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

AC Inspection as Found

Tyson Foods (10914)
1238 Market Street
Clarksville, AR 72830

FolderID: 102786
FormID: 20093834

AC Inspection - Rev. 2

Location:	MOTOR SHOP LR
Serial Number:	WS5034D3
Description:	5HP GOULDS PUMP

Hi-Speed Job Number:	102786
Manufacturer:	Other
Serial Number:	WS5034D3
HP/kW:	5 (HP)
RPM:	1725 (RPM)
Frame:	56
Voltage:	460
Current:	8.2 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1
Enclosure:	Submersible
# of Leads:	9
J-box Included:	None
Coupling/Sheave:	None
Date Received:	04/12/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	Yes
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	No
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **2 - High** **7 - Good**

Overall Condition

1.	Report Date	**04/29/2024**

2. Nameplate Picture P37

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

	4.	Describe the Overall Condition of the Equipment as Received ***Serviceable***	

Initial Mechanical/Electrical

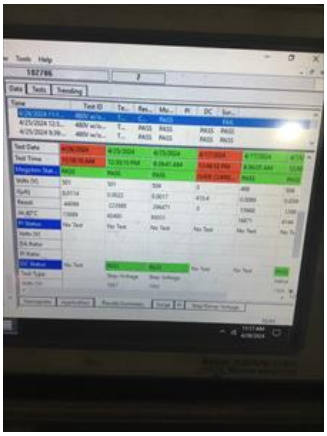
🔴	5.	Does Shaft Turn Freely?	**(N) No**	
🟢	6.	Does the shaft require T.I.R in Lathe to identify additional repairs?	**(No) No**	
	7.	Does Shaft Have Visible Damage?	**(No) No**	
	8.	Assembled Shaft Runout ***Na***	**Inches**	
	9.	Assembled Shaft End Play ***Na***	**inches**	
	10.	Air Gap Variation <10% ***Na***		
🟢	11.	Lead Condition	**(P) Pass**	P69

	12.	Lead Length	**11 Inches**
🟢	13.	Does it have Lugs?, If so what is the Stud Size?	**(No) No**
	14.	Lead Numbers ***Connection is 1)wht, 2)blk 3)red 4-7, 5-8, 6-9***	**1-9**
	15.	Frame Condition ***Serviceable***	
	16.	Fan Condition	**(N) NA**

17.	Broken or Missing Components	**ODE wavy washer broken**	P122

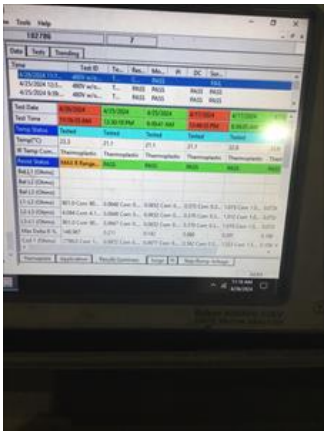
Initial Electrical Inspection

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

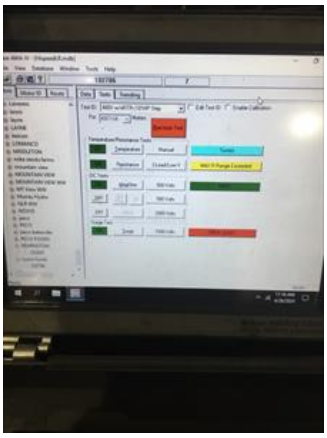


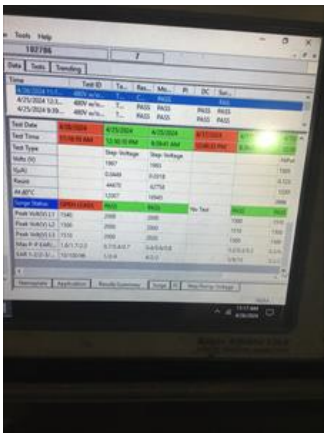
19.	Winding Resistance		P20

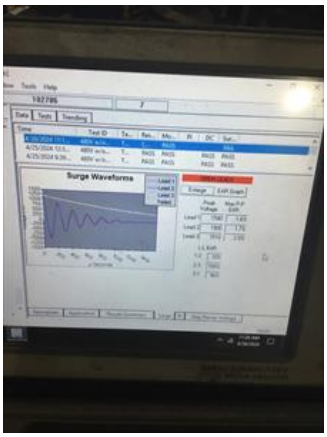
1-2	1-3	2-3



20.	Perform Surge Test	**(F) Fail**	P57







21.	Number of Stator Slots	**36**	
22.	Stator Condition		P84

Stator iron core damaged from rotor contact.

