Hi-Speed Industrial Service
7030 Ryburn Dr
Millington, Tn 38053
901-873-5300

Submersible Pump Repair Report

Jacksonville Waste Water
248 Cloverdale Road
Jacksonville, AR 72076

FolderID: 101828
FormID: 17832903

Submersible Pump Repair Report

Location:	Shop
Serial Number:	G95415
Description:	5HP HYDROMATIC PUMP

Make:	HYDROMATIC
HP:	5 (HP)
Model:	HRGF500M3-4
Serial:	G95415
V:	230 (V)
A:	15.6 (A)
Hz:	60 (Hz)
Phase:	3
Impeller Diameter:	9.25 (in)

Priorities Found: **34 - Good**

General

1.	Job Number	**101828**	
2.	Report Date		
3.	Customer	**Jacksonville Waste Water**	

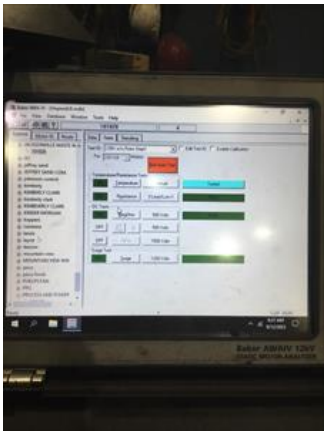
Initial Pump Inspection

4.	Power Cord Wire Size	**12 AWG**	P7

	5.	Power Cord # of Conductors	**4**
	6.	Power Cord Length	**19.1 ft**
●	7.	Power Cord Condtion	**(P) Pass**
	8.	Sensor Cord Wire Size	**16 AWG**
	9.	Sensor Cord # of Conductors	**4**
	10.	Sensor Cord Length	**19.1 ft**
●	11.	Sensor Cord Condition	**(P) Pass**
●	12.	Sensor Cord for Thermal Protection?	**(Y) Yes**
●	13.	Sensor Cord for Water Protection	**(Y) Yes**
●	14.	Bowl Condition	**(P) Pass**
●	15.	Impeller Condition	**(P) Pass**

	16.	Number of Wear Rings	
●	17.	Wear Ring Condition	**(P) Pass**
	18.	Wear Ring Size	
	19.	Wear Ring Clearance to Impeller	
	20.	Wear Ring Material	
●	21.	Seal Surfaces Condition	**(P) Pass**
	22.	Seal Type	
	23.	Number of Seals	**2**
	24.	Seal Material on Rotary Face	
	25.	Seal Material on Stationary Seat	
	26.	Elastic Component Material	
	27.	Seal OD	**1.8 in**
	28.	Seal ID	**1.25 in**
	29.	Seal Sleeve Material	
●	30.	Seal Plate Condition	**(P) Pass**
●	31.	Water Sensor in Seal Cavity?	**(Y) Yes**
●	32.	Oil Filled Seal Cavity?	**(Y) Yes**
●	33.	Oil Filled Stator?	**(Y) Yes**
Initial Inspection			
	34.	Number of Leads	**3**
	35.	Lead Length	**8 Inches**
	36.	Lead Size	
●	37.	Lead Condition	**(P) Pass**
	38.	Lead Markings	**1-3**
	39.	Lead Size for Oil Filled Stator	**AWG**
	40.	Lug Size, Condition, and Type ***N/a***	
	41.	Overload Required?	
	42.	Winding RTD's	
	43.	Winding Rtd's Condition	
	44.	Shaft Run Out	
	45.	Does Shaft Turn Freely	**yes**
	46.	Does Shaft Have Visible Damage	**no**
	47.	Bearing Rtd's	
	48.	Bearing Rtd's Condition	
	49.	Contamination ***Yes***	
●	50.	Frame Condition	**(P) Pass**
●	51.	Fan Condition	**(NA) Not Applicable**
	52.	Broken or missing components ***None***	
Initial Electric Test			
	53.	Resistance to Ground	
	54.	Winding Resistance 1-2	
	55.	Winding Resistance 2-3	
	56.	Winding Resistance 1-3	
	57.	Resistive Imbalance	
	58.	Hi-Pot	

