HI-SPEED INDUSTRIAL SERVICE

MILLINGTON, TN

July 7, 2021

Penn A Kem

Subject: July vibration service report

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.

This completes our assessment of your equipment for this survey. Thank you for your business and don't hesitate to call if you have any comments or questions.

Sincerely,

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Observations

P 24 Big Blue Water Pump
The pump trend has increased again and is dominated by a shaft speed vibration. The pump data still indicates possible looseness in the bearing fits as well as wear in the pump, such as imbalance, and vane pass, which we suspect is 5x RPM. The motor data for the inboard bearing shows what we believe to be bearing fundamental outer race defect frequency and harmonics. **Rated a Class III Defect due to the pump vibrations this survey.**

P24-85 Degree Pump North
The pump drive end seal retainer brackets appeared to be dislodged during the survey. It did not appear to be leaking though.

P24-85 Degree Pump South
The pump axial vibration is elevated. Shaft speed harmonics are in the data. The acceleration trend is over 2 g's RMS but looks to be some cavitation noise. Ensure the pump is running at BOP. Check all fasteners, shaft alignment, and coupling installation. Please note that this is the second data since last June. **Rated a Class I Defect.**

CHLR45-1 20 Ton Trane Chiller
The West compressor was running and vibrating at over 1.0"/sec velocity peak at 60 Hz shaft speed. Vibrations at these levels in either unit will likely cause a reduced lifespan. Have the unit checked for compliance with the manufacture's specification. **Rated a Class I Defect.**

P 48-7B Rotojet High Pressure Pump
The pump vibrations are up again at 79 Hz. Inspect the drivetrain and pump impeller and check the operational parameters. **Rated a Class II Defect.**

C67-51 Twin Screw Axial Compressor Motor
Vibration data for the outboard motor bearing still shows synchronous and non-synchronous peaks. We suspect outer race bearing defect frequencies are present. Overall acceleration is near 4 g's RMS. No immediate action is required; however, we are keeping this a **Class II Defect for now.**

C67-51 Twin Screw Axial Compressor End
The lobe pass vibrations at 2x and 4x input speed are strong. Loading could affect vibrations. **Rated a Class II Defect.**

R80-10 Agitator Motor and Gearbox
The unit was not turning even though the controls showed it was operating. It was reported as having severe distress last month.

B82-101A Southwest FD Fan 10 HP (Outside)
The motor axial still has a sub-synchronous vibration at near half speed of the shaft. This could be a rub or possible looseness or an issue with the fan wheel. We recommend cleaning and inspecting the fan wheel/hub and check all fasteners. **Rated a Class I Defect.**

R55-106 Reactor Agitator Motor Gearbox
Motor has what looks to be a 1xRPM vibration still that varies. Inspect the fasteners, structure, coupling and alignment as time allows. **Rated a Class I Defect.**

P36-905C-72 North Cooling Tower East Pump
The pump inboard bearing is showing an increase in shaft speed harmonics. This could be an indication of mechanical looseness in the bearing or housing fits. Inspect the pump bearings and housings as well as the drive train components. **Rated a Class II Defect.**

P42-4A Hot Oil Pump
Inboard pump bearing shows an increase in acceleration that could be attributes to bearing distress. No immediate concern. **Rated a Class I Defect.**

Abbreviated Last Measurement Summary
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Database: penn.rbm
Station: PENNAKEM NEW CURRENT DATABASE
Route No. 4: HYDRO
Report Date: 07-Jul-21 07:38

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
C42-4 - AXIAL TWIN SCREW COMPRESSOR (02-Jul-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.129 In/Sec	3.493 G-s	1750.0 RPM
12	.050 In/Sec	3.480 G-s	
13	.053 In/Sec	1.066 G-s	
21	.117 In/Sec	.775 G-s	
22	.046 In/Sec	1.383 G-s	
23	.059 In/Sec	2.583 G-s	
71	.103 In/Sec	2.850 G-s	3570.0 RPM
72	.052 In/Sec	1.288 G-s	
73	.087 In/Sec	5.990 G-s	
71F	.121 In/Sec	2.233 G-s	
72F	.045 In/Sec	2.206 G-s	
73F	.068 In/Sec	3.509 G-s	
81	.081 In/Sec	2.361 G-s	
82	.037 In/Sec	1.699 G-s	
83	.079 In/Sec	2.083 G-s	
81F	.124 In/Sec	1.298 G-s	
82F	.041 In/Sec	1.309 G-s	

