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October 23, 2023

Nathan Allen North Shelby Plant Millington, TN

Nathan,

The following is a summary of findings from the October 2023 monthly vibration survey at the North Shelby site.

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

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

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

<u>Class III:</u> 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.

<u>Class IV</u>; 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 quaranty or warranty of the matters discussed herein.

Defects

101-B Feed Compressor

Equipment was not in service during this survey; however, the following still applies: Compressor data shows some high frequency acceleration amplitude with noise floor. Peaks in spectral data suggest possible wear of internal compressor components. We are watching this closely. Rated as a **CLASS I** defect.

506 B Product Compressor

Motor data shows defects are present in motor bearings. Motor will need to be swapped out as soon as practical. Rated as a **CLASS III** defect.

Abbreviated Last Measurement Summary

Database: Clean Energy.rbm
Area: millington plant
Route No. 1: CLEAN ENERGY

MEASUREMENT POINT		HFD / VHFD
301 FLARE - 301 FLARE BLOWE	R (20	0-0ct-23)
	OVERALL LEVEL	1K-20KHz
MOH	.112 In/Sec	.959 G-s
MOV	.233 In/Sec	.169 G-s
MIH	.146 In/Sec	.775 G-s
MIV	.128 In/Sec	.148 G-s
MIA	.101 In/Sec .271 In/Sec	.325 G-s
EIH	.271 In/Sec	.269 G-s
EIV	.073 In/Sec	.205 G-s
EIA	.036 In/Sec	.101 G-s
EOH	.194 In/Sec	.253 G-s
EOV	.045 In/Sec	.081 G-s
RINSE COMP - RINSE COMPRESSO	R (20	0-0ct-23)
	OVERALL LEVEL	1K-20KHz
мон	.104 In/Sec	3.379 G-s
MIH	.108 In/Sec	2.924 G-s
MIA	.110 In/Sec	485 G-s
IIH	.101 In/Sec	
IIA	.081 In/Sec .113 In/Sec	.519 G-s
IOH	.113 In/Sec	.678 G-s
OIH	.069 In/Sec	.571 G-s
OIA	.069 In/Sec .103 In/Sec .133 In/Sec	.132 G-s
ООН	.133 In/Sec	.541 G-s
VAC COMP - VACUUM COMPRESS	OR (20	0-0ct-23)
	OVERALL LEVEL	1K-20KHz
мон	.079 In/Sec	1.596 G-s
MIH	.115 In/Sec	1.960 G-s
MIA	.091 In/Sec	.129 G-s
IIH	.062 In/Sec .064 In/Sec	1.226 G-s
IIA	.064 In/Sec	.145 G-S
IOH	.111 In/Sec	1.179 G-s
OIH	.100 In/Sec	1.119 G-s
OIA	.069 In/Sec	.161 G-s
ООН	.092 In/Sec	.960 G-s
COOLFAN1 - COOLING FAN 1	(20	0-0ct-23)
	OVERALL LEVEL	•
MOH	.024 In/Sec	.473 G-s
VOM	.068 In/Sec	
MIH	.013 In/Sec	.511 G-s

