



MILLINGTON, TN

August 29, 2019

Blues City Brewery

Subject: August vibration service

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,

David W. Shook
Senior Reliability Specialists
Hi-Speed Industrial Service
dshook@gohispeed.com

Detailed Defects

Boiler 3 Fan Motor Bearings

Possible bearing defect frequencies in the motor. Spike in the trend. This bearing could be going out.

Rated a Class II Defect.

Reportable equipment

Filter Cellar Chill Water Circulator Pump 1

High vibrations are still near 2x line frequency and could indicate an air gap issue in the motor. Air gap issues are variations in the distance between the surface of the rotor and stator. This could be caused by poor machining of the motor housing and end bells or possibly a soft foot. Unbalanced electrical phases can duplicate the vibration also. Start inspections with a precision alignment and soft foot check, followed by a motor phase and voltage analysis up to and including PDMA if necessary. **Rated a Class III Defect.**

RO Water Pump 2

This unit still appears to have a vibration at vane pass. One vibration was above 0.8"/sec velocity peak. There could be wear in the pump, or there could be a flow issue. We recommend further inspection and adjustments of flow related controls, filters, screens or piping. Pump replacement might be considered to reduce the vibration. **Rated a Class III Defect.**

Air Compressor 4

The unit vibrations seems to be dominated by lobe passing fundamental frequency and harmonics. Check the fasteners for the motor and compressor just to be sure. We will keep an eye on it closely.

Rated a Class II Defect.

Ammonia Compressor 3

The motor could still be suffering from two issues. Plot data shows high frequency vibration peaks with 2 times line frequency sidebands. This is called a rotor bar issue. Some of the bars have weak or cracked end connections. As time progresses the vibrations usually tend to rise; ultimately, the bars will become loose and start to cause vibrations at shaft speed then with side bands. This motor also seems to have looseness, or excessive clearance in or around the bearings. Check the bearing clearances if possible for now. **Rated a Class II Defect.**

Boiler Feed Water Pump 1 South

The pump has a 1x RPM vibration at near 1/2"/sec velocity peak. Check for loose fasteners, poor condition of the shaft coupling or alignment, and or wear in the pump. **Rated a Class II Defect.**

HVAC Hot Water Circulator Pump

The unit vibrations are still at or near 0.5"/sec velocity peak. Ensure the coupling and alignment are good, and that there is no soft foot or pipe strain. **Rated a Class II Defect.**

Second Floor South Hot Water Pump

Shaft speed vibration dominated the unit vibration data at almost 1/2" per second velocity peak. Inspect the unit base, structure, coupling and fasteners for issues. Have the shaft alignment checked as time allows. **Rated a Class II Defect.**

Sugar Tank Pump 4

A jump in the axial at 3x and 6x RPM again could indicate a defective coupling insert if so equipped. Inspect the unit couplings for wear. Have the alignments checked as time becomes available.

Rated a Class III Defect.

3rd Floor North Malt Mill

Motor vibrations are around 0.5"/sec velocity peak. Inspect all fasteners for tightness and the belts and sheaves for wear and alignment. **Rated a Class II Defect.**

Last Monitored Machine List

Database: Blues_city.rbm
Station: POWER HOUSE
Report Date: 29-Aug-19 14:00
Report Interval: 30-Jul-19 To 29-Aug-19

PERIODIC VIBRATION TECHNOLOGY

Collected Machine...

