

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-33204
Exam Date: 8/31/2016

1. Current Owner:
ROGER K JORGENSEN 10124 W COLTON LN EAGLE ID 83616
2. Accompanied by: Roger "Kim" Jorgensen
Phone No: (208) 761-5716
Address: 10124 W Colton Lane
Relationship to Permit Holder: Permit Holder

3. **SOURCE:**
GROUND WATER

TRIBUTARY:

B. OVERLAP REVIEW

1. Other water rights with the same place of use: none
2. Other water rights with the same point-of-diversion: none

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

GROUND WATER NW¼SE¼ Sec. 8, Twp 05N, Rge 01W, B.M. ADA County

Method of Determination: GPS and GIS

2. PLACE OF USE:

PLACE OF USE: DOMESTIC

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
05N	01W	8														X			

PLACE OF USE: STOCKWATER

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
05N	01W	8														X			

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
05N	01W	8														2.5			2.5

Total Acres: 2.5

Method of Determination: GIS and Visual Inspection

3. MAP REQUIREMENTS

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

x Indicate weir size/pipe as applicable.

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

x 1:24,000 or greater.

☒ Aerial Photo Attached (required for irrigation of 10+ acres).

☒ Photo of Diversion and System Attached

4. POINT OF DIVERSION

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
D0047639	Gould's	5	unknown	Gould's	25GS50

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

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Pressure gauge	Glycerin-filled; orifice insertable	"Tube & Socket"	316SS	None	1/8 inch	unknown

2. Measurements: I was able to take a pressure measurement on one of the sprinkler heads closest to the irrigation manifold line. The maximum pressure reached 32 psi. There were no other exposed locations on the system to attach a flow meter.

E. FLOW CALCULATIONS

Measured Method: Pressure gauge

Additional Computation Sheets Attached

5000 Series MPR Nozzles

5000-MPR-25 (Red)					
Nozzle	Pressure psi	Radius ft.	Flow gpm	Precip In/h	Precip In/h
	25	23	0.74	0.54	0.62
	35	24	0.88	0.59	0.68
	45	25	1.00	0.62	0.71
	55	25	1.11	0.68	0.79
	65	25	1.21	0.75	0.86
	25	23	1.00	0.55	0.63
	35	24	1.21	0.61	0.70
	45	25	1.38	0.64	0.74
	55	25	1.53	0.71	0.82
	65	25	1.67	0.77	0.89
	25	23	1.44	0.52	0.61
	35	24	1.73	0.58	0.67
	45	25	1.98	0.61	0.70
	55	25	2.21	0.68	0.79
	65	25	2.41	0.74	0.86
	25	23	2.78	0.51	0.58
	35	24	3.34	0.56	0.64
	45	25	3.82	0.59	0.68
	55	25	4.25	0.65	0.76
	65	25	4.63	0.71	0.82

Pressure (PSI)	Rate (GPM)
25	2.78
26	2.84
27	2.89
28	2.95
29	3.00
30	3.06
31	3.12
32	3.17
33	3.23
34	3.28
35	3.34

At a pressure of 32 psi, each sprinkler head should have been producing approximately 3.17 gpm.

3.17 gpm x 10 sprinkler heads = 30.17 gpm or 0.07 cfs

For the irrigation flow rate, I am recommending 0.07 cfs, the capacity of the pump.

Per the field examiner's handbook, the standard diversion rate for up to 25 head of stock is 0.02 cfs.

Per the domestic standard, in-house use only is 0.02 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 2.5 \text{ acres} \times 4.5 \text{ AF/A} = 11.3 \text{ AF}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.07 \text{ CFS} \times 260 \text{ days} \times 1.9835 = 36.1 \text{ AF}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = \underline{11.3 \text{ AF}}$$

2. Volume Calculations for Other Uses: STOCKWATER, DOMESTIC

STOCKWATER: Per Field examiner's handbook: horses/cattle: 12 GPD/Head * 23 head * 365 days = 100,740 gallons = 0.3 AF

DOMESTIC: Standard in-house use only = 0.6 AF

G. NARRATIVE/REMARKS/COMMENTS

On Wednesday, August 31, 2016 I arrived early at 12:45 for the field exam for 63-33204 at 10124 W Colton Lane (Mr. Jorgensen's residence). Mr. Roger "Kim" Jorgensen was waiting and ready. After introductions, I suggested that we begin the exam at the well, which serves for domestic, irrigation, and stockwater uses. He mentioned that the submersible pump was already installed when he purchased the property, so he was unsure of the pump horsepower. He suspected it was 6 or 7.5 hP.

Next, we went into the garage and viewed the 20 gallon pressure tank and pump controller: Gould's BF50 (Balanced Flow Submersible Pump Controller). No pump model placards were visible to help us learn the pump horsepower, but we gathered all of the information immediately available. After this, I began to inquire about the two front pastures as well as the type and number of the sprinkler heads in each line. At my request, Kim turned on the front pasture zone, and allowed me to measure a pressure of 32 psi at a sprinkler head. He mentioned that he thought each of the sprinkler heads would run at 4.0 gpm at 30 psi. These run two times per week, for two hours at each zone. Only one zone (8-10 heads) runs at a time.

We toured around the perimeter of the property to view the (west and north) pastures. All of the sprinkler heads were the same, including those which irrigate the lawn. The only exceptions were 5 impact sprinkler heads which he runs less frequently off of garden hoses. He runs these about every other week; they put out about 12 gpm per head at 40 psi. The impact sprinkler sets each run for two hours every other week. The lawn around the house runs independently on its own automatic timer each day.

