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: 102445
FormID: 19269854

Submersible Pump Repair Report

Location:	Shop
Serial Number:	S87944

Description:5HP HYDROMATIC SUBMERSIBLE PUMP 1800RPM

Make:	HYDROMATIC
HP:	5 (HP)
Model:	S4P500M3-4
Serial:	S87944
V:	230 (V)
A:	18.8 (A)
RPM:	1750 (RPM)
Hz:	60 (Hz)
Phase:	3

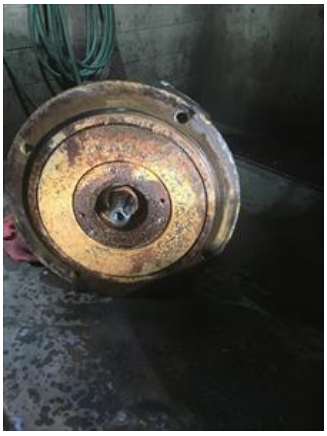
Priorities Found: **19 - Good**

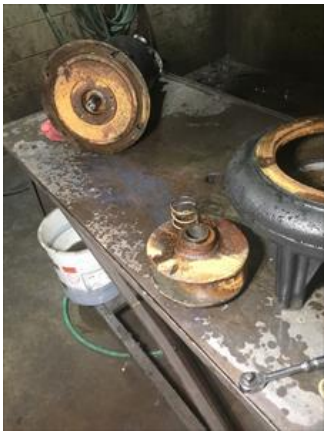
General

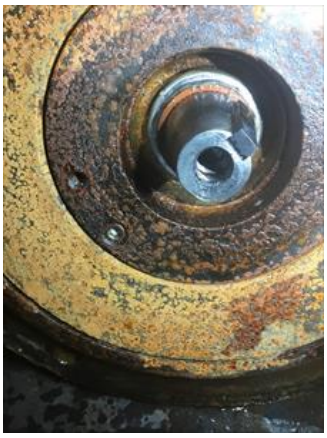
1. Job Number
2. Report Date
3. Customer

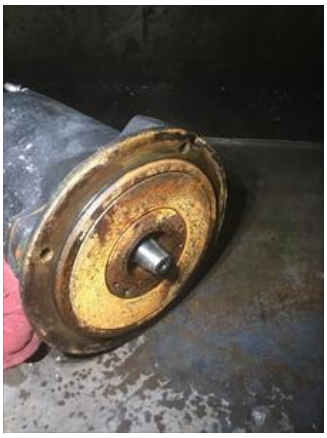
Initial Pump Inspection

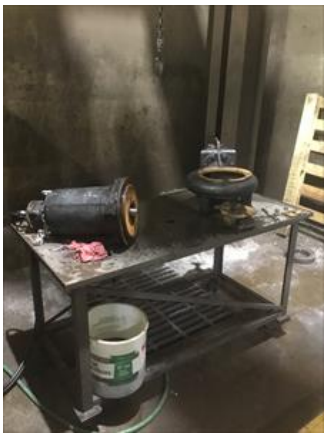
4. Power Cord Wire Size **AWG** P7

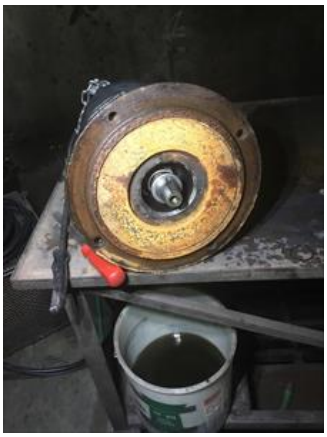


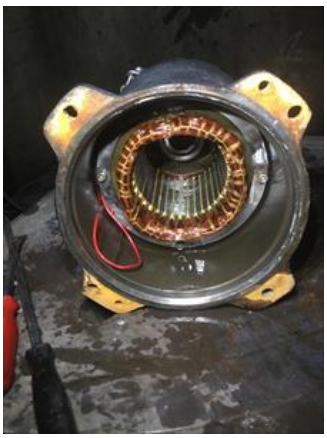


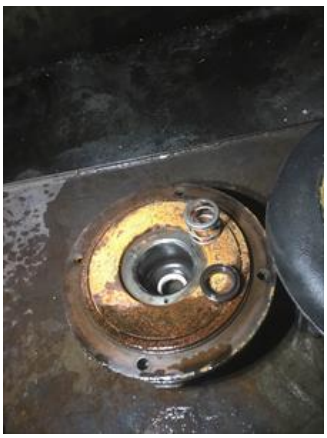




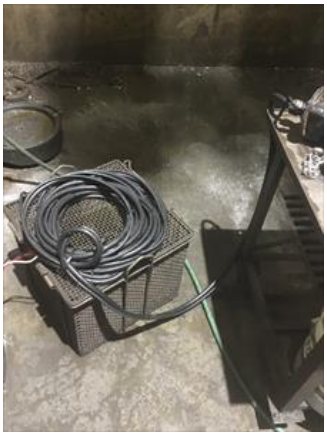








	5.	Power Cord # of Conductors		
	6.	Power Cord Length		
●	7.	Power Cord Condtion	**(P) Pass**	P37



	8.	Sensor Cord Wire Size		
	9.	Sensor Cord # of Conductors		
	10.	Sensor Cord Length		
●	11.	Sensor Cord Condition	**(P) Pass**	
	12.	Sensor Cord for Thermal Protection?		
	13.	Sensor Cord for Water Protection		
●	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		
	22.	Seal Type	**Mechanical**	
	23.	Number of Seals	**2**	
	24.	Seal Material on Rotary Face	**carbon**	