MACHINE ID	DESCRIPTION	NUMBER OF POINTS	LATEST DATE
150HP	COMPRESSOR #4 - 150HP	12 OUT OF 12	28-Aug-19
COMP 5	COMPRESSOR #5	12 OUT OF 12	28-Aug-19
COMP 6	COMPRESSOR #6	12 OUT OF 12	28-Aug-19
BFW - N	BOILER FEED WATER PUMP N 1	11 OUT OF 11	28-Aug-19
BFW - S	BOILER FEED WATER PUMP S 3	10 OUT OF 10	28-Aug-19
FAN 3	BOILER FAN #3 - 1780 RPM Max	10 OUT OF 10	28-Aug-19
CR PUMP 1	CARBON RECIRC PUMP	10 OUT OF 10	28-Aug-19
YB PUMP 1	YELLOW BOX FILTERED WATER	10 OUT OF 10	28-Aug-19
SW PUMP 8	SERVICE WATER PUMP 8	10 OUT OF 10	28-Aug-19
SW PUMP 3	SERVICE WATER PUMP 3	10 OUT OF 10	28-Aug-19
RO 2	RO WATER PUMP 2	10 OUT OF 10	28-Aug-19
ACOMP #7	AMMONIA COMP - #2	18 OUT OF 18	28-Aug-19
800HP	AMMONIA COMP #3	20 OUT OF 20	28-Aug-19

Missed Machine...

MACHINE ID	DESCRIPTION	
250 COMP	COMPRESSOR #3 - 250HP	0 OUT OF 12
175 COMP	COMPRESSOR #2 - 175HP	0 OUT OF 12
COMP 1	COMPRESSOR #1	0 OUT OF 12
BFW - M	BOILER FEED WATER PUMP MID 2	0 OUT OF 10
FAN 1	BOILER FAN #1	0 OUT OF 8
FAN 2	BOILER FAN #2	0 OUT OF 5
MAKEUP #1	CHILLED WATER MAKEUP PUMP 1	0 OUT OF 10
MAKEUP #2	CHILLED WATER MAKEUP PUMP 2	0 OUT OF 10
MAKEUP #3	CHILLED WATER MAKEUP PUMP 3	0 OUT OF 10
SW PUMP 1	SERVICE WATER PUMP 1	0 OUT OF 10
SW PUMP 2	SERVICE WATER PUMP 2	0 OUT OF 10
SW PUMP 4	SERVICE WATER PUMP 4	0 OUT OF 10
SW PUMP 5	SERVICE WATER PUMP 5	0 OUT OF 10
SW PUMP 6	SERVICE WATER PUMP 6	0 OUT OF 10
RO 1	RO WATER PUMP 1	0 OUT OF 10
600HP	AMMONIA COMP #1	0 OUT OF 18
CW PUMP 1	CHILLED WATER FEED PUMP	0 OUT OF 10

Monitored Point Total = 155 OUT OF 332

Monitored Machine Total = 13 OUT OF 30

Last Monitored Machine List

Database: Blues_city.rbm
 Station: UPPER FLOORS
 Report Date: 29-Aug-19 14:00
 Report Interval: 30-Jul-19 To 29-Aug-19

PERIODIC VIBRATION TECHNOLOGY

Collected Machine...

MACHINE ID	DESCRIPTION	NUMBER OF POINTS	LATEST DATE
3MM-N	3RD FLOOR MALT MILL #3 - N	50 OUT OF 59	28-Aug-19
2SHWP	2ND FLOOR S. HOT WATER PUMP	10 OUT OF 10	28-Aug-19
GF-VP1	GALLERY DA VAC PUMP-SKID 1	10 OUT OF 10	28-Aug-19
GF-DP1	GALLERY DA DISCH PUMP-SKID 1	5 OUT OF 5	28-Aug-19
GF-CP1	GALLERY DA CIRC PUMP- SKID 1	5 OUT OF 5	28-Aug-19

Missed Machine...

