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

AC Inspection as Found

Arkansas Lime Company
600 Limedale Rd
Batesville, AR 72501

FolderID: 102804
FormID: 20117471

AC Inspection - Rev. 2

Location:	LITTLE ROCK MOTOR SHOP
Serial Number:	AF943097
Description:	150 HP BALDOR 1780 RPM

Hi-Speed Job Number:	102804
Manufacturer:	Baldor
Product Number:	SPEC: 18P030Z176H2
Spec/ID #:	AF943097
Serial Number:	AF943097
HP/kW:	150 (HP)
RPM:	1780 (RPM)
Frame:	445TS
Voltage:	460
Current:	167 (Amps)
Phase:	Three
Hz:	60 (Hz)
Service Factor:	1.00
Enclosure:	TEFC
# of Leads:	3
J-box Included:	Complete
Coupling/Sheave:	None
Date Received:	05/02/2024
Bearing RTDs:	No
Stator RTDs:	No
Repair Stage:	Final
Rewind:	Yes
Shaft Machined Fit Repairs Required:	No
Bearing Housing Machined Fit Repairs Required:	Yes
Heaters:	No
Winding Type :	Random Wound
Bearing Type:	Rolling Element

Priorities Found: **3 - High** **7 - Good**

Overall Condition

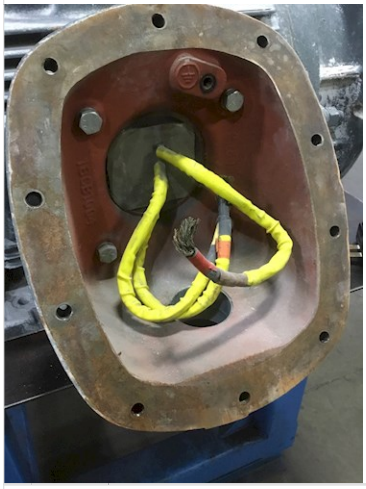
1.	Report Date	**05/02/2024**

2. Nameplate Picture P37

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

	4.	Describe the Overall Condition of the Equipment as Received ***Stator windings are blown and requires rewind. Opposite drive end needs bushing installed.***	
Initial Mechanical/Electrical			
🟢	5.	Does Shaft Turn Freely?	**(Y) Yes**
🟢	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	**0.0015 Inches**
	9.	Assembled Shaft End Play	**0.001 inches**
	10.	Air Gap Variation <10%	**No Provisions for measurement**

	11. Lead Condition		P69



	12. Lead Length	**18 Inches**	
●	13. Does it have Lugs?, If so what is the Stud Size?	**(No) No**	
	14. Lead Numbers	**1-3**	
	15. Frame Condition	**Pass**	
●	16. Fan Condition	**(P) Pass**	P115

	17. Broken or Missing Components	**Yes**	P122

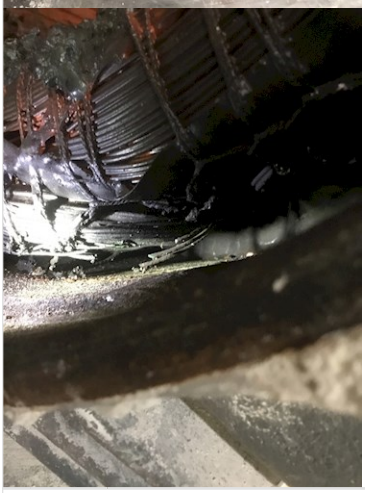
Fan shroud bolts.

ODE grease fitting not lined up.