MIV	066 Tp/Soc	130 C-s
MIA	015 In/Sec	.130 G-s .071 G-s
MIA	.015 111/560	.071 G S
101A COMP - 101A FEED COMPF	RESSOR (20-0ct-23)
	OVERALL LEVEL	1K-20KHz
MOH	.036 In/Sec	.367 G-s
MIH	.085 In/Sec .048 In/Sec .199 In/Sec	.313 G-s
MIA	.048 In/Sec	.399 G-s
IIH	.199 In/Sec	1.022 G-s
IIA	.263 In/Sec .162 In/Sec .188 In/Sec	.922 G-s
IOH	.162 In/Sec	1.129 G-s
OIH	.188 In/Sec	.796 G-s
OIA OOH	.131 In/Sec .099 In/Sec	2.483 G-S
OOH	.099 III/Sec	1.059 G-S
HX132A FAN - HX132A GAS OIL	COOLER FAN (20-0ct-23)
EIH	OVERALL LEVEL .053 In/Sec	
EOH	.099 In/Sec	.053 G-s
451A PUMP - 451A VACCUM PUM	•	20-0ct-23)
	OVERALL LEVEL	
МОН	.067 In/Sec	.753 G-s
MOV	.083 In/Sec .089 In/Sec	.393 G-s
MIH	.089 In/Sec	.325 G-s
MIV	.119 In/Sec	.501 G-s
MIA EIH	.052 In/Sec .199 In/Sec	.153 G-s .343 G-s
EIV	.112 In/Sec	100 C-s
EIA		
EOH	.113 In/Sec .130 In/Sec	.610 G-s
EOV	.130 In/Sec .156 In/Sec	.087 G-s
	·	
HX453A FAN - HX453A VAC PUME	OIL COOL FAN (20-0ct-23)
	OVERALL LEVEL	1K-20KHz
МОН	OVERALL LEVEL .193 In/Sec	1K-20KHz .118 G-s
	OVERALL LEVEL .193 In/Sec	1K-20KHz
MOH MIH	OVERALL LEVEL .193 In/Sec .125 In/Sec	1K-20KHz .118 G-s .064 G-s
МОН	OVERALL LEVEL .193 In/Sec .125 In/Sec	1K-20KHz .118 G-s .064 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz
MOH MIH	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .038 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .038 In/Sec .194 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .038 In/Sec .194 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .038 In/Sec .194 In/Sec .119 In/Sec .132 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .137 G-s .150 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA EOH	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .076 In/Sec .194 In/Sec .119 In/Sec .119 In/Sec .132 In/Sec .198 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .137 G-s .150 G-s .593 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .038 In/Sec .194 In/Sec .119 In/Sec .132 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .137 G-s .150 G-s .593 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA EOH EOV	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .038 In/Sec .194 In/Sec .119 In/Sec .119 In/Sec .132 In/Sec .198 In/Sec .231 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .137 G-s .150 G-s .593 G-s .198 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA EOH	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .076 In/Sec .194 In/Sec .194 In/Sec .119 In/Sec .119 In/Sec .132 In/Sec .198 In/Sec .231 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .137 G-s .150 G-s .593 G-s .198 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA EOH EOV HX453B FAN - HX453B VAC PUME	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .076 In/Sec .194 In/Sec .194 In/Sec .119 In/Sec .119 In/Sec .132 In/Sec .231 In/Sec OOLL COOL FAN (OVERALL LEVEL	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .137 G-s .150 G-s .593 G-s .198 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA EOH EOV	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .076 In/Sec .194 In/Sec .194 In/Sec .119 In/Sec .119 In/Sec .132 In/Sec .231 In/Sec OOLL COOL FAN (OVERALL LEVEL	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .137 G-s .150 G-s .593 G-s .198 