83F	.077 In/Sec	2.582 G-s	

P42-4A - CENTRIFUGAL HOT OIL PUMP 5HP (02-Jul-21)

	OVERALL LEVEL	1-20 KHZ	
11	.014 In/Sec	.128 G-s	1760.0 RPM
21	.082 In/Sec	.142 G-s	
23	.016 In/Sec	.103 G-s	
71	.028 In/Sec	1.631 G-s	
73	.021 In/Sec	.840 G-s	
81	.020 In/Sec	.973 G-s	

P42-4B - CENTRIFUGAL HOT OIL PUMP 5HP (02-Jul-21)

	OVERALL LEVEL	1-20 KHZ	
11	.033 In/Sec	.034 G-s	1760.0 RPM
21	.036 In/Sec	.068 G-s	
23	.061 In/Sec	.098 G-s	
71	.021 In/Sec	.158 G-s	
73	.018 In/Sec	.076 G-s	
81	.018 In/Sec	.113 G-s	

P42-4D - CENTRIFUGAL HOT OIL PUMP 5HP (02-Jul-21)

	OVERALL LEVEL	1-20 KHZ	
11	.018 In/Sec	.079 G-s	1760.0 RPM
21	.022 In/Sec	.093 G-s	
23	.030 In/Sec	.084 G-s	
71	.035 In/Sec	.242 G-s	
81	.040 In/Sec	.092 G-s	

CHLR67-1N - 240T TRANE CHILLER NORTH (02-Jul-21)

	OVERALL LEVEL	
11	.099 In/Sec	3570.0 RPM
12	.127 In/Sec	
13	.058 In/Sec	
21	.089 In/Sec	
22	.090 In/Sec	
71	.062 In/Sec	
72	.073 In/Sec	
81	.107 In/Sec	
82	.150 In/Sec	

CHLR67-1W - 240T TRANE CHILLER WEST (02-Jul-21)

	OVERALL LEVEL	
11	.218 In/Sec	3570.0 RPM
12	.186 In/Sec	
13	.313 In/Sec	
21	.137 In/Sec	
22	.175 In/Sec	
71	.087 In/Sec	
72	.116 In/Sec	
81	.156 In/Sec	
82	.203 In/Sec	

CHLR67-1E - 240T TRANE CHILLER EAST (02-Jul-21)

	OVERALL LEVEL	
11	.113 In/Sec	3570.0 RPM
12	.115 In/Sec	
13	.095 In/Sec	

21	.081 In/Sec		
22	.088 In/Sec		
71	.069 In/Sec		
72	.059 In/Sec		
81	.095 In/Sec		
82	.129 In/Sec		

C67-51 - AXIAL TWIN SCREW COMPRESSOR (02-Jul-21)

	OVERALL LEVEL	1-20 KHZ	
11	.066 In/Sec	3.093 G-s	1750.0 RPM
12	.075 In/Sec	4.119 G-s	
13	.194 In/Sec	2.315 G-s	
21	.073 In/Sec	1.259 G-s	
22	.097 In/Sec	2.869 G-s	
23	.188 In/Sec	.993 G-s	
71	.283 In/Sec	.485 G-s	3570.0 RPM
72	.232 In/Sec	.108 G-s	
73	.201 In/Sec	1.195 G-s	
71F	.401 In/Sec	.160 G-s	
72F	.314 In/Sec	.094 G-s	
73F	.274 In/Sec	.529 G-s	
81	.204 In/Sec	.243 G-s	
82	.216 In/Sec	.070 G-s	
83	.214 In/Sec	.334 G-s	
81F	.176 In/Sec	.145 G-s	
82F	.205 In/Sec	.050 G-s	
83F	.287 In/Sec	.932 G-s	

B82-101A - FAN FORCED DRAFT 10HP SOUTH (02-Jul-21)