23.	Stator Thermistors/Ohms		

Na

24.	Stator Overloads/Ohms		

Na

Mechanical Inspection

25.	Drive End Bearing Brand	**NSK**	

26.	Drive End Bearing Number-	**6206Z**	P32

27.	Drive End Bearing Qty.	**1**
28.	Drive End Bearing Type	**(Ball) Ball Bearing**
29.	Drive End Lubrication Type	**(Oil) Oil Lubricated**
30.	Drive End Bearing Insulation or Grounding Device?	**none**
31.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**Na**
32.	Drive End Bearing Condition	**replace**
33.	Opposite Drive End Bearing Brand	**C&U**
34.	Opposite Drive End Bearing Number-	**6204** P99

35.	Opposite Drive End Bearing Qty.	**1**
36.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**
37.	Opposite Drive End Lubrication Type	**(Oil) Oil Lubricated**
38.	Opposite Drive End Bearing Insulation or Grounding Device?	**none**
39.	Opposite Drive End Wavy Washer/Snap-Ring Other Retention Device?	**wavy washer**
40.	Opposite Drive End Bearing Condition	**replace**
41.	Drive End Seal	**carbon ceramic**
42.	Opposite Drive End Seal	**carbon ceramic**

Rotor Inspection

43.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**

44.	Growler Test	**(Pass) Pass**
45.	Number of Rotor Bars	**48**
46.	Rotor Condition	**passed growl test**
	Shaft bent 1.000	
47.	List the Parts needed for the Repair Below	
	Bearings, seals, shaft bent. Shaft seal surface needs repair. 6206/6204	
48.	Signature of Technician that Disassembled Motor	**Terrence Holland**

	Witness:

Mechanical Fits- Rotor

49.	Shaft Runout	**1 inches**
50.	Rotor Runout	

Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing

Na

51.	Coupling Fit Closest to Bearing Housing

0 Degrees	90 Degrees	120 Degrees

Na

52.	Coupling Fit Closest to the end of the Shaft

0 Degrees	60 Degrees	120 Degrees

Na

53.	Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
1.1813	**1.1812**	**1.1812**

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

55. Opposite Drive End Bearing Shaft Fit

0 Degrees	60 Degrees	120 Degrees
0.7876	**0.7875**	**0.7876**

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

57. Shaft Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Na

Mechanical Fits- Bearing Housings

58. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
2.4414	**2.4416**	**2.4415**

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

60. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
1.8508	**1.8508**	**1.1507**

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

62. Bearing Cap Condition

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

63. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal

Na

64. List Machine Work Needed Below

Shaft bent, and seal surface requires repair.

65. Technician **Terrence Holland**

Root Cause of Failure

66. Failure locations

Stator core laminates out of alignment from rotor drop. Rewind required. Rotor shaft bent. Replace seals and O-rings.

67. Root cause of failure

Outer seal seat was cracked, allowing water to penetrate into the stator. Also the ode wavy washer was broken, and missing pieces found their way into the windings. Additionally the rotor dropped onto the stator core causing the iron to become misaligned.

Dynamic Balance Report

68. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

69. Initial Balance Readings

Drive End	Opposite Drive End

70. Final Balance Readings

Drive End	Opposite Drive End

71. Technician

Rewind

72. Core Test Results - Watts loss per Pound

Pre-Burnout	Post Burnout

73. Core Hot Spot Test

Pre-Burnout	Post-Burnout

74. Post Rewind Electrical Test- Insulation Resistance

75. Post Rewind Polarization Index

76. Post Rewind Winding Resistance

1-2	1-3	2-3

77. Post Rewind Surge Test

78. Post Rewind Hi-Pot

79. Technician

Assembly

80. QC Check All Parts for Cleanliness Prior to Assembly

81. Photograph All Major Components prior to assembly

82. Final Insulation Resistance Test

83. Assembled Shaft Endplay

84. Assembled Shaft Runout

85.	Test Run Voltage		
	Volts	Volts	Volts
86.	Test Run Amperage		
	Amps	Amps	Amps
87.	Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
88.	Opposite Drive End Vibration Readings - Inches Per Second		
	Horizontal	Vertical	Axial
89.	Ambient Temperature - Fahrenheit		
90.	Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
91.	Opposite Drive End Bearing Temps - Fahrenheit		
	5 Minutes	10 Minutes	15 Minutes
92.	Document Final Condition with Pictures after paint		
93.	Final Pics and QC Review		