59.	Surge Test	**(P) Pass**	P56



60.	Stator Condition	**good**	
61.	Failure Location	**seals**	

Initial Rotor Inspection

62.	Rotor Type	**squirrel cage aluminum**	P2

63.	Air Gap <10% Variation		
64.	Number of Rotor Bars	**48**	
65.	Number of Broken Rotor Bars	**0**	
66.	Growler Test	**(P) Pass**	
67.	Rotor Condition	**(P) Pass**	

Mechanical Inspection

68.	Bearing Manufacturer	**FAG**	

	69.	Bearing DE Size	**6307**

	70.	Bearing DE Type	**regular ball bearing**
	71.	DE Bearing Qty.	**1**
	72.	Bearing ODE Size	**6303 Z**
	73.	Bearing ODE Type	**regular ball bearing**
	74.	ODE Bearing Qty.	**1**
	75.	Insulated Bearing	**no**
	76.	Lubrication Type	**oil**
●	77.	Grease Condition	**(NA) Not Applicable**
●	78.	Bearing Retainers	**(Y) Yes**
		Snap rings	
	79.	Shaft Grounding Device	**(NA) Not Applicable**
●	80.	DE Seal	**(Y) Yes**
	81.	DE Seal Type/Size	**od 1.8858 id 1.2575**
●	82.	ODE Seal	**(Y) Yes**
	83.	ODE Seal Type/Size	**od 1.8858 id 1.2575**

Root Cause of Failure

	84.	Component Failure	**seals**
	85.	Cause of Failure	
		Excessive wear	
	86.	Comments	
		Seals failed due to contamination.	
	87.	Service Technician	**Terrence Holland**

Machine Fit Inspection Report

●	88.	Shaft Run Out	**(P) Pass**
	89.	Initial Shaft Run Out	**0.001 "**
	90.	Final Shaft Run Out	
●	91.	DE Bearing Shaft Fit	**(P) Pass**

92.	DE Initial Shaft Bearing Fit Size			
	Measure 1	Measure 2	Measure 3	
	1.3783	**1.3783**	**1.3782**	
93.	DE Final Shaft Bearing Fit Size			
	Measure 1	Measure 2	Measure 3	
94.	ODE Bearing Shaft Fit			**(P) Pass**
95.	ODE Initial Shaft Bearing Fit Size			
	Measure 1	Measure 2	Measure 3	
	0.6694	**0.06691999999999999**	**0.6693**	
96.	ODE Final Shaft Bearing Fit Size			
	Measure 1	Measure 2	Measure 3	
97.	DE Air Seal Shaft Fit			
98.	DE Air Seal Shaft Size			
	Initial	Final		
99.	ODE Air Seal Shaft Fit			
100.	ODE Air Seal Shaft Size			
	Initial	Final		
101.	DE Endbell Fit			**(P) Pass**
102.	DE Initial Endbell Fit Size			
	Measure 1	Measure 2	Measure 3	
	3.1497	**3.1459**	**3.1458**	
103.	DE Final Endbell Fit Size			
	Measure 1	Measure 2	Measure 3	
104.	DE Endbell Fit Insulated			**(NA) Not Applicable**
105.	DE Endbell Air Seal Fit			
106.	DE Endbell Air Seal Fit Size			
	Initial	Final		
107.	ODE Endbell Fit			**(P) Pass**
108.	ODE Initial Endbell Fit Size			
	Measure 1	Measure 2	Measure 3	
	1.8507	**1.8506**	**1.8508**	
109.	ODE Final Endbell Fit Size			
	Measure 1	Measure 2	Measure 3	
110.	ODE Endbell Fit Insulated			**(NA) Not Applicable**
111.	ODE Endbell Air Seal Fit			
112.	ODE Endbell Air Seal Fit Size			
	Initial	Final		
113.	Foot Flatness			**(NA) Not Applicable**
114.	Foot Condition			
115.	Flange Condition			