MACHINE ID	DESCRIPTION	
4GB	4th FLOOR GRAIN BLOWER	0 OUT OF 10
3MM-S	3RD FLOOR MALT MILL#2 - S	0 OUT OF 59
2NHWP	2ND FLOOR N. HOT WATER PUMP	0 OUT OF 10
GF-VP2	GALLERY DA VAC PUMP-SKID 2	0 OUT OF 10
GF-DP2	GALLERY DA DISCH PUMP-SKID 2	0 OUT OF 5
GF-CP2	GALLERY DA CIRC PUMP- SKID 2	0 OUT OF 5

Monitored Point Total = 80 OUT OF 188

Monitored Machine Total = 5 OUT OF 11

Last Monitored Machine List

Database: Blues_city.rbm
 Station: BREWING 1ST FLOOR
 Report Date: 29-Aug-19 14:00
 Report Interval: 30-Jul-19 To 29-Aug-19

PERIODIC VIBRATION TECHNOLOGY

No Collected Machine...

Missed Machine...

MACHINE ID	DESCRIPTION	
LT-L1	LAUDER TUN - LEFT SIDE	0 OUT OF 14
LT-R1	LAUDER TUN - RIGHT SIDE	0 OUT OF 14

Last Monitored Machine List

Database: Blues_city.rbm
 Station: BREWING BASEMENT
 Report Date: 29-Aug-19 14:00

Report Interval: 30-Jul-19 To 29-Aug-19

PERIODIC VIBRATION TECHNOLOGY

No Collected Machine...

Missed Machine...

	MACHINE ID	DESCRIPTION	
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CIP1	CIP PUMP @ WORT TRANS PUMP	0 OUT OF 10	
WORTA	WORT TRANSFER PUMP A	0 OUT OF 10	
MASH TRANS	MASH TUN TRANSFER PUMP	0 OUT OF 10	
TNK 63 PMP	TANK 63 SUCROSE PUMP	0 OUT OF 10	
KCP1	KETTLE CIRC PUMP 1	0 OUT OF 10	
KCP2	KETTLE CIRC PUMP 2	0 OUT OF 10	
BKP1	BREW KETTLE PUMP (IN PIT)	0 OUT OF 10	
SGB-A	SPENT GRAIN BLOWER A	0 OUT OF 10	

Last Monitored Machine List

Database: Blues_city.rbm

Station: GRAIN TRANSFER

Report Date: 29-Aug-19 14:00

Report Interval: 30-Jul-19 To 29-Aug-19

PERIODIC VIBRATION TECHNOLOGY

No Collected Machine...

Missed Machine...

	MACHINE ID	DESCRIPTION	
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VB-E	VACUUM BLOWER EAST	0 OUT OF 10	
VB-W	VACUUM BLOWER WEST	0 OUT OF 10	
GUB-N	GRAIN UNLOAD BLOWER NORTH	0 OUT OF 10	
GUB-S	GRAIN UNLOAD BLOWER SOUTH	0 OUT OF 10	

Last Monitored Machine List

Database: Blues_city.rbm

Station: SUGAR PUMPS

Report Date: 29-Aug-19 14:00

Report Interval: 30-Jul-19 To 29-Aug-19

PERIODIC VIBRATION TECHNOLOGY

Collected Machine...

MACHINE ID	DESCRIPTION	NUMBER OF POINTS	LATEST DATE
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V3	SUGAR TANK VIKING PUMP #3	16 OUT OF 17	28-Aug-19
V4	SUGAR TANK VIKING PUMP #4	16 OUT OF 17	28-Aug-19
V5	SUGAR TANK VIKING PUMP #5	10 OUT OF 16	28-Aug-19

No Missed Machine...

Monitored Point Total = 42 OUT OF 50

Monitored Machine Total = 3 OUT OF 3

Last Monitored Machine List

Database: Blues_city.rbm

Station: ALCOHOL PUMP ROOM

Report Date: 29-Aug-19 14:00

Report Interval: 30-Jul-19 To 29-Aug-19

PERIODIC VIBRATION TECHNOLOGY

Collected Machine...