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA EOH EOV HX453B FAN - HX453B VAC PUME MOH	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .076 In/Sec .194 In/Sec .194 In/Sec .119 In/Sec .119 In/Sec .132 In/Sec .231 In/Sec OOLL COOL FAN (OVERALL LEVEL	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .137 G-s .150 G-s .593 G-s .198 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA EOH EOV HX453B FAN - HX453B VAC PUME MOH	OVERALL LEVEL .193 In/Sec .125 In/Sec .125 In/Sec OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .076 In/Sec .194 In/Sec .194 In/Sec .119 In/Sec .119 In/Sec .132 In/Sec .132 In/Sec .231 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .137 G-s .150 G-s .593 G-s .198 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA EOH EOV HX453B FAN - HX453B VAC PUME MOH MIH	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .038 In/Sec .194 In/Sec .194 In/Sec .119 In/Sec .119 In/Sec .132 In/Sec .132 In/Sec .198 In/Sec .231 In/Sec .231 In/Sec .105 In/Sec .105 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .137 G-s .150 G-s .593 G-s .198 G-s 20-Oct-23) 1K-20KHz .186 G-s .127 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA EOH EOV HX453B FAN - HX453B VAC PUME MOH MIH 451C PUMP - 451C VACCUM PUM MOH MOH MOH	OVERALL LEVEL .193 In/Sec .125 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .038 In/Sec .194 In/Sec .194 In/Sec .194 In/Sec .119 In/Sec .132 In/Sec .198 In/Sec .231 In/Sec .145 In/Sec .105 In/Sec .105 In/Sec .105 In/Sec .111 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .137 G-s .150 G-s .593 G-s .198 G-s 20-Oct-23) 1K-20KHz .186 G-s .127 G-s 20-Oct-23) 1K-20KHz .316 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA EOH EOV HX453B FAN - HX453B VAC PUMB MOH MIH 451C PUMP - 451C VACCUM PUM MOH MOV	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .076 In/Sec .038 In/Sec .194 In/Sec .194 In/Sec .119 In/Sec .119 In/Sec .132 In/Sec .198 In/Sec .231 In/Sec .231 In/Sec .145 In/Sec .105 In/Sec IP (OVERALL LEVEL .111 In/Sec .106 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .137 G-s .150 G-s .593 G-s .198 G-s 20-Oct-23) 1K-20KHz .186 G-s .127 G-s 20-Oct-23) 1K-20KHz .316 G-s .082 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA EOH EOV HX453B FAN - HX453B VAC PUMB MOH MIH 451C PUMP - 451C VACCUM PUM MOH MOV MIH	OVERALL LEVEL .193 In/Sec .125 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .076 In/Sec .194 In/Sec .194 In/Sec .194 In/Sec .198 In/Sec .198 In/Sec .231 In/Sec .231 In/Sec .105 In/Sec .105 In/Sec .105 In/Sec .106 In/Sec .127 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .137 G-s .150 G-s .593 G-s .198 G-s 20-Oct-23) 1K-20KHz .186 G-s .127 G-s 20-Oct-23) 1K-20KHz .316 G-s .316 G-s .082 G-s .314 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA EOH EOV HX453B FAN - HX453B VAC PUME MOH MIH 451C PUMP - 451C VACCUM PUM MOH MOV MIH MOV MIH MIV	OVERALL LEVEL .193 In/Sec .125 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .038 In/Sec .194 In/Sec .194 In/Sec .194 In/Sec .195 In/Sec .198 In/Sec .105 In/Sec .105 In/Sec .105 In/Sec .105 In/Sec .106 In/Sec .127 In/Sec .208 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .137 G-s .150 G-s .593 G-s .198 G-s 20-Oct-23) 1K-20KHz .186 G-s .127 G-s 20-Oct-23) 1K-20KHz .316 G-s .082 