	OVERALL LEVEL	1-20 KHZ	
11	.163 In/Sec	.118 G-s	1800.0 RPM
12	.177 In/Sec	.147 G-s	
21	.199 In/Sec	.179 G-s	
22	.342 In/Sec	.202 G-s	
23	.426 In/Sec	.138 G-s	

B82-102 - INDUCED DRAFT 150 HP (02-Jul-21)

	OVERALL LEVEL	1-20 KHZ	
11	.038 In/Sec	.069 G-s	1800.0 RPM
12	.031 In/Sec	.115 G-s	
21	.051 In/Sec	.584 G-s	
22	.060 In/Sec	.225 G-s	
23	.048 In/Sec	.141 G-s	
31	.034 In/Sec	.041 G-s	
32	.046 In/Sec	.108 G-s	
41	.026 In/Sec	.104 G-s	
42	.035 In/Sec	.124 G-s	

C53-301A - C-301A RECIP COMPRESSOR (02-Jul-21)

	OVERALL LEVEL	1-20 KHZ	
11	.081 In/Sec	1.593 G-s	1800.0 RPM
12	.072 In/Sec	.735 G-s	
13	.193 In/Sec	.140 G-s	
21	.096 In/Sec	.617 G-s	
22	.109 In/Sec	.458 G-s	
23	.120 In/Sec	.771 G-s	
71	.098 In/Sec	.117 G-s	325.0 RPM

72	.071 In/Sec	.125 G-s	
73	.210 In/Sec	.173 G-s	
81	.106 In/Sec	.186 G-s	
82	.076 In/Sec	.135 G-s	

C53-1A-050 - C1-A H2 COMPRESSOR (02-Jul-21)

	OVERALL LEVEL	1-20 KHZ	
11	.072 In/Sec	1.064 G-s	1800.0 RPM
12	.035 In/Sec	1.049 G-s	
13	.091 In/Sec	.384 G-s	
21	.104 In/Sec	1.747 G-s	
22	.072 In/Sec	2.089 G-s	
23	.055 In/Sec	1.565 G-s	
71	.118 In/Sec	.205 G-s	
72	.014 In/Sec	.130 G-s	
73	.034 In/Sec	.147 G-s	
81	.136 In/Sec	.189 G-s	
82	.015 In/Sec	.103 G-s	

P48-7B - ROTOJET HIGH PRESS PUMP 15HP (02-Jul-21)

	OVERALL LEVEL	1-20 KHZ	
11	.142 In/Sec	.425 G-s	1750.0 RPM
12	.584 In/Sec	.312 G-s	
21	.130 In/Sec	.769 G-s	
22	.269 In/Sec	.672 G-s	
23	.103 In/Sec	.230 G-s	
71	.505 In/Sec	2.713 G-s	
72	.194 In/Sec	2.274 G-s	
73	.165 In/Sec	1.059 G-s	
81	.679 In/Sec	.637 G-s	
82	.258 In/Sec	1.149 G-s	

P53-301 - ANSI CENTRIFUGAL PUMP 50 HP (02-Jul-21)

	OVERALL LEVEL	1-20 KHZ	
11	.089 In/Sec	.130 G-s	1750.0 RPM
12	.069 In/Sec	.127 G-s	
13	.082 In/Sec	.090 G-s	
21	.077 In/Sec	.412 G-s	
22	.082 In/Sec	.233 G-s	
23	.072 In/Sec	.332 G-s	
71	.072 In/Sec	.409 G-s	
72	.079 In/Sec	.317 G-s	
73	.060 In/Sec	.569 G-s	
81	.045 In/Sec	.315 G-s	
82	.058 In/Sec	.339 G-s	

Clarification Of Vibration Units:
Acc --> G-s PK
Vel --> In/Sec PK

Abbreviated Last Measurement Summary

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Database: penn.rbm
Station: PENNAKEM NEW CURRENT DATABASE
Route No. 5: UPI-FURAN
Report Date: 07-Jul-21 07:38

