | 52  |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | 99  | 92                                                                                                 | 87  | 80  | 72  | 64  | 49  |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | 92  | 88                                                                                                 | 79  | 69  | 62  | 45  |     |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | 85  | 76                                                                                                 | 69  | 62  | 44  |     |     |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | 77  | 68                                                                                                 | 58  | 42  |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | -   | -                                                                                                  | -   | -   | -   | 107 | 103 | 99  | 94  | 84  | 69  | 50  |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | -   | 109                                                                                                | 105 | 100 | 97  | 94  | 88  | 85  | 79  | 71  | 50  |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | 108 | 104                                                                                                | 100 | 97  | 93  | 88  | 83  | 78  | 69  | 63  | 40  |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | 108 | 104                                                                                                | 99  | 96  | 93  | 88  | 83  | 77  | 73  | 51  |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | 103 | 100                                                                                                | 96  | 92  | 87  | 82  | 75  | 70  | 63  | 40  |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | 100 | 95                                                                                                 | 91  | 85  | 80  | 75  | 69  | 63  | 55  |     |     |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | -   | -                                                                                                  | -   | -   | -   | -   | 110 | 106 | 104 | 97  | 98  | 88  | 77  | 65  | 48  |      |      |      |      |     |     |     |     |     |     |      |
|    | -   | -                                                                                                  | -   | -   | -   | 109 | 106 | 103 | 99  | 96  | 88  | 79  | 66  | 48  |     |      |      |      |      |     |     |     |     |     |     |      |
|    | -   | -                                                                                                  | -   | 108 | 106 | 102 | 99  | 96  | 93  | 84  | 74  | 60  | 40  |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | -   | -                                                                                                  | 108 | 105 | 102 | 99  | 96  | 92  | 89  | 80  | 68  | 52  |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | -   | 108                                                                                                | 103 | 102 | 99  | 93  | 92  | 89  | 84  | 74  | 62  | 42  |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | 107 | 103                                                                                                | 100 | 98  | 96  | 91  | 88  | 84  | 80  | 68  | 53  |     |     |     |     |      |      |      |      |     |     |     |     |     |     |      |
|    | -   | -                                                                                                  | -   | -   | -   | -   | -   | -   | -   | -   | 110 | 105 | 100 | 95  | 89  | 81   | 74   | 65   | 56   | 39  |     |     |     |     |     |      |
|    | -   | -                                                                                                  | -   | -   | -   | -   | -   | -   | -   | 110 | 105 | 101 | 94  | 89  | 81  | 76   | 67   | 58   | 41   |     |     |     |     |     |     |      |
|    | -   | -                                                                                                  | -   | -   | -   | -   | -   | -   | -   | 110 | 104 | 98  | 92  | 86  | 80  | 72   | 66   | 49   |      |     |     |     |     |     |     |      |
|    | -   | -                                                                                                  | -   | -   | -   | -   | -   | -   | 110 | 107 | 102 | 96  | 90  | 82  | 75  | 70   | 58   | 40   |      |     |     |     |     |     |     |      |
|    | -   | -                                                                                                  | -   | -   | -   | -   | 110 | 107 | 104 | 99  | 94  | 86  | 80  | 72  | 66  | 49   | 30   |      |      |     |     |     |     |     |     |      |
|    | -   | -                                                                                                  | -   | -   | -   | 110 | 109 | 107 | 103 | 102 | 96  | 90  | 82  | 76  | 69  | 58   | 46   |      |      |     |     |     |     |     |     |      |
|    | -   | -                                                                                                  | -   | -   | -   | -   | -   | -   | -   | -   | -   | 110 | 106 | 103 | 98  | 92   | 86   | 83   | 78   | 69  | 63  | 54  | 40  |     |     |      |
|    | -   | -                                                                                                  | -   | -   | -   | -   | -   | -   | -   | -   | 110 | 106 | 102 | 98  | 93  | 89   | 84   | 78   | 72   | 64  | 58  | 44  |     |     |     |      |
|    | -   | -                                                                                                  | -   | -   | -   | -   | -   | -   | -   | 110 | 109 | 105 | 99  | 94  | 90  | 86   | 80   | 75   | 69   | 61  | 50  | 35  |     |     |     |      |
|    | -   | -                                                                                                  | -   | -   | -   | -   | -   | -   | 110 | 107 | 102 | 98  | 91  | 88  | 84  | 79   | 72   | 68   | 55   | 45  |     |     |     |     |     |      |
|    | -   | -                                                                                                  | -   | -   | -   | -   | 110 | 109 | 105 | 100 | 95  | 91  | 87  | 80  | 75  | 70   | 63   | 52   | 38   |     |     |     |     |     |     |      |
|    | -   | -                                                                                                  | -   | -   | -   | -   | 110 | 107 | 102 | 98  | 93  | 88  | 84  | 80  | 73  | 66   | 58   | 45   |      |     |     |     |     |     |     |      |
| HP | PSI | 300                                                                                                | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000 | 1050 | 1100 | 1150 |     |     |     |     |     |     |      |
|    | -   | -                                                                                                  | 110 | 107 | 102 | 99  | 96  | 94  | 91  | 86  | 83  | 78  | 75  | 71  | 65  | 58   | 51   | 38   |      |     |     |     |     |     |     |      |
|    | -   | 110                                                                                                | 107 | 103 | 100 | 96  | 93  | 90  | 86  | 82  | 79  | 75  | 72  | 66  | 60  | 51   | 39   |      |      |     |     |     |     |     |     |      |
|    | -   | 109                                                                                                | 106 | 101 | 99  | 95  | 92  | 89  | 85  | 81  | 77  | 73  | 71  | 64  | 56  | 47   | 34   |      |      |     |     |     |     |     |     |      |
|    | 110 | 107                                                                                                | 104 | 100 | 97  | 93  | 91  | 87  | 82  | 79  | 75  | 71  | 67  | 62  | 52  | 42   |      |      |      |     |     |     |     |     |     |      |
|    | 109 | 106                                                                                                | 101 | 99  | 95  | 92  | 89  | 85  | 81  | 77  | 73  | 69  | 65  | 57  | 47  | 35   |      |      |      |     |     |     |     |     |     |      |
|    | 108 | 104                                                                                                | 100 | 97  | 94  | 91  | 88  | 84  | 80  | 75  | 71  | 67  | 62  | 54  | 42  |      |      |      |      |     |     |     |     |     |     |      |

Discharge tapping 3" FNPT.

- Notes: 1. Performance shown does not include friction loss in the drop pipe.  
2. All performance data is based on rated motor nameplate voltage.

95-9352