HI-SPEED INDUSTRIAL SERVICE

QualiTest® Diagnostics

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June 26, 2024

Mason Shelly
Unipres Corp.
Forest, MS

Mason,

The following is a summary of findings from the vibration survey that was performed on June 17-18th, 2024.

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.

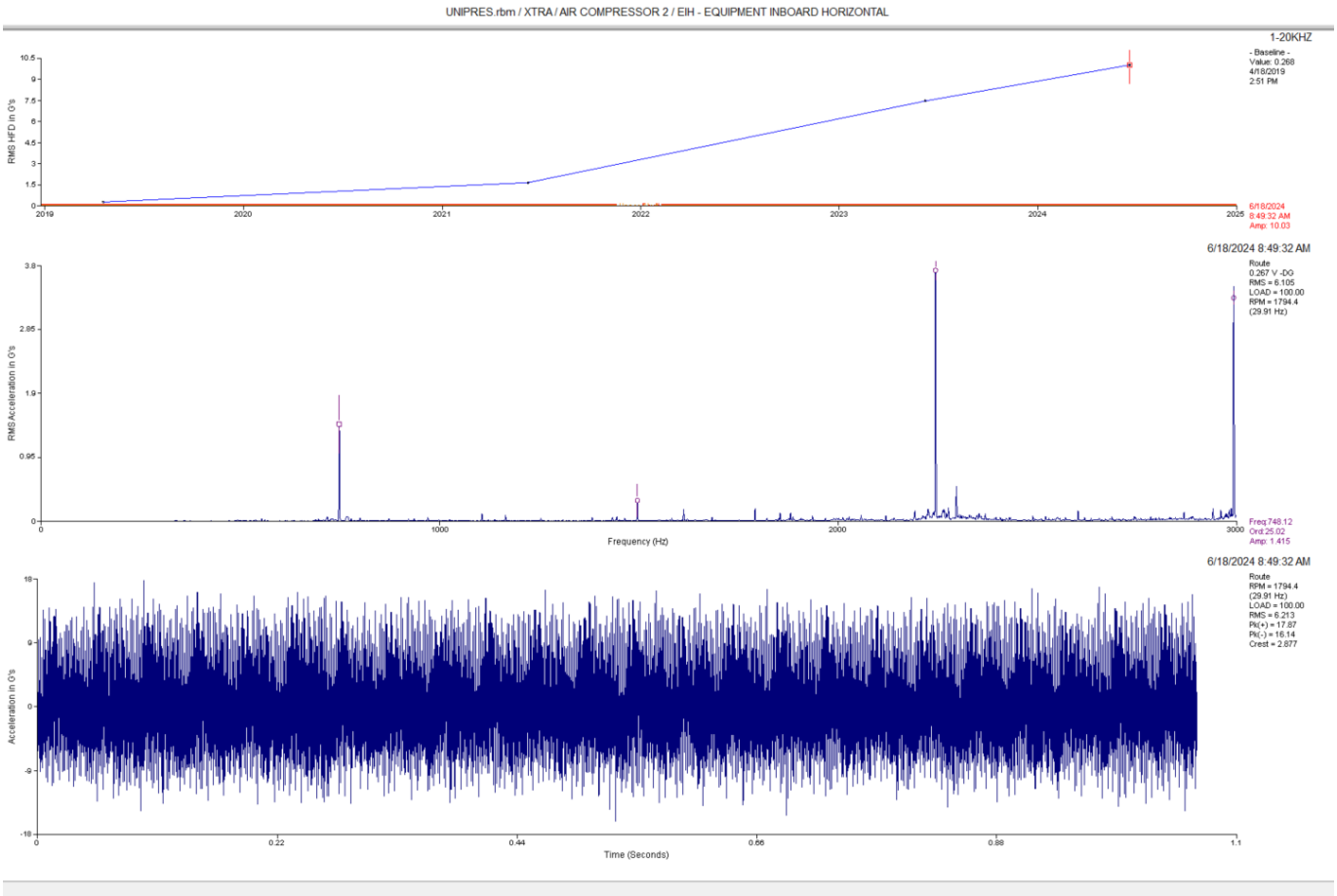
CLASS II: Defect (s) present that may cause problem in long term (2-6 months). Repair during normal maintenance scheduling. Continue to monitor.

