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

AC Inspection as Found

DEWITT MUNICIPAL WATERWORKS
428 COURT SQUARE

FolderID: 104088
FormID: 23260952

AC Inspection - Rev. 2

Location:	LR MOTOR SHOP
Serial Number:	C1983937
Description:	PUMP FOR EVALUATION NO DATA

Hi-Speed Job Number:	104088
Manufacturer:	Other
Product Number:	SVG3072L
Spec/ID #:	111608
Serial Number:	C1983937
HP/kW:	3 (HP)
RPM:	3450 (RPM)
Voltage:	220-240
Current:	25.2/21.7 (Amps)
Phase:	Single
Hz:	60 (Hz)
Enclosure:	Submersible
# of Leads:	3
J-box Included:	None
Coupling/Sheave:	Propeller
Date Received:	02/04/2025
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	Yes
Shaft Machined Fit Repairs Required:	Yes
Bearing Housing Machined Fit Repairs Required:	No
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **1 - High** **8 - Good**

Overall Condition

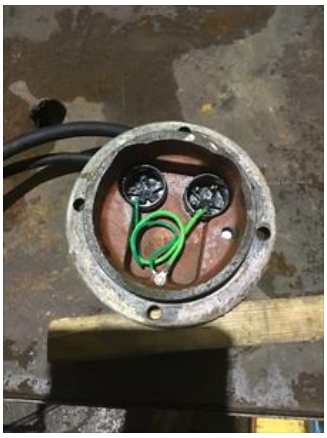
1.	Report Date	**02/04/2025**

2. Nameplate Picture P37

3. Photos of all six sides of the machine. P45

Sensor cord. 3C 14awg 30ft long

4C 10awg. 30ft long



Outer seal O.D 1.7560
Shaft diameter: 1.1255
Carbon ceramic

Inner seal OD: 1.8825
Shaft diameter: 1.2502

Outer seal surface has wear.

4.	Describe the Overall Condition of the Equipment as Received ***Leaking oil, but serviceable.***	
5.	Distance from the end of the shaft to the Coupling/Sheave	**inches**

Initial Mechanical/Electrical

6.	Does Shaft Turn Freely?	**(N) No**
7.	Does the shaft require T.I.R in Lathe to identify additional repairs?	

8.	Does Shaft Have Visible Damage?	**(No) No**	P26

9.	Assembled Shaft Runout	**Inches**	
10.	Assembled Shaft End Play	**inches**	
11.	Air Gap Variation <10%		
	A		
12.	Lead Condition	**(P) Pass**	P69

13.	Lead Length	**18.25 Inches**	
14.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**	
15.	Lead Numbers	**1,2,3**	
	Lead # Red (1) ***Lead # White (2)*** ***Lead # Black (3)***		
16.	Frame Condition		
17.	Fan Condition		
18.	Does motor have internal fan?	**(No) No**	
19.	Broken or Missing Components	**none**	

Initial Electrical Inspection

20.	Insulation Resistance/Megger	**Megohms**	P8

Stator

Power cord

Sensor cord

	21.	Winding Resistance			
		1-2	1-3	2-3	
		0	**0**	**0.9**	
●	22.	Perform Surge Test		**(NA) Not Applicable**	
	23.	Number of Stator Slots		**24**	
	24.	Stator Condition		**rewind**	
	25.	Stator Thermistors/Ohms			
	26.	Stator Overloads/Ohms			P96

Mechanical Inspection

27.	Drive End Bearing Brand	**WD**	
28.	Drive End Bearing Number-	**6207 C3**	P32

29.	Drive End Bearing Qty.	**1**	
30.	Drive End Bearing Type	**(Ball) Ball Bearing**	
31.	Drive End Lubrication Type	**(Oil) Oil Lubricated**	
32.	Drive End Bearing Insulation or Grounding Device?	**none**	
33.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**snap ring**	
34.	Drive End Bearing Condition	**replace**	
35.	Opposite Drive End Bearing Brand	**CU**	P92

36.	Opposite Drive End Bearing Number-	**6203**	P99

37.	Opposite Drive End Bearing Qty.	**1**	
38.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	
39.	Opposite Drive End Lubrication Type	**(Oil) Oil Lubricated**	
40.	Opposite Drive End Bearing Insulation or Grounding Device?		
41.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**wavy washer**	
42.	Opposite Drive End Bearing Condition	**replace**	
43.	Drive End Seal	**Outer seal**	P120