Initial Electrical Inspection

	18. Insulation Resistance/Megger	**0 Megohms**	

	19.	Winding Resistance			
		1-2	1-3	2-3	
		0	**0**	**0**	
●	20.	Perform Surge Test		**(F) Fail**	
	21.	Number of Stator Slots		**60**	
	22.	Stator Condition		**Requires rewind**	P84



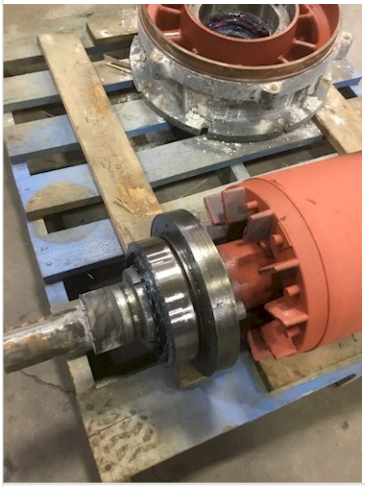
	23.	Stator Thermistors/Ohms	**N/A**	
	24.	Stator Overloads/Ohms	**N/A**	

Mechanical Inspection

	25.	Drive End Bearing Brand	**FAG**	P12

	26.	Drive End Bearing Number-	**6319 C3**	

27.	Drive End Bearing Qty.	**1**	
28.	Drive End Bearing Type	**(Ball) Ball Bearing**	
29.	Drive End Lubrication Type	**(Grease) Grease Lubricated**	
30.	Drive End Bearing Insulation or Grounding Device?	**None**	
31.	Drive End Wavy Washer/Snap-Ring Other Retention Device?	**Lock Nut**	P77



32.	Drive End Bearing Condition	**Normal wear**	P82

33.	Opposite Drive End Bearing Brand	**FAG**	P92

34.	Opposite Drive End Bearing Number-	**6324 C3**	
35.	Opposite Drive End Bearing Qty.	**1**	
36.	Opposite Drive End Bearing Type	**(Ball) Ball Bearing**	
37.	Opposite Drive End Lubrication Type	**(Grease) Grease 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	**Normal wear**	P118

41.	Drive End Seal	**None**	
42.	Opposite Drive End Seal	**None**	

Rotor Inspection

43.	Rotor Type/Material	**(Squirrel Aluminum) Squirrel Cage Aluminum Die Cast**	
44.	Growler Test	**(Pass) Pass**	
45.	Number of Rotor Bars	**46**	
46.	Rotor Condition	**Pass**	P41

47. List the Parts needed for the Repair Below

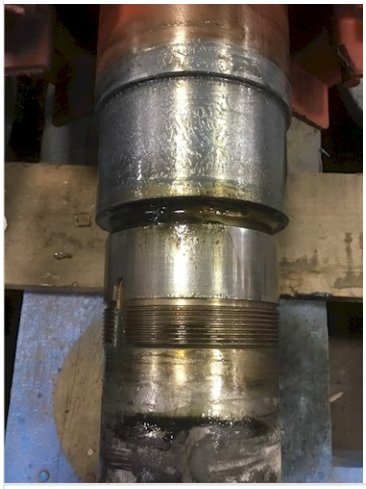
Rewind
6319 C3
6315 C3

48. Signature of Technician that Disassembled Motor — **Brandon Woodard**

Mechanical Fits- Rotor

49.	Shaft Runout	**0.001 inches**

50.	Rotor Runout		
	Drive End Bearing Fit	Rotor Body	Opposite Drive End Bearing
	0.002	**0.002**	**0.002**
51.	Coupling Fit Closest to Bearing Housing		
	0 Degrees	90 Degrees	120 Degrees
	2.375	**2.375**	**2.375**
52.	Coupling Fit Closest to the end of the Shaft		
	0 Degrees	60 Degrees	120 Degrees
	2.375	**2.375**	**2.375**
53.	Drive End Bearing Shaft Fit		P79
	0 Degrees	60 Degrees	120 Degrees
	3.7408	**3.7408**	**3.7408**
	Tolerance is 3.7403-3.7409		



54.	Drive End Bearing Shaft Fit Condition	**(P) Pass**
55.	Opposite Drive End Bearing Shaft Fit	P89
	0 Degrees	60 Degrees	120 Degrees
	2.7562	**2.7562**	**2.7562**
	Tolerance is 2.7560-2.7565		

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

Mechanical Fits- Bearing Housings

58. Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
7.8743	**7.8743**	**7.8743**

Tolerance is 7.8740-7.8751

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

60. Opposite Drive End - Endbell Bearing Fit

0 Degrees	60 Degrees	120 Degrees
5.9079	**5.9078**	**5.908**

Tolerance is 5.9055-5.9065. Bearing spun and us oversized. Requires bore and bushing installed.