116.	Service Technician	**Terrence Holland**	

Balancing Report

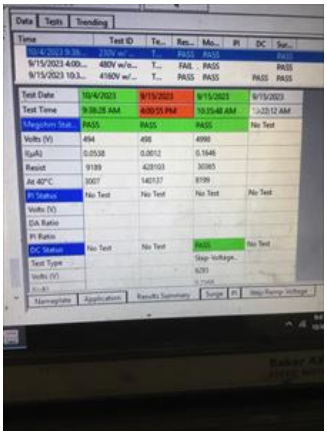
117.	Balance Type		
118.	Balance Operating Speed		
119.	Start Left End		
120.	Start Right End		
121.	Balancing Specification		
122.	Finish Left End		
123.	Finish Right End		
124.	Service Technician		

Assembly and Final Test

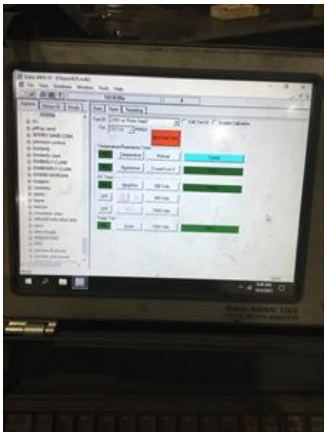
125.	Rotor and Impeller Balanced		
126.	Stator Housing Refilled with Oil (if required)		
127.	Stator Pressure Test	**(P) Pass**	
	Per housing.		
128.	Seal Cavity Pressure Test	**(P) Pass**	P35

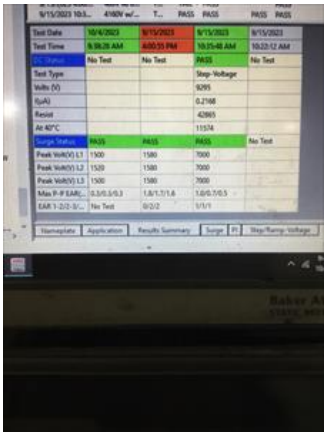
129.	Time Under Pressure	**15 min**	
130.	Overload Continuity	**(P) Pass**	
131.	Water Sensor Open?	**(Y) Yes**	

132. Meggar Testing Reading **Mohm** P61



133. Surge Test **(P) Pass** P67





134. Hi-Pot

135. Winding Resistance P77

1-2	2-3	3-1

136. Test Run **(P) Pass** P90

RW, TRH

137. Test Run Voltage P95

Phase A	Phase B	Phase C
230	**229**	**230**

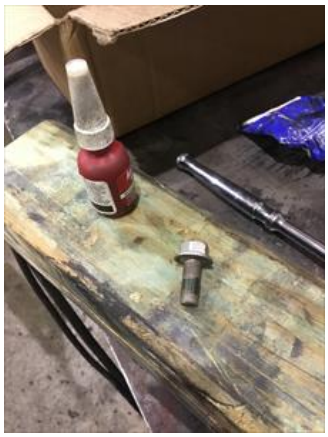
138. Test Run Current P99

Phase A	Phase B	Phase C
6.1	**6.2**	**6.3**

139. DE Vibration Reading

Horizontal	Vertical	Axial

140.	ODE Vibration Reading		
	Horizontal	Vertical	Axial
141.	Ambient Temp at start of Test Run		
142.	Temp at 5 minutes		
143.	Temp at 10 minutes		
144.	Temp at 15 minutes		
145.	Temp at 20 minutes		
146.	Temp at 25 minutes		
147.	Temp at 30 minutes		
148.	Temp at 35 minutes		
149.	Temp at 40 minutes		
150.	Temp at 45 minutes		
151.	Temp at 50 minutes		
152.	Temp at 55 minutes		
153.	Temp at 60 minutes		
154.	Motor Paint		P141



155. Service Technician **Terrence Holland** P142

RHR