South pasture (property front):

Zone 1: 10 heads (~3 gpm each head)

Zone 2: 10 heads (~3 gpm each head)

Zone 3: 10 heads (~3 gpm each head)

East pasture (property front):

Zone 4: 10 heads (~3 gpm each head)

West pasture (property side):

Zone 5 (property line): 8 heads (~3 gpm each head)

Zone 6 (fence line): 10 heads (~3 gpm each head)

Zone 7 (hose line): 2 impact heads (~10 gpm each head)

North pasture (property back):

Zone 8 (hose line): 3 impact heads (~10 gpm each head)

Lawn Zone: 13 stations w/ 6 heads per station (~3 gpm each head)

Kim commented that he buys and sells stock (steers and horses) relatively frequently. He also sometimes houses livestock for friends or for payment at his property. The maximum amount of stock that he had at one time during the development period was 23 head (8 horses and 15 steers). At the time of the field exam, he had 5 horses and 5 cows. He uses the garden hose to fill three 100-gallon troughs for the stock.

My in-office research revealed that Gould's BF50 (Balanced Flow Submersible Pump Controller) only functions with a 5 horsepower Gould's pump. Based on the flow estimates above and the depth of the well (TDH) I estimate that the pump model is 25GS50.

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	03/01 to 11/15	0.07 CFS	11.3 AF
STOCKWATER	01/01 to 12/31	0.02 CFS	0.3 AF
DOMESTIC	01/01 to 12/31	0.02 CFS	0.6 AF

Totals: 0.070 CFS 12.20 AF

2. Recommended Amendments

____ Change P.D. as reflected above ____ Add P.D. as reflected above x None

x Change P.U. as reflected above ____ Add P.U. as reflected above ____ None

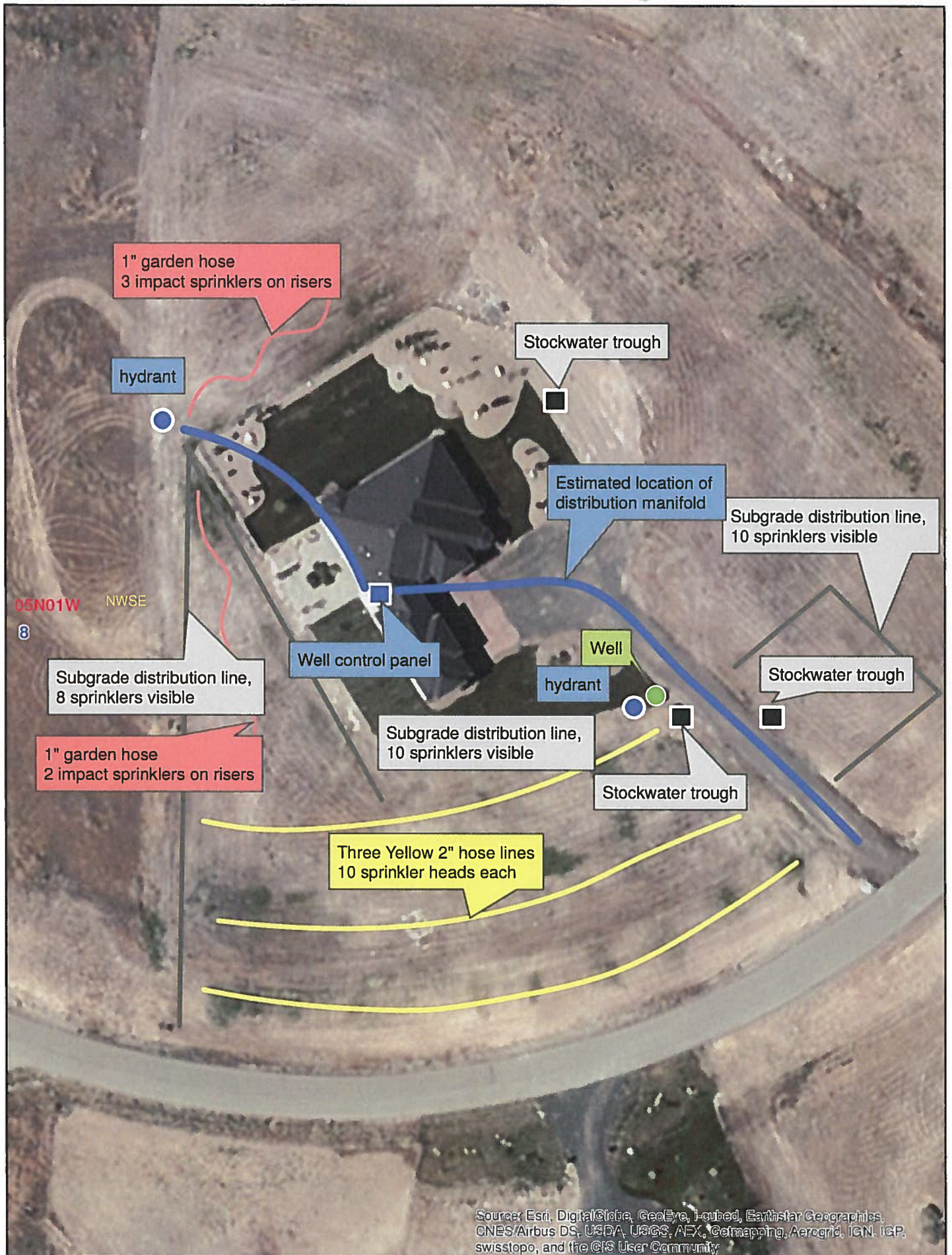
I. AUTHENTICATION**Ashley Newbry**

Field Examiner's Name

Ashley Newbry

Date

11/2/16



63

Form 238-7
3/95-C96IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

844883

Office Use Only		
Inspected by		
Twp	Rge	Sec
1/4	1/4	1/4
Lat:	:	Long:

1. DRILLING PERMIT NO. _____
Other IDWR No. D0047639

2. OWNER:

Name RICHARD ALLEN

Address PO BOX 307

City EMMETT State ID Zip 83617

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location

N

W	E	S	Gov't lot	County ADA	Twp. 5 North ☒ or South ☐
					Rge. 1 East ☐ or West ☒
					Sec. 8 SW 1/4 NW 1/4 SE 1/4

Lat: 43:46:979 Long: 116:28:963

Address of Well Site 10124 W. COLTON LN

City EAGLE

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

Lt. 2 Blk. 1 Sub. Name COLTON RANCH

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/FILTER PACK		AMOUNT		METHOD
Material	From	To	Sacks or Pounds	
BENTONITE	0	30	800	POUR

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 560Was drive shoe seal tested? ☐ Y ☒ N How?

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	+2	560	250	STEEL	☒	☐	☒	☐
5"	543	563	250	STEEL	☒	☐	☒	☐
					☐	☐	☐	☐

Length of Headpipe 23' Length of Tailpipe

9. PERFORATIONS/SCREENS

☐ Perforations Method
☒ Screens Screen Type johnson

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
563	573	.020		5"	SS	☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

394 ft. below ground

Artesian Pressure lb

Depth flow encountered 560 ft. Describe access port or control devices: well cap

11. WELL TESTS:

☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min.	Drawdown	Pumping Level	Time
30		500	2 HR

Water Temp. Bottom hole temp.

Water Quality test or comments:

Depth first Water Encountered 420

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Water

Bore Dia	From	To	Remarks: Lithology, Water Quality & Temp.	Y	N
10"	0	3	TOP SOIL	☒	☒
10"	3	8	HARD PAN	☒	☒
10"	8	18	SANDY CLAY	☒	☒
8"	18	83	SANDY CLAY W/SAND STRIPS	☒	☒
8"	83	125	GRAVEL	☒	☒
8"	125	140	TAN CLAY	☒	☒
8"	140	173	BROWN SAND	☒	☒
8"	173	198	TAN CLAY	☒	☒
8"	198	234	TAN CLAY	☒	☒
8"	234	280	TAN CLAY W/SAND STRIPS	☒	☒
6"	280	420	TAN CLAY W/SAND STRIPS	☒	☒
6"	420	480	LARGE SAND	☒	☒
6"	480	490	TAN CLAY	☒	☒
6"	490	560	COURSE BLUE SAND	☒	☒
6"	560	573	COURSE BLUE SAND	☒	☒

ORIGINAL

RECEIVED

SCANNED

OCT 05 2007

MAR 23 2007

WATER RESOURCES
WESTERN REGION

Completed Depth: 573

(Measurable)