MACHINE ID	DESCRIPTION	NUMBER OF POINTS	LATEST DATE
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SK1 RO1	SKID 1 - RO PUMP #1	5 OUT OF 5	28-Aug-19
SK1 RO4	SKID 1 - RO PUMP #4	5 OUT OF 5	28-Aug-19
SK1 RO3	SKID 1 - RO PUMP #3	10 OUT OF 10	28-Aug-19
SK1 RO2	SKID 1 - RO PUMP #2	10 OUT OF 10	28-Aug-19
SK2 RO1	SKID 2 - RO PUMP #1	5 OUT OF 5	28-Aug-19
SK2 RO4	SKID 2 - RO PUMP #4	5 OUT OF 5	28-Aug-19
SK2 RO3	SKID 2 - RO PUMP #3	10 OUT OF 10	28-Aug-19
SK2 RO2	SKID 2 - RO PUMP #2	10 OUT OF 10	28-Aug-19

No Missed Machine...

Monitored Point Total = 60 OUT OF 60

Monitored Machine Total = 8 OUT OF 8

Last Monitored Machine List

Database: Blues_city.rbm

Station: ADMINISTRATIVE AREA

Report Date: 29-Aug-19 14:00

Report Interval: 30-Jul-19 To 29-Aug-19

PERIODIC VIBRATION TECHNOLOGY

Collected Machine...

MACHINE ID	DESCRIPTION	NUMBER OF POINTS	LATEST DATE
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HVAC COLD	HVAC COLD GLYCOL CIRC PUMP	10 OUT OF 10	28-Aug-19
HVAC HOT	HVAC HOT WATER CIRC PUMP	10 OUT OF 10	28-Aug-19

No Missed Machine...

Monitored Point Total = 20 OUT OF 20

Monitored Machine Total = 2 OUT OF 2
Last Monitored Machine List

Database: Blues_city.rbm
Station: FILTER CELLAR
Report Date: 29-Aug-19 14:00
Report Interval: 30-Jul-19 To 29-Aug-19

PERIODIC VIBRATION TECHNOLOGY

Collected Machine...

MACHINE ID	DESCRIPTION	NUMBER OF POINTS	LATEST DATE
CHILL 1	CHILL WATER CIRC PUMP #1	10 OUT OF 10	28-Aug-19
WARM GLY 1	WARM GLYCOL PUMP #1	10 OUT OF 10	28-Aug-19

Missed Machine...

MACHINE ID	DESCRIPTION	
CHILL 2	CHILL WATER CIRC PUMP #2	0 OUT OF 10
CHILL 3	CHILL WATER CIRC PUMP #3	0 OUT OF 10
W COOL A	CHILL WATER WORT COOL SIDE A	0 OUT OF 10
W COOL B	CHILL WATER WORT COOL SIDE B	0 OUT OF 10
WARM GLY 2	WARM GLYCOL PUMP #2	0 OUT OF 10
WARM GLY 3	WARM GLYCOL PUMP #3	0 OUT OF 10
WARM GLY 4	WARM GLYCOL PUMP #4	0 OUT OF 10
WARM GLY 5	WARM GLYCOL PUMP #5	0 OUT OF 10

Monitored Point Total = 20 OUT OF 100
Monitored Machine Total = 2 OUT OF 10
Last Monitored Machine List

Database: Blues_city.rbm
Station: GOVERNMENT CELLAR
Report Date: 29-Aug-19 14:01
Report Interval: 30-Jul-19 To 29-Aug-19

PERIODIC VIBRATION TECHNOLOGY

Collected Machine...

MACHINE ID	DESCRIPTION	NUMBER OF POINTS	LATEST DATE
NANO 126	NANO SKID PUMP 126	10 OUT OF 10	28-Aug-19
NANO 127	NANO SKID PUMP 127	10 OUT OF 10	28-Aug-19
NANO 128	NANO SKID PUMP 128	10 OUT OF 10	28-Aug-19
NANO 129	NANO SKID PUMP 129	10 OUT OF 10	28-Aug-19

Missed Machine...