G-s .314 G-s .107 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA EOH EOV HX453B FAN - HX453B VAC PUMB MOH MIH 451C PUMP - 451C VACCUM PUM MOH MOV MIH MOV MIH MIV MIA	OVERALL LEVEL .193 In/Sec .125 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .038 In/Sec .194 In/Sec .194 In/Sec .194 In/Sec .195 In/Sec .195 In/Sec .198 In/Sec .105 In/Sec .105 In/Sec .105 In/Sec .105 In/Sec .106 In/Sec .107 In/Sec .070 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .137 G-s .150 G-s .593 G-s .198 G-s 20-Oct-23) 1K-20KHz .186 G-s .127 G-s 20-Oct-23) 1K-20KHz .316 G-s .082 G-s .314 G-s .057 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA EOH EOV HX453B FAN - HX453B VAC PUME MOH MIH 451C PUMP - 451C VACCUM PUM MOH MOV MIH MIV MIA EIH EIH	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .038 In/Sec .194 In/Sec .119 In/Sec .119 In/Sec .119 In/Sec .132 In/Sec .231 In/Sec .231 In/Sec .231 In/Sec .105 In/Sec .105 In/Sec .106 In/Sec .127 In/Sec .208 In/Sec .132 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .137 G-s .150 G-s .593 G-s .198 G-s 20-Oct-23) 1K-20KHz .186 G-s .127 G-s .082 G-s .314 G-s .087 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA EOH EOV HX453B FAN - HX453B VAC PUMB MOH MIH 451C PUMP - 451C VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIH EIV EIH EIV MOH MOV MIH MIV MIA EIH EIV	OVERALL LEVEL .193 In/Sec .125 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .038 In/Sec .194 In/Sec .194 In/Sec .194 In/Sec .195 In/Sec .195 In/Sec .198 In/Sec .105 In/Sec .105 In/Sec .105 In/Sec .106 In/Sec .107 In/Sec .108 In/Sec .109 In/Sec .119 In/Sec .111 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .137 G-s .150 G-s .593 G-s .198 G-s 20-Oct-23) 1K-20KHz .186 G-s .127 G-s 20-Oct-23) 1K-20KHz .316 G-s .082 G-s .314 G-s .057 G-s .681 G-s .129 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA EOH EOV HX453B FAN - HX453B VAC PUMB MOH MIH MOV MIH MOV MIH MOV MIH MIV MIA EIH EIV EIA EOH EOV ASSENSE VACCUM PUMB MOH MOV MIH MIV MIA EIH EIV EIA	OVERALL LEVEL .193 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .038 In/Sec .194 In/Sec .194 In/Sec .119 In/Sec .119 In/Sec .123 In/Sec .123 In/Sec .145 In/Sec .105 In/Sec .105 In/Sec .107 In/Sec .108 In/Sec .109 In/Sec .109 In/Sec .109 In/Sec .109 In/Sec .109 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .150 G-s .593 G-s .198 G-s .198 G-s 20-Oct-23) 1K-20KHz .186 G-s .127 G-s .082 G-s .314 G-s .082 G-s .314 G-s .057 G-s .681 G-s .129 G-s .186 G-s
MOH MIH 451B PUMP - 451B VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIA EOH EOV HX453B FAN - HX453B VAC PUMB MOH MIH 451C PUMP - 451C VACCUM PUM MOH MOV MIH MIV MIA EIH EIV EIH EIV EIH EIV MOH MOV MIH MIV MIA EIH EIV	OVERALL LEVEL .193 In/Sec .125 In/Sec .125 In/Sec IP (OVERALL LEVEL .049 In/Sec .077 In/Sec .065 In/Sec .076 In/Sec .038 In/Sec .194 In/Sec .194 In/Sec .194 In/Sec .195 In/Sec .195 In/Sec .198 In/Sec .105 In/Sec .105 In/Sec .105 In/Sec .106 In/Sec .107 In/Sec .108 In/Sec .109 In/Sec .119 In/Sec .111 In/Sec	1K-20KHz .118 G-s .064 G-s 20-Oct-23) 1K-20KHz .498 G-s .162 G-s .453 G-s .181 G-s .130 G-s .332 G-s .150 G-s .593 G-s .198 G-s .198 G-s 20-Oct-23) 1K-20KHz .186 G-s .127 G-s .082 G-s .314 G-s .082 G-s .314 G-s .057 G-s .681 G-s .129 G-s .186 G-s