Outter: Carbon
Inner: Sic

	25.	Seal Material on Stationary Seat	**ceramic**	
		Outer seal: Ceramic ***Inner seal: Sic***		
	26.	Elastic Component Material		
	27.	Seal OD	**2.1 mm**	
	28.	Seal ID	**1.5 in**	
		Shaft seal surface.		
	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		
	35.	Lead Length		
	36.	Lead Size		
	37.	Lead Condition		
	38.	Lead Markings		
	39.	Lead Size for Oil Filled Stator		
	40.	Lug Size, Condition, and Type		
	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: water.		
●	50.	Frame Condition	**(P) Pass**	
	51.	Fan Condition		
	52.	Broken or missing components		
		None		
Initial Electric Test				
	53.	Resistance to Ground	**Mohm**	P5

54.	Winding Resistance 1-2	
55.	Winding Resistance 2-3	
56.	Winding Resistance 1-3	
57.	Resistive Imbalance	
58.	Hi-Pot	
59.	Surge Test	
60.	Stator Condition	**pass**
61.	Failure Location	

Initial Rotor Inspection

62.	Rotor Type	**squirrel cage aluminum**
63.	Air Gap <10% Variation	
64.	Number of Rotor Bars	
65.	Number of Broken Rotor Bars	
66.	Growler Test	**(P) Pass**
67.	Rotor Condition	**(P) Pass**

Mechanical Inspection

68.	Bearing Manufacturer	
69.	Bearing DE Size	
70.	Bearing DE Type	**thrust**
71.	DE Bearing Qty.	**1**
72.	Bearing ODE Size	
73.	Bearing ODE Type	**ball bearing**
74.	ODE Bearing Qty.	**1**
75.	Insulated Bearing	**no**
76.	Lubrication Type	**oil**
77.	Grease Condition	
78.	Bearing Retainers	
79.	Shaft Grounding Device	
80.	DE Seal	
81.	DE Seal Type/Size	
82.	ODE Seal	
83.	ODE Seal Type/Size	

Root Cause of Failure

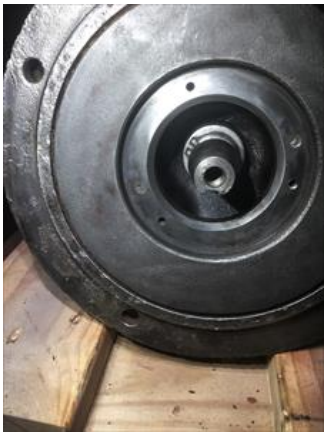
84.	Component Failure	**Outter seal**
85.	Cause of Failure ***Outter seal improperly seated***	
86.	Comments ***Outter seal was improperly seated.***	
87.	Service Technician	**Terrence Holland**

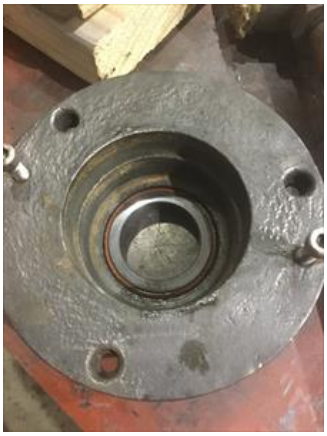
Machine Fit Inspection Report

88.	Shaft Run Out	
89.	Initial Shaft Run Out	
90.	Final Shaft Run Out	

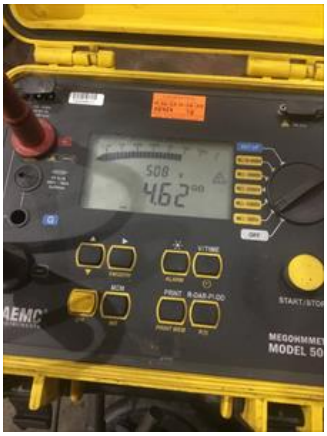
91.	DE Bearing Shaft Fit		
92.	DE Initial Shaft Bearing Fit Size		
	Measure 1	Measure 2	Measure 3
93.	DE Final Shaft Bearing Fit Size		
	Measure 1	Measure 2	Measure 3
94.	ODE Bearing Shaft Fit		
95.	ODE Initial Shaft Bearing Fit Size		
	Measure 1	Measure 2	Measure 3
96.	ODE Final Shaft Bearing Fit Size		
	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		
102.	DE Initial Endbell Fit Size		
	Measure 1	Measure 2	Measure 3
103.	DE Final Endbell Fit Size		
	Measure 1	Measure 2	Measure 3
104.	DE Endbell Fit Insulated		
105.	DE Endbell Air Seal Fit		
106.	DE Endbell Air Seal Fit Size		
	Initial	Final	
107.	ODE Endbell Fit		
108.	ODE Initial Endbell Fit Size		
	Measure 1	Measure 2	Measure 3
109.	ODE Final Endbell Fit Size		
	Measure 1	Measure 2	Measure 3
110.	ODE Endbell Fit Insulated		
111.	ODE Endbell Air Seal Fit		
112.	ODE Endbell Air Seal Fit Size		
	Initial	Final	
113.	Foot Flatness		
114.	Foot Condition		