MACHINE ID	DESCRIPTION
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COLD GLY 1	COLD GLYCOL PUMP #1	0 OUT OF 10
COLD GLY 2	COLD GLYCOL PUMP #2	0 OUT OF 10
COLD GLY 3	COLD GLYCOL PUMP #3	0 OUT OF 10
COLD GLY 4	COLD GLYCOL PUMP #4	0 OUT OF 10
COLD GLY 5	COLD GLYCOL PUMP #5	0 OUT OF 10
COLD GLY 6	COLD GLYCOL PUMP #6	0 OUT OF 10
PACK GLY 1	PACKAGING COLD GLYCOL PUMP 1	0 OUT OF 10
PACK GLY 2	PACKAGING COLD GLYCOL PUMP 2	0 OUT OF 10
AHU 2	AHU 2	0 OUT OF 10
AHU 3	AHU 3	0 OUT OF 10

Monitored Point Total = 40 OUT OF 140

Monitored Machine Total = 4 OUT OF 14

Last Monitored Machine List

Database: Blues_city.rbm

Station: UNUSED / REMOVED

Report Date: 29-Aug-19 14:02

Report Interval: 30-Jul-19 To 29-Aug-19

PERIODIC VIBRATION TECHNOLOGY

No Collected Machine...

Missed Machine...

	MACHINE ID	DESCRIPTION	
CC-1	CEREAL COOKER		0 OUT OF 15
MT-1	MASH TUN		0 OUT OF 15

Last Monitored Machine List

Database: Blues_city.rbm

The Entire Database

Report Date: 29-Aug-19 14:02

Report Interval: 30-Jul-19 To 29-Aug-19

 ***** OVERALL SUMMARY *****

PERIODIC VIBRATION TECHNOLOGY

Collected Machine...

Monitored Point Total = 417 OUT OF 890

Monitored Machine Total = 37 OUT OF 78

Abbreviated Last Measurement Summary

Database: Blues_city.rbm
Station: POWER HOUSE
Report Date: 29-Aug-19 14:09

MEASUREMENT POINT -----	OVERALL LEVEL -----	HFD / VHFD -----
150HP - COMPRESSOR #4 - 150HP (28-Aug-19)		
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.128 In/Sec	.452 G-s
12 - MOTOR OUTBOARD VERT	.251 In/Sec	.937 G-s
13 - MOTOR OUTBOARD AXIAL	.494 In/Sec	1.807 G-s
21 - MOTOR INBOARD HORIZ	.119 In/Sec	.805 G-s
22 - MOTOR INBOARD VERT	.371 In/Sec	1.058 G-s
23 - MOTOR INBOARD AXIAL	.363 In/Sec	.195 G-s
	OVERALL LEVEL	1-20 KHZ
71 - CPLG END HORIZ	.100 In/Sec	.375 G-s
72 - CPLG END VERT	.481 In/Sec	.427 G-s
73 - CPLG END AXIAL	.293 In/Sec	.452 G-s
81 - OPP END HORIZ	.091 In/Sec	.472 G-s
82 - OPP END VERT	.454 In/Sec	.856 G-s
83 - OPP END AXIAL	.447 In/Sec	.622 G-s
COMP 5 - COMPRESSOR #5 (28-Aug-19)		
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.248 In/Sec	.660 G-s
12 - MOTOR OUTBOARD VERT	.137 In/Sec	.729 G-s
13 - MOTOR OUTBOARD AXIAL	.158 In/Sec	.525 G-s
21 - MOTOR INBOARD HORIZ	.243 In/Sec	.747 G-s
22 - MOTOR INBOARD VERT	.088 In/Sec	.653 G-s
23 - MOTOR INBOARD AXIAL	.143 In/Sec	.491 G-s
	OVERALL LEVEL	1-20 KHZ
71 - CPLG END HORIZ	.140 In/Sec	.677 G-s
72 - CPLG END VERT	.155 In/Sec	.609 G-s
73 - CPLG END AXIAL	.172 In/Sec	.922 G-s
81 - OPP END HORIZ	.137 In/Sec	.835 G-s
82 - OPP END VERT	.057 In/Sec	.896 G-s
83 - OPP END AXIAL	.123 In/Sec	.692 G-s
COMP 6 - COMPRESSOR #6 (28-Aug-19)		
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.238 In/Sec	.543 G-s
12 - MOTOR OUTBOARD VERT	.079 In/Sec	3.109 G-s
13 - MOTOR OUTBOARD AXIAL	.131 In/Sec	.405 G-s
21 - MOTOR INBOARD HORIZ	.204 In/Sec	.789 G-s
22 - MOTOR INBOARD VERT	.114 In/Sec	1.548 G-s
23 - MOTOR INBOARD AXIAL	.129 In/Sec	.445 G-s
	OVERALL LEVEL	1-20 KHZ
71 - CPLG END HORIZ	.139 In/Sec	.791 G-s
72 - CPLG END VERT	.092 In/Sec	.667 G-s
73 - CPLG END AXIAL	.169 In/Sec	.963 G-s