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
C54--115 - COMP 2CYL 2 STAGE 75 HP	(02-Jul-21)		
	OVERALL LEVEL	1-20 KHZ	
11	.056 In/Sec	.605 G-s	1800.0 RPM
12	.163 In/Sec	.291 G-s	
21	.055 In/Sec	.667 G-s	
22	.057 In/Sec	.345 G-s	
23	.152 In/Sec	.164 G-s	
71	.031 In/Sec	.063 G-s	
72	.027 In/Sec	.037 G-s	
73	.047 In/Sec	.042 G-s	
81	.029 In/Sec	.029 G-s	
82	.034 In/Sec	.036 G-s	
P54-112 - CANNED MOTOR CENTRIFUG PUMP	(02-Jul-21)		
	OVERALL LEVEL	1-20 KHZ	
11	.059 In/Sec	.0087 G-s	1800.0 RPM
12	.059 In/Sec	.018 G-s	
13	.047 In/Sec	.036 G-s	
21	.030 In/Sec	.137 G-s	
22	.017 In/Sec	.130 G-s	
71	.025 In/Sec	.083 G-s	
72	.014 In/Sec	.079 G-s	
R78-201 - AGITATOR GBX	(02-Jul-21)		
	OVERALL LEVEL		
11	.189 In/Sec		1760.0 RPM
12	.055 In/Sec		
21	.105 In/Sec		
22	.108 In/Sec		
23	.103 In/Sec		
31	.043 In/Sec		
32	.057 In/Sec		
33	.071 In/Sec		
41	.117 In/Sec		
42	.028 In/Sec		
51	.125 In/Sec		
52	.081 In/Sec		
53	.039 In/Sec		
71	.087 In/Sec		
72	.074 In/Sec		
73	.028 In/Sec		

Clarification Of Vibration Units:
Acc --> G-s PK
Vel --> In/Sec PK

Abbreviated Last Measurement Summary

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Database: penn.rbm
Station: PENNAKEM NEW CURRENT DATABASE
Route No. 6: BOILER
Report Date: 07-Jul-21 07:38

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
B4C101-877 - ZURN BOILER BLOWER		(02-Jul-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.185 In/Sec	.322 G-s	1180.0 RPM
12	.114 In/Sec	.846 G-s	
13	.144 In/Sec	.163 G-s	
21	.185 In/Sec	.834 G-s	
22	.154 In/Sec	1.871 G-s	
23	.134 In/Sec	.833 G-s	
71	.173 In/Sec	1.075 G-s	
72	.117 In/Sec	.996 G-s	
73	.151 In/Sec	.319 G-s	
81	.153 In/Sec	.661 G-s	
82	.160 In/Sec	1.386 G-s	
83	.129 In/Sec	1.131 G-s	
P4C-102A - BOILER FEEDWATER PUMP		(02-Jul-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.063 In/Sec	.774 G-s	3570.0 RPM
12	.039 In/Sec	.769 G-s	
21	.033 In/Sec	.483 G-s	
22	.028 In/Sec	.632 G-s	
23	.047 In/Sec	.954 G-s	
71	.071 In/Sec	.732 G-s	
72	.031 In/Sec	.796 G-s	
73	.063 In/Sec	.953 G-s	
81	.085 In/Sec	.664 G-s	
82	.028 In/Sec	.495 G-s	
83	.074 In/Sec	.858 G-s	
P24-63DEGN - 63 DEG N WATER PUMP		(02-Jul-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.051 In/Sec	.307 G-s	1750.0 RPM
12	.043 In/Sec	.104 G-s	
21	.055 In/Sec	.366 G-s	
22	.060 In/Sec	.555 G-s	
23	.054 In/Sec	.499 G-s	
71	.061 In/Sec	.665 G-s	
72	.030 In/Sec	1.023 G-s	
73	.140 In/Sec	2.369 G-s	
81	.061 In/Sec	.715 G-s	
82	.028 In/Sec	.953 G-s	
83	.067 In/Sec	1.805 G-s	
P24-63DEGS - 63 DEG S WATER PUMP		(02-Jul-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.067 In/Sec	.463 G-s	1750.0 RPM
12	.123 In/Sec	.283 G-s	
21	.226 In/Sec	.453 G-s	
22	.061 In/Sec	.945 G-s	
23	.125 In/Sec	.357 G-s	
71	.093 In/Sec	.223 G-s	
72	.067 In/Sec	.361 G-s	
73	.072 In/Sec	1.121 G-s	

