



QualiTest® Diagnostics

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December 22, 2021

General Recycling

Subject: December 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

Shedder Motor

Motor data shows an elevated 4 x rpm vibration in the motor horizontal direction. Drive shaft also had visible deflection during the survey which is the cause of the high 4 x rpm vibration. This is likely due to an issue with the shedding rotor assembly. Inspect rotor assembly as time allows.

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 still shows signs of race defects according to the spectral data. We will continue to monitor this closely. Rated as a **CLASS I** defect for now.

Abbreviated Last Measurement Summary

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

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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SHREDDER - SHREDDER (21-Dec-21)		
	OVERALL LEVEL	1K-20KHz
MOH	.319 In/Sec	.121 G-s
MOV	.127 In/Sec	.125 G-s
MIV	.124 In/Sec	.128 G-s
MIH	.397 In/Sec	.164 G-s
MIA	.096 In/Sec	.102 G-s
CYCLONE - CYCLONE (21-Dec-21)		
	OVERALL LEVEL	1K-20KHz
MOH	.144 In/Sec	.527 G-s
MIH	.134 In/Sec	.136 G-s
MIA	.158 In/Sec	.389 G-s
EIH	.215 In/Sec	.319 G-s
EOH	.220 In/Sec	.394 G-s
M3 - MAG DRUM (21-Dec-21)		
	OVERALL LEVEL	1K-20KHz
MOH	.082 In/Sec	.163 G-s
MIH	.077 In/Sec	.170 G-s
MIA	.054 In/Sec	.017 G-s
GIH	.068 In/Sec	.067 G-s
GOH	.080 In/Sec	.053 G-s
IDB	.043 In/Sec	.0073 G-s
ODB	.060 In/Sec	.0026 G-s
NUMBER 11 - NUMBER 11 (21-Dec-21)		
	OVERALL LEVEL	1K-20KHz
MOH	.597 In/Sec	.319 G-s
MIH	.767 In/Sec	.310 G-s

MIA	.460 In/Sec	.133 G-s
EIH	.466 In/Sec	.868 G-s
EIA	.408 In/Sec	1.188 G-s
EOH	.242 In/Sec	.087 G-s

NAIRCOMP - NEW SEPARATOR NORTH AIR COMP (21-Dec-21)

	OVERALL LEVEL	1K-20KHz
MOH	.102 In/Sec	.060 G-s
MIH	.122 In/Sec	.775 G-s
MIA	.102 In/Sec	1.083 G-s
EIH	.101 In/Sec	.511 G-s
EIA	.099 In/Sec	.733 G-s
EOH	.106 In/Sec	.651 G-s

Clarification Of Vibration Units:

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