81	- OPP END HORIZ	.108 In/Sec	.934 G-s
82	- OPP END VERT	.085 In/Sec	.572 G-s
83	- OPP END AXIAL	.109 In/Sec	.873 G-s

BFW - N - BOILER FEED WATER PUMP N 1 (28-Aug-19)

		OVERALL LEVEL	1-20 KHZ
11	- MOTOR TOP N-S	.142 In/Sec	.620 G-s
	11L - MOTOR TOP N-S LOW FREQ	.183 In/Sec	
12	- MOTOR TOP E-W	.144 In/Sec	.599 G-s
21	- MOTOR BOTTOM N-S	.229 In/Sec	.818 G-s
22	- MOTOR BOTTOM E-W	.118 In/Sec	.607 G-s
23	- MOTOR BOTTOM AXIAL	.064 In/Sec	.819 G-s
71	- PUMP TOP N-S	.280 In/Sec	1.386 G-s
72	- PUMP TOP E-W	.171 In/Sec	1.239 G-s
73	- PUMP TOP AXIAL	.124 In/Sec	.643 G-s
81	- PUMP BOTTOM N-S	.234 In/Sec	2.267 G-s
82	- PUMP BOTTOM E-W	.169 In/Sec	1.413 G-s

BFW - S - BOILER FEED WATER PUMP S 3 (28-Aug-19)

		OVERALL LEVEL	1-20 KHZ
11	- MOTOR TOP N-S	.078 In/Sec	.064 G-s
12	- MOTOR TOP E-W	.067 In/Sec	.172 G-s
21	- MOTOR BOTTOM N-S	.270 In/Sec	.372 G-s
22	- MOTOR BOTTOM E-W	.056 In/Sec	.353 G-s
23	- MOTOR BOTTOM AXIAL	.127 In/Sec	.017 G-s
71	- PUMP TOP N-S	.191 In/Sec	.873 G-s
72	- PUMP TOP E-W	.147 In/Sec	.859 G-s
73	- PUMP TOP AXIAL	.158 In/Sec	.386 G-s
81	- PUMP BOTTOM N-S	.423 In/Sec	1.691 G-s
82	- PUMP BOTTOM E-W	.185 In/Sec	.432 G-s

FAN 3 - BOILER FAN #3 - 1780 RPM Max (28-Aug-19)

		OVERALL LEVEL	1-20 KHZ
11	- MOTOR OUTBOARD HORIZ	.075 In/Sec	4.491 G-s
12	- MOTOR OUTBOARD VERT	.047 In/Sec	3.580 G-s
21	- MOTOR INBOARD HORIZ	.090 In/Sec	8.534 G-s
22	- MOTOR INBOARD VERT	.063 In/Sec	4.147 G-s
23	- MOTOR INBOARD AXIAL	.071 In/Sec	2.611 G-s
71	- FAN BEARING INBOARD HORZ	.066 In/Sec	1.078 G-s
72	- FAN BEARING INBOARD VERT	.056 In/Sec	.882 G-s
73	- FAN BEARING INBOARD AXIAL	.070 In/Sec	.767 G-s
81	- FAN BEARING OUTBOARD HORZ	.213 In/Sec	.681 G-s
82	- FAN BEARING OUTBOARD VERT	.133 In/Sec	.635 G-s