Date: Started 12/05/2006

Completed 03/09/2007

13. DRILLER'S CERTIFICATION

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

Firm Name GEORGE POST WELL DRILLING

Firm No. 563

Firm Official

Date 03/14/2007

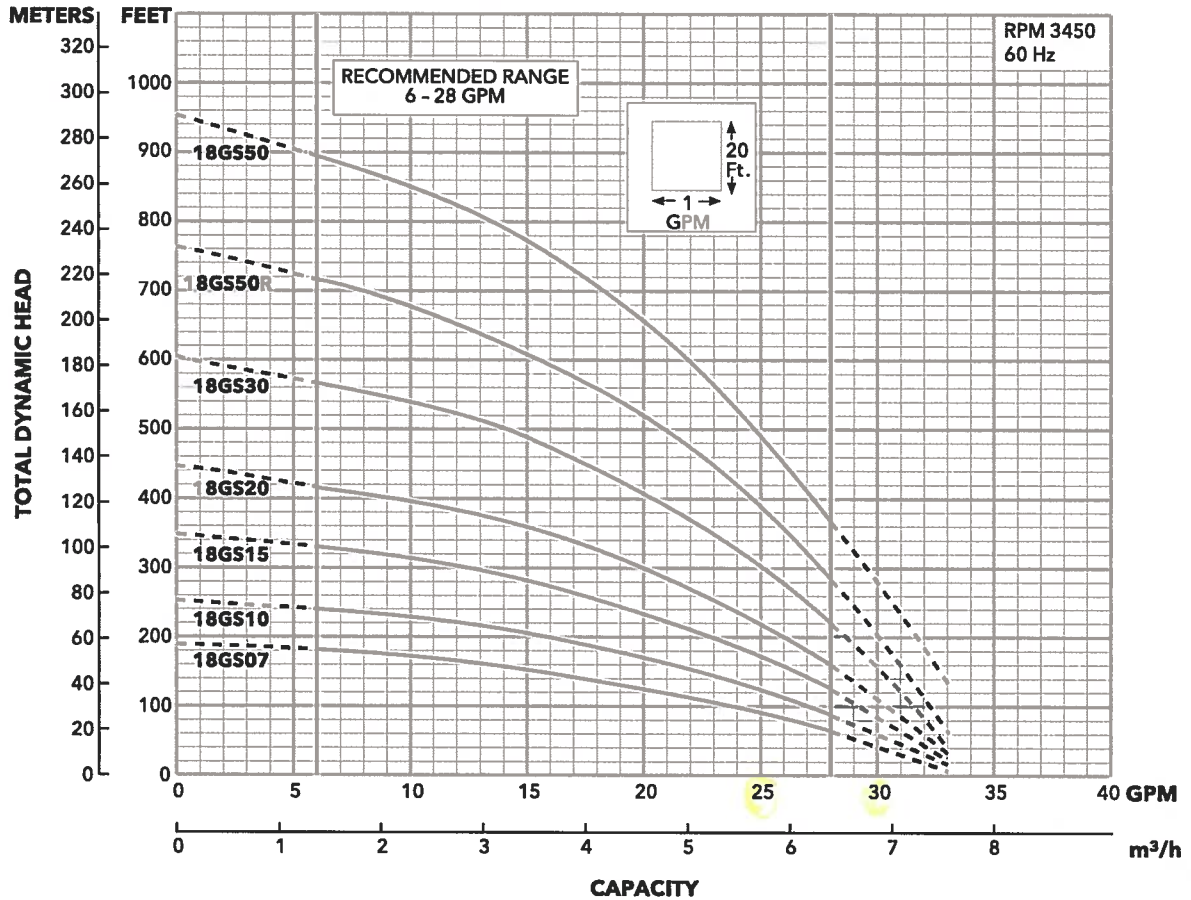
Supervisor or Operator

Date

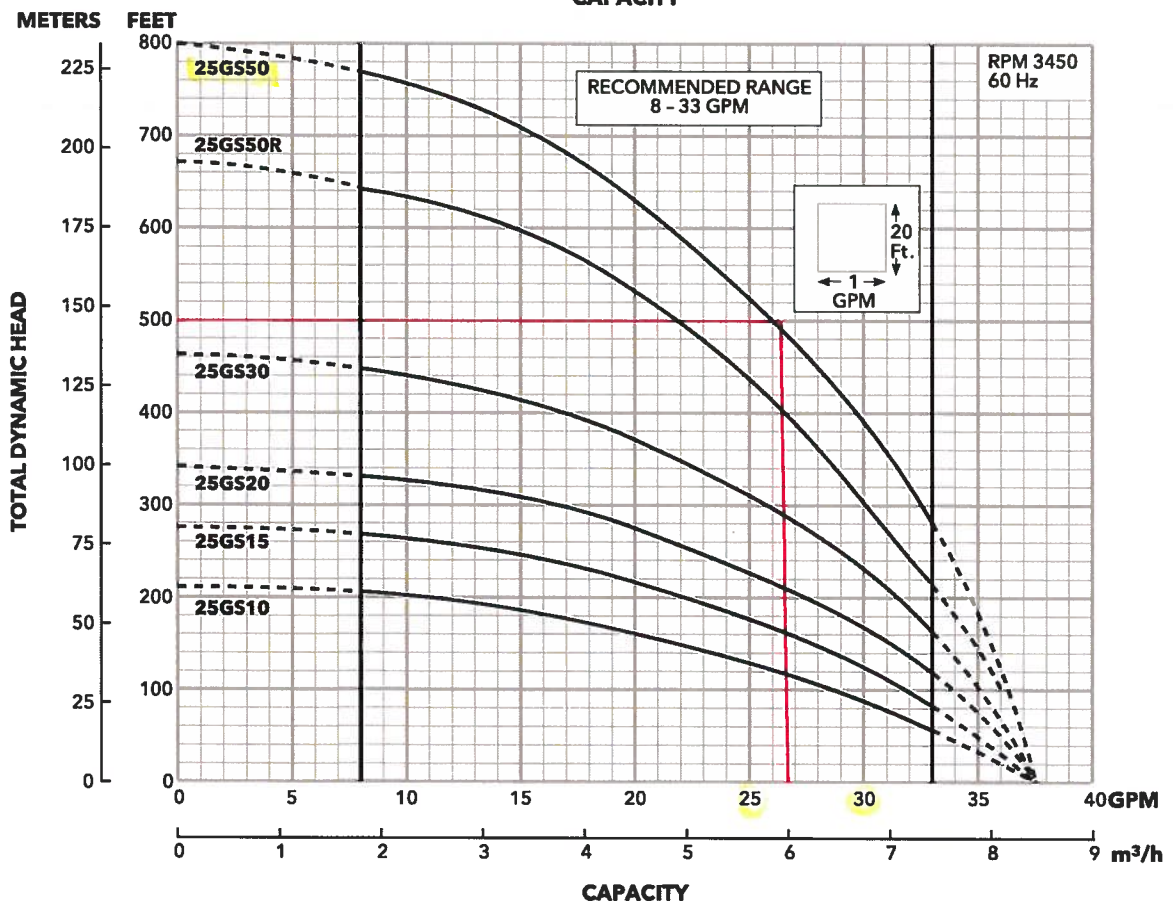
(Sign once if Firm Official & Operator)

Date: 3/14/2007 Time: 10:26:52 AM

Model 18GS



Model 25GS





ITT

GOULDS PUMPS Residential Water Systems

BF20 SPECIFICATIONS

- Controller will operate a 3-phase, 230V submersible motor up to:
 - Max. HP: 2
 - Min. HP: $\frac{1}{2}$
 - Max. SFA: 8.1 amps.
 - 30 – 60 Hz speed.
 - 30 – 80 Hz optional. (see table 1 for details.)
- Controller Ambient Temperature Range:
 - Min.: 0°F (-18°C)
 - Max.: 122°F (50°C)
- Input Voltage: single-phase, 230 volt, two (2) wire grounded system.
- Output Voltage: Variable frequency, 230 volt, three-phase power to the motor.
- Pressure set point adjustable between 20 – 70 PSI when used with included PRT0100SAIP sensor.**
- BF20 Dimensions and Weight:
 - Height: 18.57"
 - Width: 9.88"
 - Depth: 5.29"
 - Weight: 18.3 lbs.
- Packaged Dimensions and Weight:*
- Height: 23"
- Width: 14.5"
- Depth: 10.5"
- Weight: 22.9 lbs.