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

Defect Summary

Air Compressor 2 CLASS III



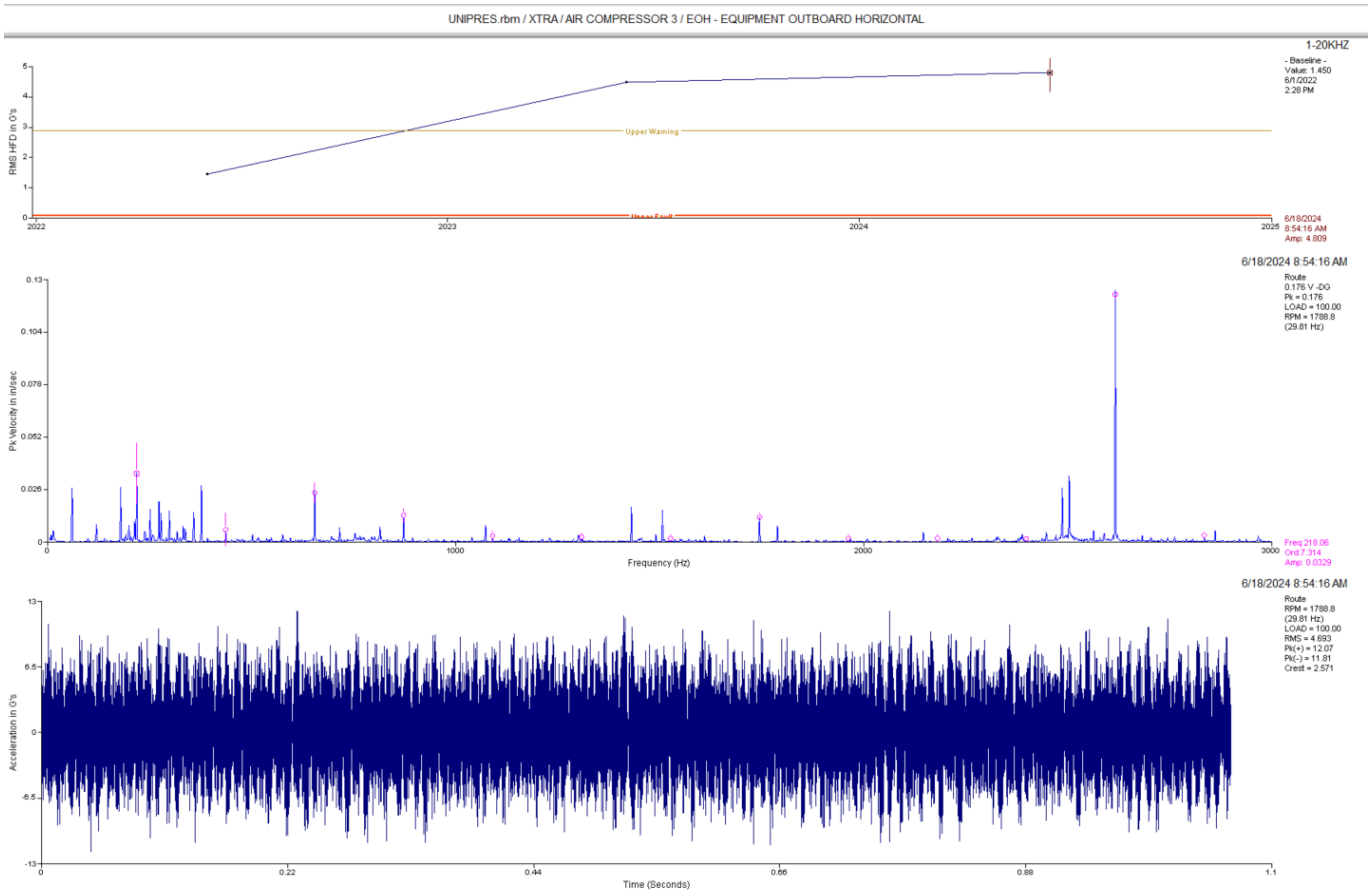
Observation:

Data above is the inboard horizontal compressor. There appears to be several harmonics of a peak that is likely 25 x rpm present in the spectral data. This may be a gear issue or other type of internal wear of the compressor section. Trend data shows a significant increase in high frequency amplitude.

Recommendation:

It is recommended to inspect the compressor section for defects/wear soon.

