

SARGENT IRRIGATION CO.

Efficiency Test Report Electric Motor

Latitude N41°25'40.8"
 Longitude W102°07'13.2"
 Upper Bearing NO #15
 Lower Bearing !

Flow Instrument Data

Pipe Size _____
 Calibration _____
 GPM/ft/sec _____
 Name RICHARD HOODS Address _____ Legal NE/SE 23-17-42 6205
 Date 5-5-21
 Well Depth _____ Casing Dia. _____ Yr. Inst. _____ Bowls 4-12 BMC
 Pump Mfg. SARGENT SN 55176 Col. 200?? ft. 85/8 x 2 x 1 1/4
 Drive Mfg. V.S. HP 75 SN U5002438 Ratio _____
 Sprinkler VALLEY Type _____ Nozzled for _____ GPM @ _____ PSI
 Static Water Level 111 ft.

Pump	RPM	PSI	x	2.31 = Ft. +	Pumping Level	+ Loss	= Total Hd. Ft.	x	Flow GPM	÷	3960	=	Water HP
1.	<u>1788</u>	<u>44</u>	x	<u>2.31 = 101.6</u>	<u>159</u>	<u>+ 1.0</u>	<u>= 261.6</u>	x	<u>386</u>	÷	<u>3960</u>	=	<u>25.5</u>
2.			x	<u>2.31 =</u>			<u>=</u>	x		÷	<u>3960</u>	=	
3.	<u>1789</u>	<u>13</u>	x	<u>2.31 = 30.0</u>	<u>197</u>	<u>+ 2.3</u>	<u>= 229.3</u>	x	<u>556</u>	÷	<u>3960</u>	=	<u>32.2</u>
4.			x	<u>2.31 =</u>			<u>=</u>	x		÷	<u>3960</u>	=	

Electric 3 Phase:

Meter # _____ Meter Multiplier x _____ Frame # 405 UP
 Full Load Amps 92.0 Volts w/Motor Off 492 Rated RPM 1800

Revs	x	x 3.6	÷	Sec.	=	KWH/h	÷	.746 =	Hook Up Horse Power
1.			÷		=		÷	.746 =	
2.			÷		=		÷	.746 =	
3.			÷		=		÷	.746 =	
4.			÷		=		÷	.746 =	

Volts	x	Amps	x	1.732	÷	1000	x	Power Fact	=	KWH/h	x	1.34	x	Effic. Fact	-	Thrust Loss	=	Pump H.P.	
1.	<u>473</u>	x	<u>55.0</u>	x	<u>1.732</u>	÷	<u>1000</u>	x	<u>86</u>	=	<u>38.7</u>	x	<u>1.34</u>	x	<u>.915</u>	-		=	<u>47.5</u>
2.		x		x	<u>1.732</u>	÷	<u>1000</u>	x		=		x	<u>1.34</u>	x		-		=	
3.	<u>469</u>	x	<u>63.3</u>	x	<u>1.732</u>	÷	<u>1000</u>	x	<u>88</u>	=	<u>45.4</u>	x	<u>1.34</u>	x	<u>.915</u>	-		=	<u>55.7</u>
4.		x		x	<u>1.732</u>	÷	<u>1000</u>	x		=		x	<u>1.34</u>	x		-		=	

Pump Efficiency

Water HP	÷	Pump HP	=	Pump Efficiency
1.	<u>25.5</u>	÷	<u>47.5</u>	= <u>53.7</u> %
2.		÷		= %
3.	<u>32.2</u>	÷	<u>55.7</u>	= <u>57.8</u> %
4.		÷		= %

Bowl Efficiency

Pump HP	-	Lineshaft Loss	=	Bowl HP	Water HP	÷	Bowl HP	=	Efficiency
1.	<u>47.5</u>	-	<u>1.7</u>	=	<u>45.8</u>	÷	<u>25.5</u>	=	<u>55.7</u> %
2.		-		=		÷		=	%
3.	<u>55.7</u>	-	<u>1.7</u>	=	<u>54.0</u>	÷	<u>32.2</u>	=	<u>59.6</u> %
4.		-		=		÷		=	%

* FIRST TOWER ON PIVOT, FIRST FLANGE GASKET LEAK

Comments:

PSI AT WELL
 PUMP HAS LINESHAFT CLATTER / VIBRATION
 THRUST BEARING ON MOTOR NOISY / SLIGHT VIBRATION
 APPROX. 575' OF 8" UNDERGROUNDS

#1 TEST- PIVOT ON, NO END GUN

#2 TEST- PIVOT ON, NO END GUN, SAND TRAP OUT ON PIVOT
 * CASINGING WATER STARTS AT 119 FT, #2 TEST- PSI AT WELL 13 TO 12 PSE
 AMPS & KWH BOUNCHING

Efficiency Technician