



QualiTest® Diagnostics

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July 6, 2021

General Recycling

Subject: June vibration survey

Most of the machines surveyed were found to be in good condition with the exception of the following:

QualiTest® uses a four-step rating system for defects.

Class I: Defect is present, but effect on reliability is not clear; no immediate action is required. Continue to normally monitor.

Class II: Defect (s) present that may cause problem in long term (2-6 months). Repair during normal maintenance scheduling. Continue to monitor.

Class III: Defect (s) present that may cause failure in short term (less than 2 months). This should be addressed as soon as practical, with a high maintenance priority. Increase monitoring frequency.

Class IV: Defect (s) present that makes continued reliability unpredictable, and possibility of secondary damage is high. Repairs should be made ASAP. An unscheduled shutdown should be considered for repairs

Hi-Speed Industrial Service tests and inspects industrial machinery and equipment and makes recommendations concerning maintenance and repairs based on its experience in the field of industrial repair and maintenance. The information contained herein is provided as an opinion only, not as a guaranty or warranty of the matters discussed herein.

As always, it has been a pleasure to serve General Recycling. If there are any comments or questions, do not hesitate to contact us.

Sincerely,

ISO Certified Vibration Analyst, Category III



QualiTest® Diagnostics

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Defects

Shredder Motor

Motor had higher than normal vibration this survey. Data shows rpm harmonics with a high 4 x rpm vibration. This could be caused by issue with the rotor assembly having imbalance which is causing the driveshaft to shake. Unit needs to be inspected soon. Rated as a **CLASS II** defect.

Conveyor 11

This unit continues to have high radial and axial vibration that is likely due to the conveyor drum shaft being bent and the motor base being flexible. Inspect conveyor shaft for excessive run-out soon. Ensure belts and sheaves are aligned properly and not excessively worn. Rated as a **CLASS II** defect.

Cyclone Fan

Outboard (opposite drive end) fan bearing is showing some signs of race defects according to the spectral data. We will continue to monitor this closely. Rated as a **CLASS II** defect for now.

Abbreviated Last Measurement Summary

Database: nucorja9.rbm

Station: Scrap Yard

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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SHREDDER - SHREDDER	(30-Jun-21)	
	OVERALL LEVEL	1K-20KHz
MOH	.408 In/Sec	.106 G-s
MOV	.117 In/Sec	.110 G-s
MIV	.164 In/Sec	.162 G-s
MIH	.315 In/Sec	.058 G-s
MIA	.138 In/Sec	.070 G-s
CYCLONE - CYCLONE	(30-Jun-21)	
	OVERALL LEVEL	1K-20KHz
MOH	.177 In/Sec	.999 G-s
MIH	.154 In/Sec	.681 G-s
MIA	.158 In/Sec	.530 G-s
EIH	.206 In/Sec	.214 G-s
EOH	.200 In/Sec	.214 G-s
M3 - MAG DRUM	(30-Jun-21)	
	OVERALL LEVEL	1K-20KHz
MOH	.128 In/Sec	.099 G-s
MIH	.088 In/Sec	.116 G-s
MIA	.075 In/Sec	.051 G-s
GIH	.096 In/Sec	.053 G-s
GOH	.075 In/Sec	.089 G-s
IDB	.081 In/Sec	.0070 G-s
ODB	.056 In/Sec	.0026 G-s
NUMBER 11 - NUMBER 11	(30-Jun-21)	
	OVERALL LEVEL	1K-20KHz
MOH	.689 In/Sec	.292 G-s
MIH	.812 In/Sec	.268 G-s
MIA	.631 In/Sec	.246 G-s
EIH	.503 In/Sec	1.013 G-s
EIA	.400 In/Sec	1.181 G-s
EOH	.273 In/Sec	.114 G-s

SAIRCOMP - NEW SEPARATOR SOUTH AIR COMP (30-Jun-21)

	OVERALL LEVEL	1K-20KHz
MOH	.101 In/Sec	.105 G-s
MIH	.087 In/Sec	.419 G-s
MIA	.115 In/Sec	2.013 G-s
EIH	.054 In/Sec	.663 G-s
EOH	.079 In/Sec	.385 G-s

NAIRCOMP - NEW SEPARATOR NORTH AIR COMP (30-Jun-21)

	OVERALL LEVEL	1K-20KHz
MOH	.077 In/Sec	.057 G-s
MIH	.106 In/Sec	.805 G-s
MIA	.109 In/Sec	.758 G-s
EIH	.068 In/Sec	.562 G-s
EOH	.113 In/Sec	.583 G-s

Clarification Of Vibration Units:

Acc	-->	G-s	RMS
Vel	-->	In/Sec	PK