81	.057 In/Sec	.526 G-s	
82	.038 In/Sec	.557 G-s	
83	.087 In/Sec	.862 G-s	

P24-85DEGN - 85 DEG N WATER CIRC PUMP 125 (02-Jul-21)

	OVERALL LEVEL	1-20 KHZ	
11	.090 In/Sec	.851 G-s	1750.0 RPM
12	.066 In/Sec	.611 G-s	
21	.069 In/Sec	1.044 G-s	
22	.065 In/Sec	.355 G-s	
23	.047 In/Sec	.297 G-s	
71	.151 In/Sec	.862 G-s	
72	.257 In/Sec	.777 G-s	
73	.255 In/Sec	1.421 G-s	
81	.115 In/Sec	.724 G-s	
82	.155 In/Sec	.689 G-s	
83	.288 In/Sec	.938 G-s	

P24-85DEGS - 85 DEG S WATER CIRC PUMP 125 (02-Jul-21)

	OVERALL LEVEL	1-20 KHZ	
11	.088 In/Sec	.211 G-s	1750.0 RPM
12	.062 In/Sec	1.138 G-s	
21	.064 In/Sec	.803 G-s	
22	.043 In/Sec	1.078 G-s	
23	.048 In/Sec	.797 G-s	
71	.121 In/Sec	2.020 G-s	
72	.131 In/Sec	1.647 G-s	
73	.248 In/Sec	2.810 G-s	
81	.099 In/Sec	1.899 G-s	
82	.123 In/Sec	1.783 G-s	
83	.218 In/Sec	1.513 G-s	

P24BGBL876 - BIG BLUE WATER PUMP-63 DEG (02-Jul-21)

	OVERALL LEVEL	1-20 KHZ	
11	.256 In/Sec	1.504 G-s	1180.0 RPM
12	.060 In/Sec	1.874 G-s	
21	.358 In/Sec	2.185 G-s	
22	.064 In/Sec	2.390 G-s	
23	.085 In/Sec	1.578 G-s	
71	.619 In/Sec	.631 G-s	
72	.213 In/Sec	.456 G-s	
73	.327 In/Sec	.331 G-s	
81	.568 In/Sec	.497 G-s	
82	.227 In/Sec	.788 G-s	
83	.175 In/Sec	.627 G-s	

P24-102B - JOCKEY FIRE FLANGE PUMP HZ (02-Jul-21)

	OVERALL LEVEL	1-20 KHZ	
11	.094 In/Sec	.088 G-s	1785.0 RPM
12	.078 In/Sec	.484 G-s	
21	.069 In/Sec	.104 G-s	
22	.058 In/Sec	.214 G-s	
23	.063 In/Sec	.122 G-s	

Clarification Of Vibration Units:

Acc --> G-s PK

Vel --> In/Sec PK Abbreviated Last Measurement Summary

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Database: penn.rbm
Station: PENNAKEM NEW CURRENT DATABASE
Route No. 7: B55-FINE CHME
Report Date: 07-Jul-21 07:38

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
R55-101 - AGITATOR GBX AND MOTOR	(02-Jul-21)		
	OVERALL LEVEL		
11	.158 In/Sec		1760.0 RPM
12	.043 In/Sec		
21	.150 In/Sec		
22	.044 In/Sec		
23	.069 In/Sec		
31	.147 In/Sec		
32	.017 In/Sec		
33	.054 In/Sec		
41	.119 In/Sec		
42	.022 In/Sec		
51	.114 In/Sec		
53	.016 In/Sec		
61	.091 In/Sec		
63	.036 In/Sec		
71	.031 In/Sec		
R55-102 - REACTOR AGIT R-102	(02-Jul-21)		
	OVERALL LEVEL	1-20 KHZ	
11	.099 In/Sec	.138 G-s	1760.0 RPM
12	.091 In/Sec	.165 G-s	
21	.096 In/Sec	.356 G-s	
22	.078 In/Sec	.327 G-s	
23	.091 In/Sec	.055 G-s	
31	.075 In/Sec		
32	.248 In/Sec		
33	.125 In/Sec		
41	.115 In/Sec		
42	.031 In/Sec		
51	.110 In/Sec		
52	.091 In/Sec		
53	.119 In/Sec		
61	.059 In/Sec		
63	.054 In/Sec		
71	.024 In/Sec		
R55-106 - REACTOR AGIT R-106	(02-Jul-21)		
	OVERALL LEVEL	1-20 KHZ	
11	.371 In/Sec	.337 G-s	1760.0 RPM
12	.483 In/Sec	.186 G-s	
21	.182 In/Sec	.275 G-s	
22	.146 In/Sec	.115 G-s	
23	.436 In/Sec	.307 G-s	
31	.374 In/Sec		