* Includes carton plus sensor and sensor cable.

** Sensor with higher pressure ranges are available.

Goulds Pumps is ISO 9001 Registered.

BF30 SPECIFICATIONS

- Controller will operate a 3-phase, 230V submersible motor up to:
 - Max. HP: 3
 - Min. HP: $\frac{3}{4}$
 - Max. SFA: 10.9 amps.
 - 30 – 60 Hz speed.
 - 30 – 80 Hz optional. (see table 1 for details.)
- Controller Ambient Temperature Range:
 - Min.: 0°F (-18°C)
 - Max.: 122°F (50°C)
- Input Voltage: single-phase, 230 volt, two (2) wire grounded system.
- Output Voltage: Variable frequency, 230 volt, three-phase power to the motor.
- Pressure set point adjustable between 20 – 70 PSI when used with included PRT0100SAIP sensor.**
- BF30 Dimensions and Weight:
 - Height: 18.57"
 - Width: 9.88"
 - Depth: 5.29"
 - Weight: 19.6 lbs.
- Packaged Dimensions and Weight:*
- Height: 23"
- Width: 14.5"
- Depth: 10.5"
- Weight: 23.2 lbs.

BF50 SPECIFICATIONS

- Controller will operate a 3-phase, 230V submersible motor up to:
 - Max. HP: 5
 - Min. HP: 3
 - Max. SFA: 17.8 amps.
 - 30 – 60 Hz speed.
 - 30 – 80 Hz optional. (see table 1 for details.)
- Controller Ambient Temperature Range:
 - Min.: 0°F (-18°C)
 - Max.: 122°F (50°C)
- Input Voltage: single-phase, 230 volt, two (2) wire grounded system.
- Output Voltage: Variable frequency, 230 volt, three-phase power to the motor.
- Pressure set point adjustable between 10 – 100 PSI when used with included PRT0200SAIP sensor.**
- BF50 Dimensions and Weight:
 - Height: 18.57"
 - Width: 9.88"
 - Depth: 5.29"
 - Weight: 24.4 lbs.
- Packaged Dimensions and Weight:*
- Height: 23"
- Width: 14.5"
- Depth: 10.5"
- Weight: 28 lbs.

AGENCY LISTINGS



Tested to UL 778, 508C and
CSA 22.2 108-M89, 14-95
Standards By Canadian
Standards Association
File #LR38549



ITT

GOULDS PUMPS Residential Water Systems

Choosing Maximum Speed: 60 or 80 Hz

You have an option of operating the Balanced Flow System at either 30-60 or 30-80 hertz speeds.

For 30 – 60 Hz operation (60/80 Hz switch in 60 Hz position) the HP of the water end should match the HP of the motor.

This table shows examples of suitable configurations for the 30-60 Hz operation:

Controller	Water End	Motor	WE Example	Max. Curve – 60 HZ Catalog
BF20	1	1	10GS10	10GS10
BF20	1½	1½	18GS15	18GS15
BF20	2	2	18GS20	18GS20
BF30	1½	1½	10GS15	10GS15
BF30	2	2	18GS20	18GS20
BF30	3	3	25GS30	25GS30
BF50	5	5	25GS50	25GS50

For 30 – 80 Hz operation (60/80 Hz switch in 80 Hz position) the HP of the water end should be ½ the HP of the motor.

This table shows examples of suitable configurations for the 30-80 Hz operation:

Controller	Water End	Motor	WE Example	Max. Curve – 60 HZ Catalog
BF20	½	1	10GS05	10GS10
BF20	¾	1½	10GS07	10GS15
BF20	1	2	18GS10	18GS20
BF30	¾	1½	10GS07	10GS15
BF30	1	2	18GS10	18GS20
BF30	1½	3	25GS15	25GS30
BF50	3	5	25GS30	25GS50

When using the 80 hertz switch with mismatched water ends and motors, use the larger pump curve as the top curve. The bottom, or 30 hertz, curve would be calculated using the smaller water end curve and data from the 30-60 curve section.