Seal O.D 1.7560
Shaft I.D 1.1255
Carbon ceramic

44.	Opposite Drive End Seal	**Inner seal**	P123

Seal O.D 1.8825
Shaft I.D 1.2502
Carbon ceramic

Rotor Inspection

45.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**
46.	Growler Test	**(Pass) Pass**
47.	Number of Rotor Bars	**34**
48.	Rotor Condition	**pass**
49.	List the Parts needed for the Repair Below	
50.	Signature of Technician that Disassembled Motor	**Terrence Holland**

Mechanical Fits- Rotor

51.	Shaft Runout	**0.002 inches**
52.	Rotor Runout	

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

53.	Coupling Fit Closest to Bearing Housing	

0 Degrees	90 Degrees	120 Degrees

54.	Coupling Fit Closest to the end of the Shaft	

0 Degrees	60 Degrees	120 Degrees

Threaded shaft

55.	Drive End Bearing Shaft Fit	

0 Degrees	60 Degrees	120 Degrees
1.3785	**1.3786**	**1.3785**

56.	Drive End Bearing Shaft Fit Condition	**(P) Pass**
57.	Opposite Drive End Bearing Shaft Fit	

0 Degrees	60 Degrees	120 Degrees
0.6692	**0.6692**	**0.6692**

58.	Opposite Drive End Bearing Shaft Fit Condition	**(P) Pass**

59. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Mechanical Fits- Bearing Housings

60. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
2.8349	**2.8351**	**2.835**

61. Drive End - Endbell Bearing Fit Condition **(P) Pass**

62. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
1.575	**1.575**	**1.5752**

63. Opposite Drive End - Endbell Bearing Fit Condition **(P) Pass**

64. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
na	**na**

65. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

66. List Machine Work Needed Below

Polish seal surface on D.E

67. Technician **Terrence Holland**

Co witness: RRW

Root Cause of Failure

68. Failure locations

Windings show open between leads 1&2, & leads 1&3. Both bearings show water contamination.

69. Root cause of failure

Seal failure allow water to saturate the stator windings.

Dynamic Balance Report

70. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

71. Initial Balance Readings

Drive End	Opposite Drive End

72. Final Balance Readings

Drive End	Opposite Drive End

73. Technician

Rewind

74. Core Test Results - Watts loss per Pound

Pre-Burnout	Post Burnout

75.	Core Hot Spot Test		
	Pre-Burnout	Post-Burnout	
76.	Post Rewind Electrical Test- Insulation Resistance		
77.	Post Rewind Polarization Index		
78.	Post Rewind Winding Resistance		
	1-2	1-3	2-3
79.	Post Rewind Surge Test		
80.	Post Rewind Hi-Pot		
81.	Technician		
Mechanical Fits- Rotor - Post Repair			
82.	Shaft Runout Post Repair		
83.	Rotor Runout Post Repair		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
84.	Coupling Fit Closest to Bearing Housing Post Repair		
	0 Degrees	90 Degrees	120 Degrees
85.	Coupling Fit Closest to the end of the Shaft Post Repair		
	0 Degrees	60 Degrees	120 Degrees
86.	Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
87.	Opposite Drive End Bearing Shaft Fit Post Repair		
	0 Degrees	60 Degrees	120 Degrees
88.	Shaft Air Seal Fits Post Repair		
	Drive End Air Seal	Opposite Drive End Air Seal	
89.	Shaft Repair Sign-off		
Assembly			
90.	QC Check All Parts for Cleanliness Prior to Assembly		
91.	Photograph All Major Components prior to assembly		
92.	Final Insulation Resistance Test		
93.	Assembled Shaft Endplay		
94.	Assembled Shaft Runout		
95.	Test Run Voltage		
	Volts	Volts	Volts
96.	Test Run Amperage		
	Amps	Amps	Amps
97.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial

98.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
99.	Ambient Temperature - Fahrenheit		
100.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
101.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
102.	Document Final Condition with Pictures after paint		
103.	Final Pics and QC Review		