32	.087 In/Sec		
33	.237 In/Sec		
41	.532 In/Sec		
42	.137 In/Sec		
51	.517 In/Sec		
53	.075 In/Sec		
61	.412 In/Sec		
63	.147 In/Sec		
71	.070 In/Sec		

P36-905C - N COOL TWR-EAST PUMP (02-Jul-21)

	OVERALL LEVEL	1-20 KHZ	
11	.104 In/Sec	.424 G-s	1780.0 RPM
12	.043 In/Sec	.361 G-s	
21	.091 In/Sec	.449 G-s	
22	.042 In/Sec	.375 G-s	
23	.068 In/Sec	.027 G-s	
71	.178 In/Sec	1.632 G-s	
72	.212 In/Sec	1.877 G-s	
73	.284 In/Sec	.253 G-s	
81	.203 In/Sec	.522 G-s	
82	.181 In/Sec	.588 G-s	
83	.259 In/Sec	.824 G-s	

P36-905A - N COOL TWR-NORTH PUMP (02-Jul-21)

	OVERALL LEVEL	1-20 KHZ	
11	.072 In/Sec	.461 G-s	1780.0 RPM
12	.049 In/Sec	.137 G-s	
21	.066 In/Sec	.700 G-s	
22	.059 In/Sec	.291 G-s	
23	.059 In/Sec	.032 G-s	
71	.106 In/Sec	1.108 G-s	
72	.085 In/Sec	1.309 G-s	
73	.139 In/Sec	.390 G-s	
81	.141 In/Sec	1.223 G-s	
82	.103 In/Sec	1.226 G-s	
83	.165 In/Sec	2.748 G-s	

C36-SOUTH - UTILITY AIRCOMP ROTARY 150HP (02-Jul-21)

	OVERALL LEVEL	1-20 KHZ	
11	.063 In/Sec	.655 G-s	1750.0 RPM
12	.066 In/Sec	.693 G-s	
21	.120 In/Sec	.743 G-s	
22	.073 In/Sec	.979 G-s	
23	.090 In/Sec	.997 G-s	
71	.072 In/Sec	.888 G-s	3570.0 RPM
72	.108 In/Sec	.860 G-s	
73	.147 In/Sec	2.377 G-s	
81	.243 In/Sec	1.801 G-s	
82	.143 In/Sec	1.432 G-s	
71F	.055 In/Sec	.874 G-s	
72F	.099 In/Sec	1.915 G-s	
81F	.170 In/Sec	1.535 G-s	
82F	.129 In/Sec	1.661 G-s	

R80-30 - AGITATOR GBX 15HP CHEMINEER (02-Jul-21)

	OVERALL LEVEL

11	.128 In/Sec	1760.0 RPM
12	.479 In/Sec	
21	.128 In/Sec	
22	.179 In/Sec	
23	.173 In/Sec	
31	.094 In/Sec	
32	.024 In/Sec	
33	.117 In/Sec	
41	.063 In/Sec	
42	.039 In/Sec	
51	.076 In/Sec	
61	.061 In/Sec	
63	.024 In/Sec	
71	.026 In/Sec	

Clarification Of Vibration Units:
Acc --> G-s PK
Vel --> In/Sec PK

Abbreviated Last Measurement Summary

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Database: penn.rbm
Station: PENNAKEM NEW CURRENT DATABASE
Route No. 8: PILOT-GUARD
Report Date: 07-Jul-21 07:38

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
CHLR45-1 - 20T TRANE CHILLER	(02-Jul-21)		
	OVERALL LEVEL		
11W	1.168 In/Sec		3570.0 RPM
12W	.519 In/Sec		
13W	.596 In/Sec		

Clarification Of Vibration Units:
Vel --> In/Sec PK