



**QualiTest® Diagnostics**

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February 28, 2021

General Recycling

Subject: February 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.

## Defects

### 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.

### Mag Drum

This unit has much lower vibration this survey and chain does not appear to be jerking the gear drive. There is still a broken foot on the gear drive. Replace gear drive as time allows. Rated as a **CLASS II** defect.

### Cyclone Fan

Outboard (opposite drive end) fan bearing is starting to show 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

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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SHREDDER - SHREDDER	(25-Feb-21)	
	OVERALL LEVEL	1K-20KHz
MOH	.181 In/Sec	.057 G-s
MOV	.118 In/Sec	.082 G-s
MIV	.111 In/Sec	.147 G-s
MIH	.178 In/Sec	.222 G-s
MIA	.091 In/Sec	.325 G-s
CYCLONE - CYCLONE	(25-Feb-21)	
	OVERALL LEVEL	1K-20KHz
MOH	.114 In/Sec	.376 G-s
MIH	.141 In/Sec	.071 G-s
MIA	.113 In/Sec	.095 G-s
EIH	.156 In/Sec	.230 G-s
EOH	.155 In/Sec	.502 G-s
M3 - MAG DRUM	(25-Feb-21)	
	OVERALL LEVEL	1K-20KHz
MOH	.103 In/Sec	.106 G-s
MIH	.077 In/Sec	.174 G-s
MIA	.066 In/Sec	.041 G-s
GIH	.077 In/Sec	.059 G-s
GOH	.064 In/Sec	.070 G-s
IDB	.054 In/Sec	.0056 G-s
ODB	.046 In/Sec	.0018 G-s
NUMBER 11 - NUMBER 11	(25-Feb-21)	
	OVERALL LEVEL	1K-20KHz
MOH	.651 In/Sec	.350 G-s
MIH	.722 In/Sec	.428 G-s
MIA	.562 In/Sec	.224 G-s
EIH	.430 In/Sec	.832 G-s
EIA	.316 In/Sec	.105 G-s
EOH	.208 In/Sec	.127 G-s

SAIRCOMP - NEW SEPARATOR SOUTH AIR COMP (25-Feb-21)

	OVERALL LEVEL	1K-20KHz
MOH	.086 In/Sec	.561 G-s
MIH	.134 In/Sec	.755 G-s
MIA	.084 In/Sec	1.753 G-s
EIH	.099 In/Sec	.811 G-s
EIA	.118 In/Sec	1.327 G-s
EOH	.075 In/Sec	1.267 G-s

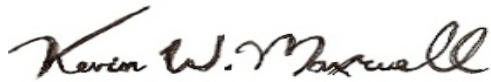
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Clarification Of Vibration Units:

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

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



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