CR PUMP 1 - CARBON RECIRC PUMP (28-Aug-19)

		OVERALL LEVEL	1-20 KHZ
11	- MOTOR OUTBOARD HORIZ	.048 In/Sec	.118 G-s
12	- MOTOR OUTBOARD VERT	.028 In/Sec	.080 G-s
21	- MOTOR INBOARD HORIZ	.040 In/Sec	.195 G-s
22	- MOTOR INBOARD VERT	.056 In/Sec	.154 G-s
23	- MOTOR INBOARD AXIAL	.035 In/Sec	.043 G-s
71	- PUMP CPLG END HORIZ	.048 In/Sec	.251 G-s
72	- PUMP CPLG END VERT	.028 In/Sec	.260 G-s
73	- PUMP CPLG END AXIAL	.030 In/Sec	.421 G-s
81	- PUMP OPP END HORIZ	.028 In/Sec	.171 G-s
82	- PUMP OPP END VERT	.024 In/Sec	.122 G-s

YB PUMP 1 - YELLOW BOX FILTERED WATER (28-Aug-19)

	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.152 In/Sec	.763 G-s
12 - MOTOR OUTBOARD VERT	.082 In/Sec	1.236 G-s
21 - MOTOR INBOARD HORIZ	.132 In/Sec	.516 G-s
22 - MOTOR INBOARD VERT	.143 In/Sec	.432 G-s
23 - MOTOR INBOARD AXIAL	.169 In/Sec	.494 G-s
71 - PUMP CPLG END HORIZ	.336 In/Sec	.228 G-s
72 - PUMP CPLG END VERT	.305 In/Sec	.203 G-s
73 - PUMP CPLG END AXIAL	.390 In/Sec	.136 G-s
81 - PUMP OPP END HORIZ	.160 In/Sec	.134 G-s
82 - PUMP OPP END VERT	.144 In/Sec	.203 G-s

SW PUMP 8 - SERVICE WATER PUMP 8 (28-Aug-19)

	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.205 In/Sec	.360 G-s
12 - MOTOR OUTBOARD VERT	.229 In/Sec	.684 G-s
21 - MOTOR INBOARD HORIZ	.072 In/Sec	.514 G-s
22 - MOTOR INBOARD VERT	.252 In/Sec	.738 G-s
23 - MOTOR INBOARD AXIAL	.171 In/Sec	.304 G-s
71 - PUMP CPLG END HORIZ	.217 In/Sec	1.030 G-s
72 - PUMP CPLG END VERT	.213 In/Sec	.728 G-s
73 - PUMP CPLG END AXIAL	.194 In/Sec	.649 G-s
81 - PUMP OPP END HORIZ	.149 In/Sec	1.566 G-s
82 - PUMP OPP END VERT	.115 In/Sec	1.538 G-s

SW PUMP 3 - SERVICE WATER PUMP 3 (28-Aug-19)

	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.329 In/Sec	.504 G-s
12 - MOTOR OUTBOARD VERT	.188 In/Sec	.296 G-s
21 - MOTOR INBOARD HORIZ	.332 In/Sec	1.492 G-s
22 - MOTOR INBOARD VERT	.105 In/Sec	1.117 G-s
23 - MOTOR INBOARD AXIAL	.171 In/Sec	.607 G-s
71 - PUMP CPLG END HORIZ	.214 In/Sec	.764 G-s
72 - PUMP CPLG END VERT	.123 In/Sec	.856 G-s
73 - PUMP CPLG END AXIAL	.166 In/Sec	.924 G-s
81 - PUMP OPP END HORIZ	.110 In/Sec	.841 G-s
82 - PUMP OPP END VERT	.069 In/Sec	1.507 G-s

