



**QualiTest® Diagnostics**

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July 26, 2021

General Recycling

Subject: July vibration survey

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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 vibration has increased in amplitude again this month. 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. Driveshaft may also have wear. 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 shows 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

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Database: nucorja9.rbm  
Station: Scrap Yard  
Route No. 1: SCRAP YARD

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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SHREDDER - SHREDDER	(23-Jul-21)	
	OVERALL LEVEL	1K-20KHz
MOH	.433 In/Sec	.048 G-s
MOV	.193 In/Sec	.055 G-s
MIV	.249 In/Sec	.079 G-s
MIH	.415 In/Sec	.092 G-s
MIA	.158 In/Sec	.085 G-s
CYCLONE - CYCLONE	(23-Jul-21)	
	OVERALL LEVEL	1K-20KHz
MOH	.140 In/Sec	1.031 G-s
MIH	.150 In/Sec	.159 G-s
MIA	.140 In/Sec	.114 G-s
EIH	.249 In/Sec	.157 G-s
EOH	.267 In/Sec	.122 G-s
M3 - MAG DRUM	(23-Jul-21)	
	OVERALL LEVEL	1K-20KHz
MOH	.124 In/Sec	.072 G-s
MIH	.087 In/Sec	.074 G-s
MIA	.087 In/Sec	.090 G-s
GIH	.077 In/Sec	.056 G-s
GOH	.088 In/Sec	.105 G-s
IDB	.043 In/Sec	.0067 G-s
ODB	.061 In/Sec	.0016 G-s
NUMBER 11 - NUMBER 11	(23-Jul-21)	
	OVERALL LEVEL	1K-20KHz
MOH	.748 In/Sec	.321 G-s
MIH	.880 In/Sec	.270 G-s
MIA	.735 In/Sec	.166 G-s

EIH	.511 In/Sec	.860 G-s
EIA	.337 In/Sec	1.006 G-s
EOH	.285 In/Sec	.103 G-s

SAIRCOMP - NEW SEPARATOR SOUTH AIR COMP (23-Jul-21)

	OVERALL LEVEL	1K-20KHz
MOH	.179 In/Sec	.024 G-s
MIH	.060 In/Sec	.511 G-s
MIA	.057 In/Sec	.919 G-s
EIH	.078 In/Sec	.548 G-s
EIA	.065 In/Sec	.619 G-s
EOH	.059 In/Sec	.340 G-s

NAIRCOMP - NEW SEPARATOR NORTH AIR COMP (23-Jul-21)

	OVERALL LEVEL	1K-20KHz
MOH	.148 In/Sec	.229 G-s
MIH	.122 In/Sec	.372 G-s
MIA	.108 In/Sec	.994 G-s
EIH	.141 In/Sec	.588 G-s
EIA	.096 In/Sec	.839 G-s
EOH	.099 In/Sec	.488 G-s

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Clarification Of Vibration Units:

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