	115. Flange Condition		
	116. Service Technician		
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)	**(Y) Yes**	
●	127. Stator Pressure Test	**(P) Pass**	P29



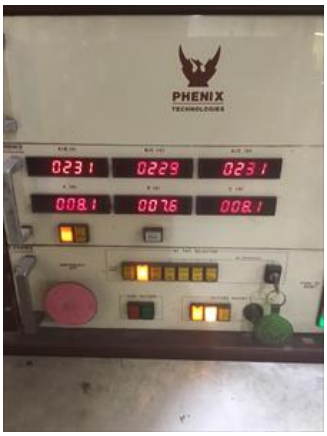


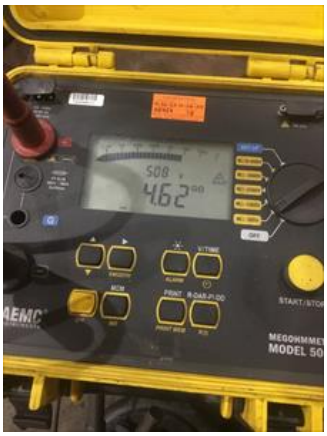
●	128. Seal Cavity Pressure Test	**(P) Pass**	
	129. Time Under Pressure	**30 min**	
	130. Overload Continuity		
●	131. Water Sensor Open?	**(Y) Yes**	
	132. Meggar Testing Reading	**Mohm**	P61



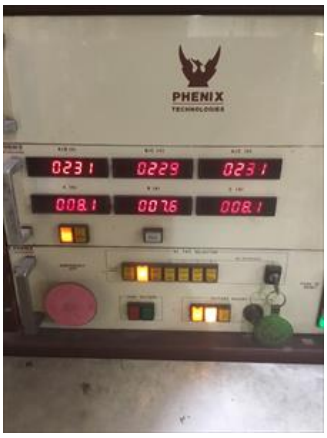
●	133. Surge Test	**(P) Pass**	
	134. Hi-Pot		

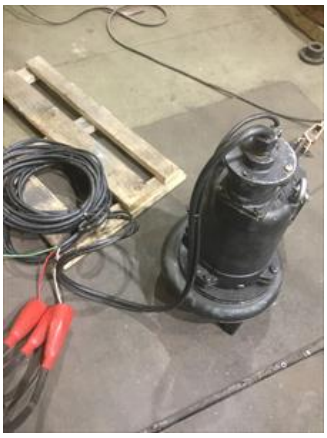
135.	Winding Resistance				
	1-2	2-3	3-1		
136.	Test Run			**(P) Pass**	P90

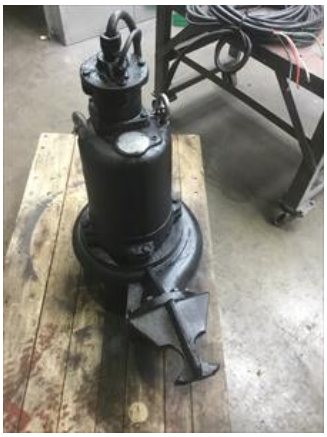


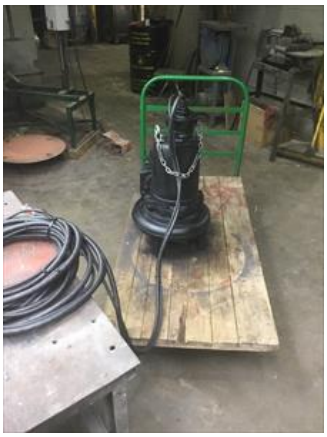


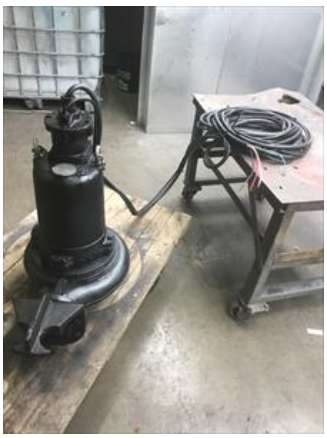
137.	Test Run Voltage				
	Phase A	Phase B	Phase C		
138.	Test Run Current				
	Phase A	Phase B	Phase C		
139.	DE Vibration Reading				
	Horizontal	Vertical	Axial		
140.	ODE Vibration Reading				
	Horizontal	Vertical	Axial		
141.	Ambient Temp at start of Test Run				
142.	Temp at 5 minutes				
143.	Temp 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			**(P) Pass**	P141











155. Service Technician **Terrence Holland**