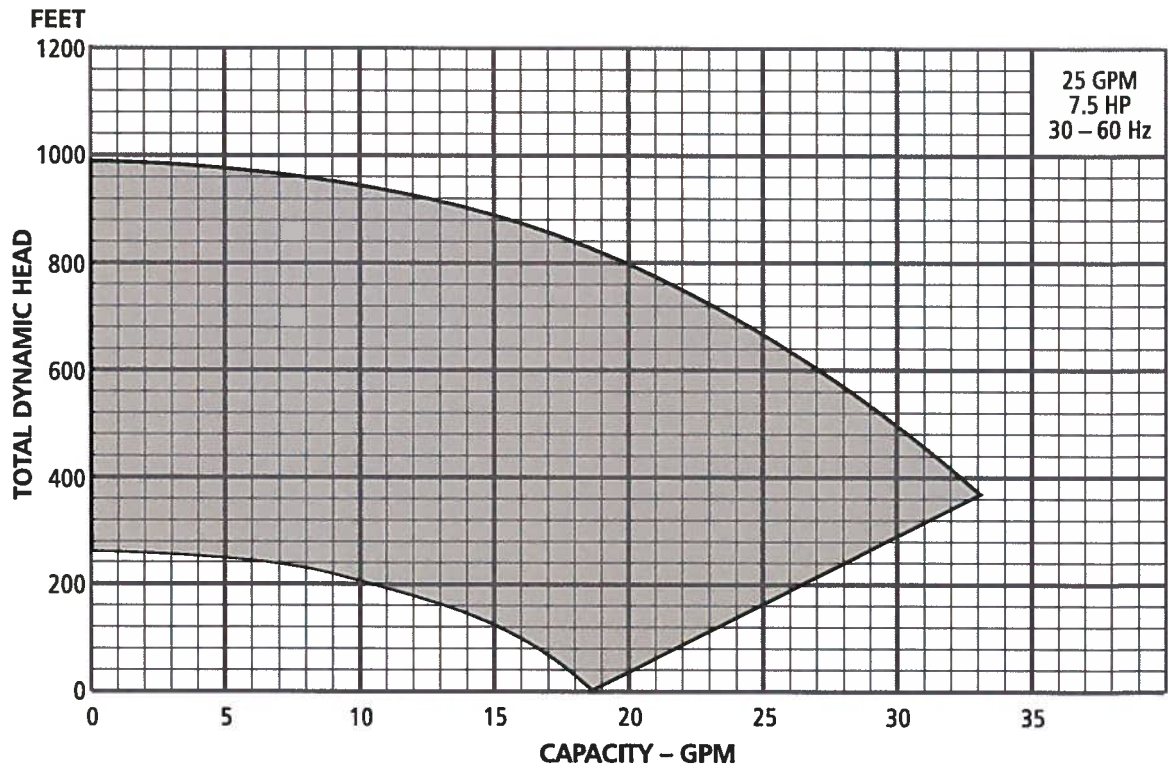
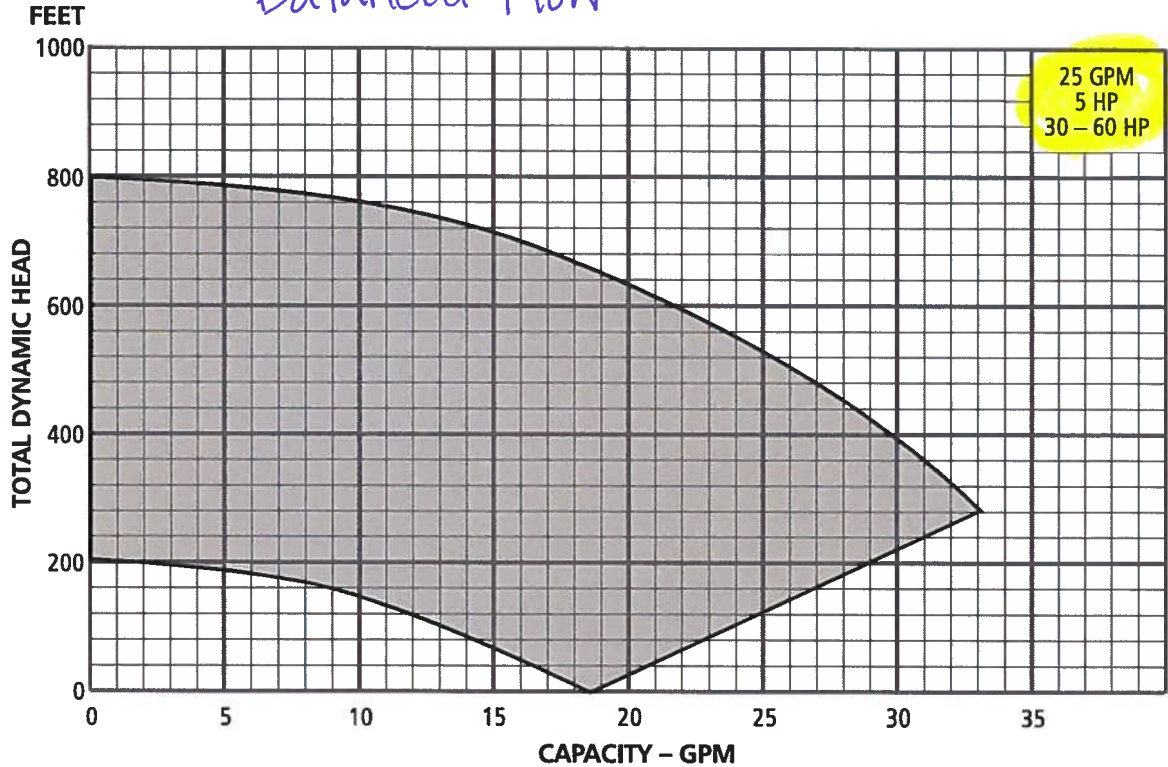
Setting up a pump system is entirely in the hands of the installer, you choose whether to operate at 30-60 or 30-80 hertz. We recommend using matched pumps and motors operating at 30 – 60 Hz speeds for optimum pump, motor and system life.



ITT

Goulds Pumps Range Curves
Goulds 4" submersibles w/
Variable spd. Control
"Balanced Flow"

GOULDS PUMPS
Residential Water Systems



5000 Series MPR Nozzles

Achieve Matched Precipitation Rate Between 25' and 35'

Rain Bird 5000 Series MPR Nozzles simplify both the design process and the installation of rotors, because they reliably deliver matched precipitation rates within and between rotor radii from 25' to 35'. Without having to use fixed arc plates, designers and installers can achieve MPR using any of the 5000 Series Rotors. Superior flexibility in arc adjustment minimizes the risks of over- or under-watering.