Air Compressor 3 CLASS III



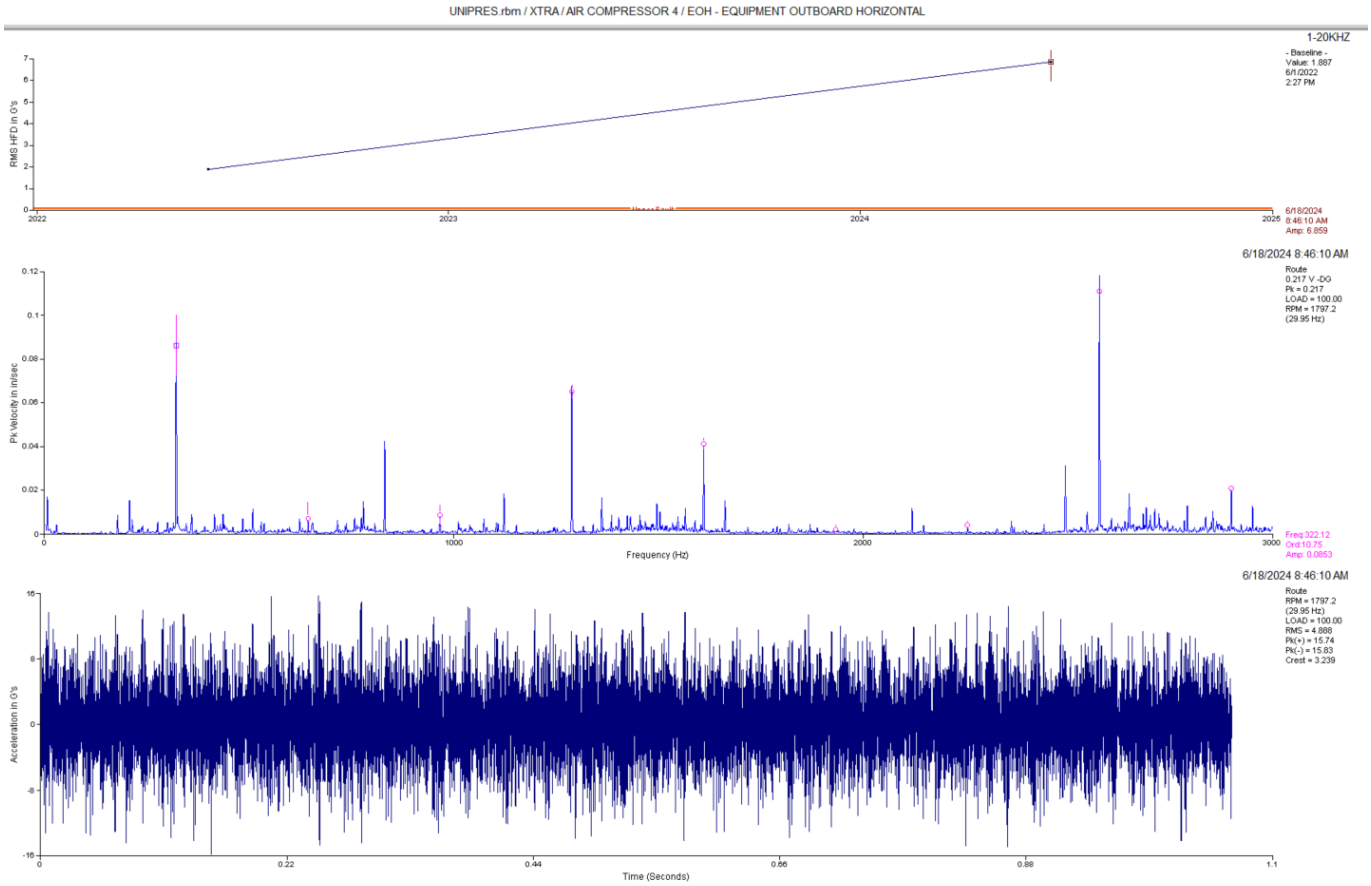
Observation:

Data above is the outboard horizontal compressor. There appears to be several harmonics of a non-synchronous peak that is likely a bearing defect fundamental Trend data shows a significant increase in high frequency amplitude over the past two surveys.

Recommendation:

It is recommended to inspect the compressor section for defects/wear soon.