61. Opposite Drive End - Endbell Bearing Fit Condition **(F) Fail**

62. Bearing Cap Condition

Drive End Bearing Cap	Opposite Drive End Bearing Cap
Pass	**Pass**

63. End Bell Air Seal Fits

Drive End Air Seal	Opposite Drive End Air Seal
Pass	**Pass**

64. List Machine Work Needed Below

Bore and bush opposite drive end end bell

65. Technician **Brandon Woodard**

Root Cause of Failure

66. Failure locations

67. Root cause of failure

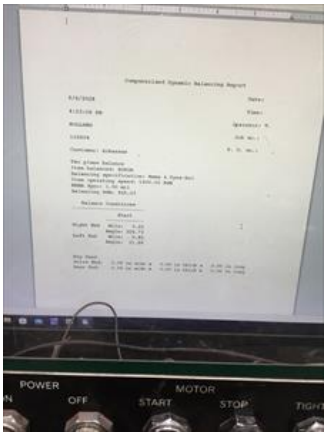
Dynamic Balance Report

68. Rotor Weight and Balance Grade

Rotor Weight	Balance Grade

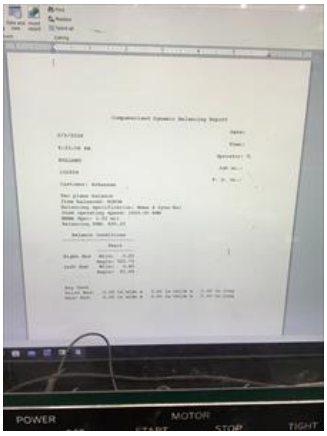
69. Initial Balance Readings P100

Drive End	Opposite Drive End



70. Final Balance Readings P200

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

Mechanical Fits- Bearing Housings - Post Repair

80. Drive End - Endbell Bearing Fit Post Repair

0 Degrees	60 Degrees	120 Degrees

81. Opposite Drive End - Endbell Bearing Fit Post Repair P100

0 Degrees	60 Degrees	120 Degrees
5.906	**5.906**	**5.9059**

82. Bearing Cap Condition Post Repair

Drive End Bearing Cap	Opposite Drive End Bearing Cap

83. End Bell Air Seal Fits Post Repair

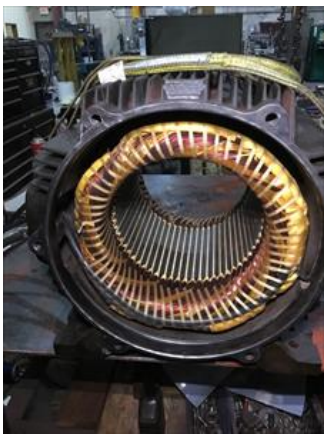
Drive End Air Seal	Opposite Drive End Air Seal

84. End Bell Repair Sign-off **Gary**

Assembly

85. QC Check All Parts for Cleanliness Prior to Assembly **Terrence Holland**

86. Photograph All Major Components prior to assembly P100



87.	Final Insulation Resistance Test			
88.	Assembled Shaft Endplay			
89.	Assembled Shaft Runout			
90.	Test Run Voltage			P500
	Volts	Volts	Volts	

91.	Test Run Amperage			
	Amps	Amps	Amps	
92.	Drive End Vibration Readings - Inches Per Second			
	Horizontal	Vertical	Axial	
	0.03	**0.02**	**0.02**	
93.	Opposite Drive End Vibration Readings - Inches Per Second			
	Horizontal	Vertical	Axial	
	0.04	**0.01**	**0.04**	
94.	Ambient Temperature - Fahrenheit			
95.	Drive End Bearing Temps - Fahrenheit			
	5 Minutes	10 Minutes	15 Minutes	
96.	Opposite Drive End Bearing Temps - Fahrenheit			
	5 Minutes	10 Minutes	15 Minutes	
97.	Document Final Condition with Pictures after paint			P2300

Witness: RW