Features

- Three Nozzle trees of 25', 30', and 35' (7.6 m, 9.1 m, 10.7 m) radii
- Each tree contains a Q (90°), T (120°), H (180°), and F (360°) Nozzle
- No fixed arc plate required
- Compatible with all 5000 Series Rotors
- Rain Curtain™ Technology provides:
 - Large droplets for consistent performance
 - Effective close-in watering
 - Even distribution over the entire radius
- Precipitation rate of 0.60 in/hr (15.2 mm/hr) reduces run-off and erosion
- Color-coded by radius for easy identification
- Nozzles are easy to insert and remove
- Stackable Nozzle trees for convenient storage

Models

- 5000-MPR-25: Tree of nozzles for 25-foot radius with Q, T, H, F Nozzles attached
- 5000-MPR-30: Tree of nozzles for 30-foot radius with Q, T, H, F Nozzles attached
- 5000-MPR-35: Tree of nozzles for 35-foot radius with Q, T, H, F Nozzles attached

Specifications

The MPR Nozzle shall be capable of covering a _____ foot radius (FT.RAD.)/(meter) at _____ pounds per square inch (psi)/(bar) with a discharge rate of _____ gallons per minute (gpm)/(m³/h,l/s).

The MPR Nozzle shall have a matched precipitation rate of 0.6 in/hr (15 mm/h) at 45 psi (3.1 bar).

The MPR Nozzle shall be color-coded by radius. The MPR Nozzle shall contain Micro Ramp™ technology for superior close-in watering.

The MPR Nozzle shall be manufactured by Rain Bird Corp., Azusa, California.



How To Specify

5000 - MPR - 25 - Q			
Model 5000 Series	Nozzle Matched Precipitation Rate	Radius Range 25' 30' 35'	Pattern Q=Quarter T=Third H=Half F=Full

5000 Series MPR Nozzles

5000-MPR-25 (Red)					
Nozzle	Pressure psi	Radius ft.	Flow gpm	■ Precip In/h	▲ Precip In/h
Quarter 	25	23	0.74	0.54	0.62
	35	24	0.88	0.59	0.68
	45	25	1.00	0.62	0.71
	55	25	1.11	0.68	0.79
	65	25	1.21	0.75	0.86
Third 	25	23	1.00	0.55	0.63
	35	24	1.21	0.61	0.70
	45	25	1.38	0.64	0.74
	55	25	1.53	0.71	0.82
	65	25	1.67	0.77	0.89
Half 	25	23	1.44	0.52	0.61
	35	24	1.73	0.58	0.67
	45	25	1.98	0.61	0.70
	55	25	2.21	0.68	0.79
	65	25	2.41	0.74	0.86
Full 	25	23	2.78	0.51	0.58
	35	24	3.34	0.56	0.64
	45	25	3.82	0.59	0.68
	55	25	4.25	0.65	0.76
	65	25	4.63	0.71	0.82

5000-MPR-25 (Red)					METRIC	
Nozzle	Pressure bar	Radius m	Flow m³/h	Flow l/m	 Precip mm/h	 Precip mm/h
Quarter 	1.7	7.0	0.17	3.0	13.7	15.8
	2.4	7.3	0.20	3.6	14.9	17.3
	3.1	7.6	0.23	3.6	15.6	18.1
	3.8	7.6	0.25	4.2	17.4	20.1
	4.5	7.6	0.27	4.8	18.9	21.9
Third 	1.7	7.0	0.23	3.6	13.9	16.0
	2.4	7.3	0.27	4.8	15.4	17.8
	3.1	7.6	0.31	5.4	16.2	18.7
	3.8	7.6	0.35	6.0	18.0	20.7
	4.5	7.6	0.38	6.6	19.6	22.6
Half 	1.7	7.0	0.33	5.4	13.3	15.4
	2.4	7.3	0.39	6.6	14.7	17.0
	3.1	7.6	0.45	7.2	15.5	17.9
	3.8	7.6	0.50	8.4	17.3	20.0
	4.5	7.6	0.55	9.0	18.9	21.8
Full 	1.7	7.0	0.63	10.8	12.8	14.8
	2.4	7.3	0.76	12.6	14.2	16.4
	3.1	7.6	0.87	14.4	14.9	17.3
	3.8	7.6	0.97	16.2	16.6	19.2
	4.5	7.6	1.05	17.4	18.1	20.9

5000-MPR-30 (Green)					
Nozzle	Pressure psi	Radius ft.	Flow gpm	■ Precip In/h	▲ Precip In/h
Quarter 	25	29	1.03	0.47	0.54
	35	30	1.23	0.53	0.61
	45	30	1.40	0.60	0.69
	55	30	1.56	0.67	0.77
	65	30	1.69	0.72	0.83
Third 	25	29	1.34	0.46	0.53
	35	30	1.62	0.52	0.60
	45	30	1.85	0.59	0.69
	55	30	2.06	0.66	0.76
	65	30	2.24	0.72	0.83
Half 	25	29	2.15	0.49	0.57
	35	30	2.59	0.55	0.64
	45	30	2.96	0.63	0.73
	55	30	3.30	0.71	0.82
	65	30	3.60	0.77	0.89
Full 	25	29	4.24	0.49	0.56
	35	30	5.08	0.54	0.63
	45	30	5.78	0.62	0.71
	55	30	6.39	0.68	0.79
	65	30	6.92	0.74	0.85

5000-MPR-30 (Green)					METRIC	
Nozzle	Pressure bar	Radius m	Flow m³/h	Flow l/m	 Precip mm/h	 Precip mm/h
Quarter 	1.7	8.8	0.23	3.6	12.0	13.8
	2.4	9.1	0.28	4.8	13.4	15.4
	3.1	9.1	0.32	5.4	15.2	17.6
	3.8	9.1	0.35	6.0	17.0	19.6
	4.5	9.1	0.38	6.6	18.4	21.2
Third 	1.7	8.8	0.30	4.8	11.7	13.5
	2.4	9.1	0.37	6.0	13.2	15.2
	3.1	9.1	0.42	7.2	15.1	17.4
	3.8	9.1	0.47	7.8	16.8	19.4
	4.5	9.1	0.51	8.4	18.3	21.1
Half 	1.7	8.8	0.49	8.4	12.5	14.4
	2.4	9.1	0.59	9.6	14.1	16.2
	3.1	9.1	0.67	11.4	16.1	18.6
	3.8	9.1	0.75	12.6	17.9	20.7
	4.5	9.1	0.82	13.8	19.6	22.6
Full 	1.7	8.8	0.96	16.2	12.3	14.2
	2.4	9.1	1.15	19.2	13.8	15.9
	3.1	9.1	1.31	21.6	15.7	18.1
	3.8	9.1	1.45	24.0	17.4	20.0
	4.5	9.1	1.57	26.4	18.8	21.7