Air Compressor 4 CLASS III



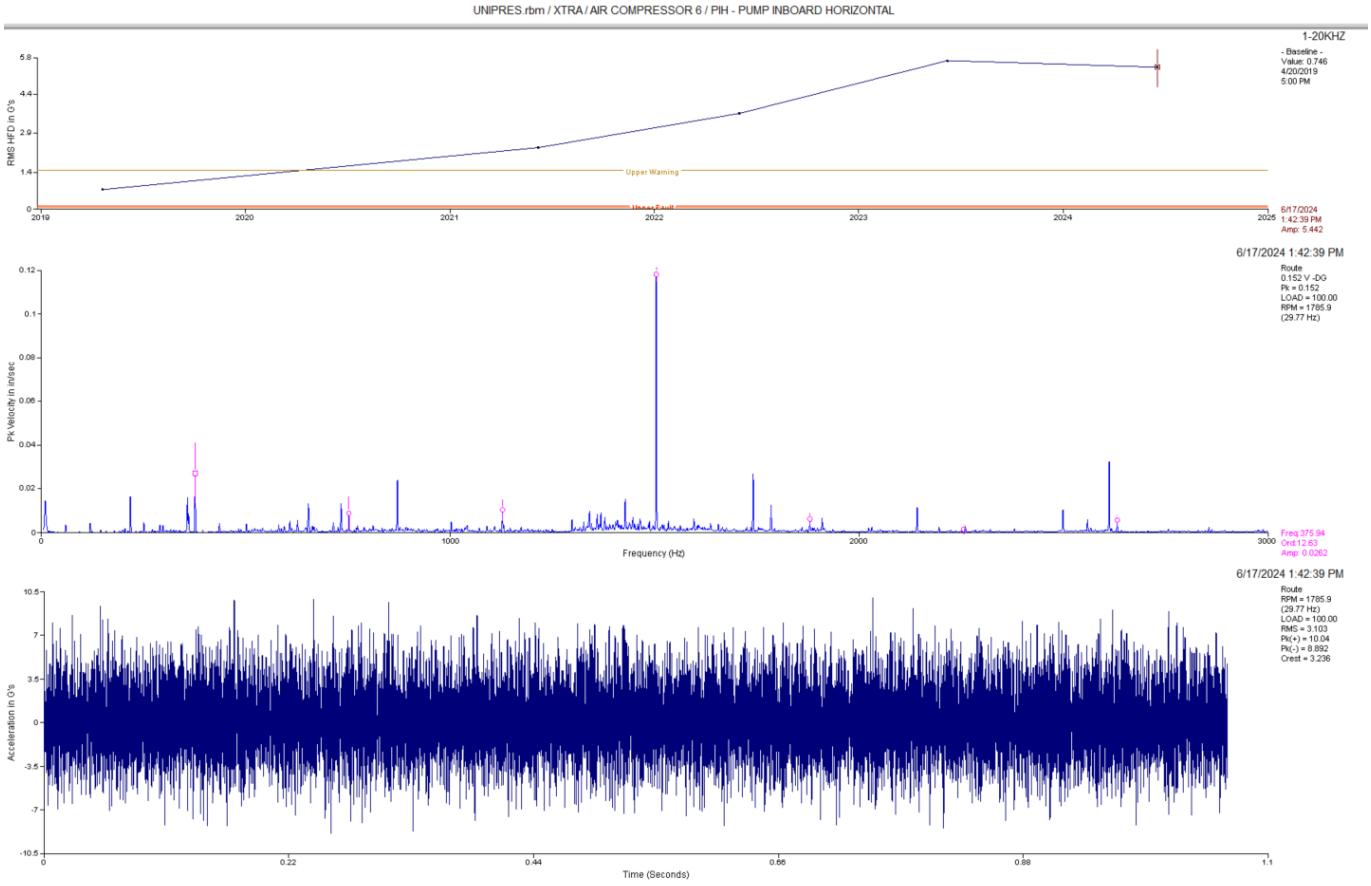
Observation:

Data above is the outboard horizontal compressor. There appears to be several harmonics of a non-synchronous peak that is likely a bearing defect fundamental Trend data shows a significant increase in high frequency amplitude since last survey in 2022.

Recommendation:

It is recommended to inspect the compressor section for defects/wear soon.

Air Compressor 6 CLASS III



Observation:

Data above is the input side of compressor. Data shows some peaks that are non-synchronous to shaft speed. This is an indication of possible bearing defects in compressor section.

Recommendation:

Compressor section shows elevated acceleration levels. The compressor section may have defects and wear and needs to be inspected soon.