	OVERALL LEVEL	1K-20KHz	
MOH	.121 In/Sec	.265 G-s	
MIH	.089 In/Sec	.158 G-s	
151D PUMP - 451D VAC	CCUM PUMP (20)-Oct-23)	
	OVERALL LEVEL	1K-20KHz	
MOH	.073 In/Sec	.774 G-s	
MOV	.078 In/Sec	.438 G-S	
MIH	.120 In/Sec		
MIV	.104 In/Sec	.172 G-s	
MIA	.035 In/Sec	.410 G-s	
EIH	.182 In/Sec		
EIV	.102 In/Sec		
EIA	.072 In/Sec	.203 G-s	
EOH	.151 In/Sec	.316 G-s	
EOV	.145 In/Sec	.234 G-s	
1X453D FAN - HX453D V	VAC PUMP OIL COOL FAN (20)-Oct-23)	
	OVERALL LEVEL	1K-20KHz	
MOH	.227 In/Sec	.091 G-s	
	0.40 - 1-		
MIH	.242 In/Sec	.090 G-s	
	ODUCT COMPRESSOR (20)-Oct-23)	
506B COMP - 506B PRO	ODUCT COMPRESSOR (20)-Oct-23)	
606B COMP - 506B PRO	ODUCT COMPRESSOR (20 OVERALL LEVEL .117 In/Sec	0-Oct-23) 1K-20KHz 2.017 G-s	
006B COMP - 506B PRO MOH MIH	ODUCT COMPRESSOR (20 OVERALL LEVEL .117 In/Sec .170 In/Sec	0-Oct-23) 1K-20KHz 2.017 G-s 4.791 G-s	
MOH MIH MIA	ODUCT COMPRESSOR (20 OVERALL LEVEL .117 In/Sec .170 In/Sec .099 In/Sec	0-Oct-23) 1K-20KHz 2.017 G-s 4.791 G-s 3.257 G-s	
MOH MIH MIA IIH	ODUCT COMPRESSOR (20 OVERALL LEVEL .117 In/Sec .170 In/Sec .099 In/Sec .148 In/Sec	0-Oct-23) 1K-20KHz 2.017 G-s 4.791 G-s 3.257 G-s .707 G-s	
MOH MIH MIA IIH IIA	ODUCT COMPRESSOR (20 OVERALL LEVEL .117 In/Sec .170 In/Sec .099 In/Sec .148 In/Sec .145 In/Sec	0-Oct-23) 1K-20KHz 2.017 G-s 4.791 G-s 3.257 G-s .707 G-s 1.434 G-s	
MOH MIH MIA IIH IIA IOH	ODUCT COMPRESSOR (20 OVERALL LEVEL .117 In/Sec .170 In/Sec .099 In/Sec .148 In/Sec .145 In/Sec .217 In/Sec	0-Oct-23) 1K-20KHz 2.017 G-s 4.791 G-s 3.257 G-s .707 G-s 1.434 G-s 2.637 G-s	
MOH MIH MIA IIH IIA IOH OIH	ODUCT COMPRESSOR (20 OVERALL LEVEL .117 In/Sec .170 In/Sec .099 In/Sec .148 In/Sec .145 In/Sec .217 In/Sec .210 In/Sec	0-Oct-23) 1K-20KHz 2.017 G-s 4.791 G-s 3.257 G-s .707 G-s 1.434 G-s 2.637 G-s 2.270 G-s	
MOH MIH MIA IIH IIA IOH OIH	ODUCT COMPRESSOR (20 OVERALL LEVEL .117 In/Sec .170 In/Sec .099 In/Sec .148 In/Sec .145 In/Sec .217 In/Sec .210 In/Sec .122 In/Sec	0-Oct-23) 1K-20KHz 2.017 G-s 4.791 G-s 3.257 G-s .707 G-s 1.434 G-s 2.637 G-s 2.270 G-s 1.232 G-s	
MOH MIH MIA IIH IIA IOH OIH OOH	ODUCT COMPRESSOR (20 OVERALL LEVEL .117 In/Sec .170 In/Sec .099 In/Sec .148 In/Sec .145 In/Sec .217 In/Sec .210 In/Sec .122 In/Sec .192 In/Sec	0-Oct-23) 1K-20KHz 2.017 G-s 4.791 G-s 3.257 G-s .707 G-s 1.434 G-s 2.637 G-s 2.270 G-s 1.232 G-s 1.708 G-s	
MOH MIH MIA IIH IIA IOH OIH OOH	ODUCT COMPRESSOR (20 OVERALL LEVEL .117 In/Sec .170 In/Sec .099 In/Sec .148 In/Sec .145 In/Sec .217 In/Sec .210 In/Sec .122 In/Sec .192 In/Sec .192 In/Sec	0-Oct-23) 1K-20KHz 2.017 G-s 4.791 G-s 3.257 G-s .707 G-s 1.434 G-s 2.637 G-s 2.270 G-s 1.232 G-s 1.708 G-s	
MOH MIH MIA IIH IIA IOH OIH OOH MX507B FAN - HX507B O	ODUCT COMPRESSOR (20 OVERALL LEVEL .117 In/Sec .170 In/Sec .099 In/Sec .148 In/Sec .145 In/Sec .217 In/Sec .210 In/Sec .122 In/Sec .192 In/Sec .192 In/Sec .192 In/Sec .192 In/Sec .192 In/Sec	0-Oct-23) 1K-20KHz 2.017 G-s 4.791 G-s 3.257 G-s .707 G-s 1.434 G-s 2.637 G-s 2.270 G-s 1.232 G-s 1.708 G-s	
MOH MIH MIA IIH IIA IOH OIH OIA OOH	ODUCT COMPRESSOR (20 OVERALL LEVEL .117 In/Sec .170 In/Sec .099 In/Sec .148 In/Sec .145 In/Sec .217 In/Sec .210 In/Sec .122 In/Sec .192 In/Sec .192 In/Sec .192 In/Sec .192 In/Sec .192 In/Sec	0-Oct-23) 1K-20KHz 2.017 G-s 4.791 G-s 3.257 G-s .707 G-s 1.434 G-s 2.637 G-s 2.270 G-s 1.232 G-s 1.708 G-s	
MOH MIH MIA IIH IIA IOH OIH OOH MX507B FAN - HX507B O	ODUCT COMPRESSOR (20 OVERALL LEVEL .117 In/Sec .170 In/Sec .099 In/Sec .148 In/Sec .145 In/Sec .217 In/Sec .210 In/Sec .122 In/Sec .192 In/Sec .192 In/Sec	0-Oct-23) 1K-20KHz 2.017 G-s 4.791 G-s 3.257 G-s .707 G-s 1.434 G-s 2.637 G-s 2.270 G-s 1.232 G-s 1.708 G-s	

As always, it has been a pleasure to serve North Shelby-Archaea Energy. If there are any comments or questions, do not hesitate to contact us.

Sincerely,

ISO Certified Vibration Analyst, Category III

Kevin W. Mozewall

--> In/Sec

PK



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