Precipitation rates based on half-circle operation

■ Square spacing based on 50% diameter of throw

▲ Triangular spacing based on 50% diameter of throw

Performance data collected in zero wind conditions

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1.

5000-MPR-35 (Beige)					
Nozzle	Pressure psi	Radius ft.	Flow gpm	■ Precip in/h	▲ Precip in/h
Quarter 	25	32	1.40	0.53	0.61
	35	34	1.67	0.56	0.64
	45	35	1.92	0.60	0.70
	55	35	2.13	0.67	0.77
	65	35	2.31	0.73	0.84
Third 	25	32	1.77	0.50	0.58
	35	34	2.15	0.54	0.62
	45	35	2.46	0.58	0.67
	55	35	2.74	0.65	0.75
	65	35	2.99	0.70	0.81
Half 	25	32	2.75	0.52	0.60
	35	34	3.33	0.55	0.64
	45	35	3.81	0.60	0.69
	55	35	4.23	0.66	0.77
	65	35	4.62	0.73	0.84
Full 	25	32	5.36	0.50	0.58
	35	34	6.62	0.55	0.64
	45	35	7.58	0.60	0.69
	55	35	8.43	0.66	0.76
	65	35	9.18	0.72	0.83

Precipitation rates based on half-circle operation

■ Square spacing based on 50% diameter of throw

▲ Triangular spacing based on 50% diameter of throw

5000-MPR-35 (Beige)					METRIC	
Nozzle	Pressure bar	Radius m	Flow m ³ /h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
Quarter 	1.7	9.8	0.32	5.4	13.4	15.4
	2.4	10.4	0.38	6.6	14.1	16.3
	3.1	10.7	0.44	7.2	15.3	17.7
	3.8	10.7	0.48	7.8	17.0	19.6
	4.5	10.7	0.52	9.0	18.4	21.3
Third 	1.7	9.8	0.40	6.6	12.7	14.6
	2.4	10.4	0.49	8.4	13.6	15.8
	3.1	10.7	0.56	9.6	14.7	17.0
	3.8	10.7	0.62	10.2	16.4	18.9
	4.5	10.7	0.68	11.4	17.9	20.7
Half 	1.7	9.8	0.62	10.2	13.1	15.2
	2.4	10.4	0.76	12.6	14.1	16.3
	3.1	10.7	0.87	14.4	15.2	17.6
	3.8	10.7	0.96	16.2	16.9	19.5
	4.5	10.7	1.05	17.4	18.4	21.3
Full 	1.7	9.8	1.22	20.4	12.8	14.8
	2.4	10.4	1.50	25.2	14.0	16.2
	3.1	10.7	1.72	28.8	15.1	17.5
	3.8	10.7	1.91	31.8	16.8	19.4
	4.5	10.7	2.09	34.8	18.3	21.2

Performance data collected in zero wind conditions

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1.

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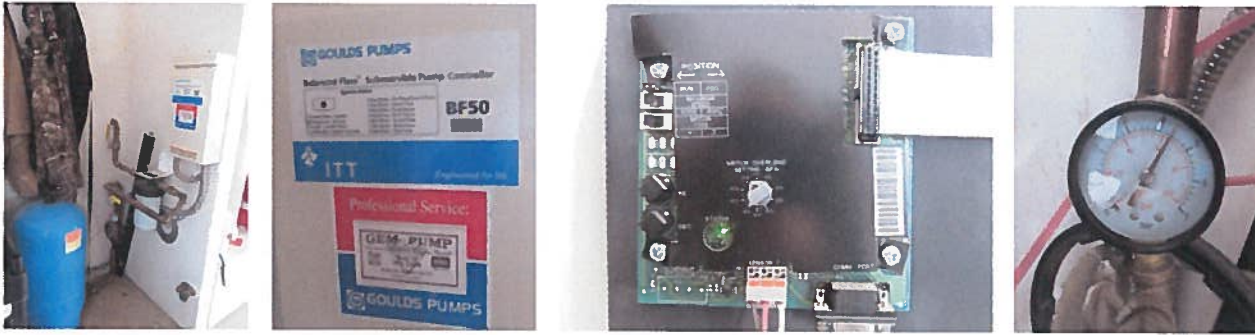
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The field exam began at the well (left). Kim opened the sprinkler valve(center) and engaged one zone of sprinklers for me to measure the pressure at the orifice of one of the Rain Bird 5000 heads (right).



The front/south pasture has three zones of 2-inch hose with 10 sprinkler heads on each line.



Next, we inspected the BF50 Gould's pump controller system (center) and pressure tank (left). With the irrigation system off, the supply line remained fully pressurized at approximately 60 psi (right).



The back/north pasture (left) is entirely irrigated using three impact sprinkler heads on risers (only two are pictured). The side/west pasture (center) is partially irrigated with two impact sprinkler heads on risers (right).



Kim uses three 100-gallon stockwater troughs (left and right) to water his horses (center) and cattle (only two pictured). The horses were very curious to meet the field examiner.