Abbreviated Last Measurement Summary

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Database: UNIPRES.rbm
Area: UNIPRES

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
CRANE1MAIN - CRANE 1 MAIN HOIST	(17-Jun-24)	
	OVERALL LEVEL	1-20KHZ
MOH	.036 In/Sec	.148 G-s
MOV	.034 In/Sec	.064 G-s
MIV	.015 In/Sec	.074 G-s
MIH	.021 In/Sec	.301 G-s
MIA	.014 In/Sec	.060 G-s
GIA	.018 In/Sec	.023 G-s
GIH	.012 In/Sec	.144 G-s
GIV	.016 In/Sec	.079 G-s
G01	.026 In/Sec	.015 G-s
CRAIN2MAIN - CRANE 2 MAIN HOIST	(17-Jun-24)	
	OVERALL LEVEL	1-20KHZ
MOH	.094 In/Sec	.462 G-s
MOV	.088 In/Sec	.091 G-s
MIV	.039 In/Sec	.047 G-s
MIH	.059 In/Sec	.201 G-s
MIA	.016 In/Sec	.049 G-s
GIA	.038 In/Sec	.073 G-s
GIH	.014 In/Sec	.156 G-s
GIV	.047 In/Sec	.051 G-s
G01	.031 In/Sec	.011 G-s
CRAIN3MAIN - CRANE 3 MAIN HOIST	(17-Jun-24)	
	OVERALL LEVEL	1-20KHZ
MOH	.030 In/Sec	.218 G-s
MOV	.042 In/Sec	.120 G-s
MIV	.024 In/Sec	.072 G-s
MIH	.026 In/Sec	.374 G-s
MIA	.018 In/Sec	.048 G-s
GIA	.0066 In/Sec	.056 G-s
GIH	.0086 In/Sec	.047 G-s
GIV	.0095 In/Sec	.053 G-s
G01	.013 In/Sec	.139 G-s
GI2	.0097 In/Sec	.077 G-s
CRAIN4MAIN - CRANE 4 MAIN HOIST	(17-Jun-24)	
	OVERALL LEVEL	1-20KHZ
MOH	.039 In/Sec	.231 G-s
MOV	.030 In/Sec	.112 G-s
MIV	.031 In/Sec	.112 G-s
MIH	.037 In/Sec	.231 G-s
GIH	.018 In/Sec	.231 G-s
GIV	.028 In/Sec	.112 G-s
G01	.023 In/Sec	.017 G-s
GI2	.018 In/Sec	.020 G-s
G02	.025 In/Sec	.0050 G-s
CRAIN5MAIN - CRANE 5 MAIN HOIST	(17-Jun-24)	
	OVERALL LEVEL	1-20KHZ
MOH	.021 In/Sec	.029 G-s
MOV	.033 In/Sec	.014 G-s
MIV	.032 In/Sec	.017 G-s
MIH	.034 In/Sec	.041 G-s
MIA	.040 In/Sec	.010 G-s
GIA	.025 In/Sec	.0054 G-s

GIH	.018 In/Sec	.021 G-s
GIV	.023 In/Sec	.014 G-s
G01	.017 In/Sec	.027 G-s

CRAIN5AUX - CRANE 5 AUXULLARY HOIST (17-Jun-24)

	OVERALL LEVEL	1-20KHZ
MOH	.046 In/Sec	.0095 G-s
MIV	.035 In/Sec	.011 G-s
GIA	.024 In/Sec	.076 G-s
GIH	.0067 In/Sec	.0094 G-s

CRAIN6MAIN - CRANE 6 MAIN HOIST (17-Jun-24)

	OVERALL LEVEL	1-20KHZ
MOH	.049 In/Sec	.063 G-s
MOV	.042 In/Sec	.014 G-s
MIV	.028 In/Sec	.029 G-s
MIH	.025 In/Sec	.142 G-s
MIA	.019 In/Sec	.031 G-s
GIA	.026 In/Sec	.011 G-s
GIH	.017 In/Sec	.045 G-s
GIV	.031 In/Sec	.020 G-s
G01	.017 In/Sec	.039 G-s

P1DRVMOTOR - 2500T PRESS DRIVE MOTOR (17-Jun-24)

	OVERALL LEVEL	1-20KHZ
MOH	.011 In/Sec	.759 G-s
MIH	.014 In/Sec	.598 G-s
MIA	.011 In/Sec	1.294 G-s

P2DRVMOTOR - 3500T PRESS DRIVE MOTOR (17-Jun-24)

	OVERALL LEVEL	1-20KHZ
MOH	.010 In/Sec	.439 G-s
MIH	.0087 In/Sec	.465 G-s
MIA	.0097 In/Sec	.353 G-s
JA	.013 In/Sec	.020 G-s
JIH	.013 In/Sec	.054 G-s
JOH	.215 In/Sec	.062 G-s

P3DRVMOTOR - BLANKING PRESS DRIVE MOTOR (17-Jun-24)

	OVERALL LEVEL	1-20KHZ
MOH	.019 In/Sec	.238 G-s
MIH	.010 In/Sec	.191 G-s
MIA	.083 In/Sec	.065 G-s

BKPRDRMTR1 - BLANK PRESS FEED UNIT 1 (17-Jun-24)

	OVERALL LEVEL	1-20KHZ
MOH	.028 In/Sec	.892 G-s
MIH	.035 In/Sec	1.175 G-s
MIA	.046 In/Sec	.109 G-s
EA	.060 In/Sec	1.544 G-s
EIH	.049 In/Sec	1.271 G-s
EOH	.040 In/Sec	.987 G-s

BKPRDRMTR2 - BLANK PRESS FEED UNIT 2 (17-Jun-24)

	OVERALL LEVEL	1-20KHZ
MOH	.232 In/Sec	.066 G-s
MIH	.131 In/Sec	.026 G-s
MIA	.084 In/Sec	.046 G-s
EA	.198 In/Sec	.064 G-s
EIH	.073 In/Sec	.019 G-s
EOH	.094 In/Sec	.930 G-s

Area: UNIPRES COMPRESSORS

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
AC-1 - AIR COMPRESSOR 1	(18-Jun-24)	
	OVERALL LEVEL	1-20KHZ
MOH	.105 In/Sec	1.007 G-s
MIH	.109 In/Sec	1.567 G-s
MIA	.074 In/Sec	.467 G-s
EA	.068 In/Sec	.783 G-s
EIH	.126 In/Sec	3.812 G-s
EOH	.131 In/Sec	4.098 G-s
AC-2 - AIR COMPRESSOR 2	(18-Jun-24)	
	OVERALL LEVEL	1-20KHZ
MOH	.061 In/Sec	.415 G-s
MIH	.073 In/Sec	.952 G-s
MIA	.034 In/Sec	.408 G-s
EA	.196 In/Sec	1.486 G-s
EIH	.267 In/Sec	10.03 G-s
EOH	.236 In/Sec	10.64 G-s
AC-3 - AIR COMPRESSOR 3	(18-Jun-24)	
	OVERALL LEVEL	1-20KHZ
MOH	.136 In/Sec	.094 G-s
MIH	.097 In/Sec	1.530 G-s
MIA	.076 In/Sec	.612 G-s
EA	.069 In/Sec	.570 G-s
EIH	.148 In/Sec	3.566 G-s
EOH	.176 In/Sec	4.809 G-s
AC-4 - AIR COMPRESSOR 4	(18-Jun-24)	
	OVERALL LEVEL	1-20KHZ
MOH	.063 In/Sec	.420 G-s
MIH	.231 In/Sec	3.532 G-s
MIA	.044 In/Sec	.585 G-s
EA	.099 In/Sec	1.481 G-s
EIH	.142 In/Sec	3.283 G-s
EOH	.217 In/Sec	6.859 G-s
AC-5 - AIR COMPRESSOR 5	(17-Jun-24)	
	OVERALL LEVEL	1-20KHZ
MOH	.251 In/Sec	.739 G-s
MIH	.102 In/Sec	.848 G-s
MIA	.085 In/Sec	.426 G-s
PIA	.095 In/Sec	.739 G-s
PIH	.169 In/Sec	4.699 G-s
POH	.310 In/Sec	2.847 G-s
AC-6 - AIR COMPRESSOR 6	(17-Jun-24)	
	OVERALL LEVEL	1-20KHZ
MOH	.139 In/Sec	.563 G-s
MIH	.104 In/Sec	1.617 G-s
MIA	.063 In/Sec	.736 G-s
PIA	.079 In/Sec	.819 G-s
PIH	.152 In/Sec	5.442 G-s
POH	.103 In/Sec	3.974 G-s

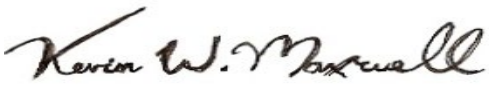
Clarification Of Vibration Units:

Acc --> G-s RMS

Vel --> In/Sec PK

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

Sincerely,



ISO Certified Vibration Analyst, Category III

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QualiTest® Diagnostics

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