RO 2 - RO WATER PUMP 2 (28-Aug-19)

	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.112 In/Sec	.314 G-s
12 - MOTOR OUTBOARD VERT	.113 In/Sec	.815 G-s
21 - MOTOR INBOARD HORIZ	.191 In/Sec	.775 G-s
22 - MOTOR INBOARD VERT	.185 In/Sec	.543 G-s
23 - MOTOR INBOARD AXIAL	.149 In/Sec	.674 G-s
71 - PUMP CPLG END HORIZ	.814 In/Sec	.321 G-s
72 - PUMP CPLG END VERT	.279 In/Sec	.567 G-s
73 - PUMP CPLG END AXIAL	.343 In/Sec	.488 G-s
81 - PUMP OPP END HORIZ	.280 In/Sec	.675 G-s
82 - PUMP OPP END VERT	.170 In/Sec	.441 G-s

ACOMP #7 - AMMONIA COMP - #2 (28-Aug-19)

	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.054 In/Sec	.051 G-s
12 - MOTOR OUTBOARD VERT	.086 In/Sec	.109 G-s
13 - MOTOR OUTBOARD AXIAL	.108 In/Sec	.064 G-s

21	- MOTOR INBOARD HORIZ	.088 In/Sec	.095 G-s
22	- MOTOR INBOARD VERT	.065 In/Sec	.105 G-s
23	- MOTOR INBOARD AXIAL	.115 In/Sec	.024 G-s
	OVERALL LEVEL		1-20 KHz
71	- MALE - CPLG END HORIZ	.145 In/Sec	.668 G-s
72	- MALE - CPLG END VERT	.153 In/Sec	.618 G-s
73	- MALE-CPLG END AXIAL	.111 In/Sec	.388 G-s
81	- MALE- OPP END HORIZ	.112 In/Sec	.326 G-s
82	- MALE- OPP END VERT	.116 In/Sec	.211 G-s
83	- MALE-OPP END AXIAL	.072 In/Sec	.493 G-s
71F	- FEMALE - CPLG END HORIZ	.148 In/Sec	.700 G-s
72F	- FEMALE- CPLG END VERT	.120 In/Sec	.600 G-s
73F	- FEMALE-CPLG END AXIAL	.094 In/Sec	.520 G-s
81F	- FEMALE- OPP END HORIZ	.128 In/Sec	.402 G-s
82F	- FEMALE- OPP END VERT	.126 In/Sec	.384 G-s
83F	- FEMALE- OPP END AXIAL	.132 In/Sec	.549 G-s

800HP - AMMONIA COMP #3

(28-Aug-19)

	OVERALL LEVEL		1-20 KHz
11	- MOTOR OUTBOARD HORIZ	.399 In/Sec	1.198 G-s
	11H - MOTOR OUTBOARD HORIZ HIFREQ	.450 In/Sec	
12	- MOTOR OUTBOARD VERT	.260 In/Sec	2.585 G-s
	12H - MOTOR OUTBOARD VERT HIGH FREQ	.258 In/Sec	
13	- MOTOR OUTBOARD AXIAL	.217 In/Sec	2.059 G-s
21	- MOTOR INBOARD HORIZ	.142 In/Sec	.688 G-s
22	- MOTOR INBOARD VERT	.190 In/Sec	1.104 G-s
23	- MOTOR INBOARD AXIAL	.177 In/Sec	1.117 G-s
	OVERALL LEVEL		1-20 KHz
71	- MALE - CPLG END HORIZ	.180 In/Sec	.625 G-s
72	- MALE - CPLG END VERT	.226 In/Sec	.478 G-s
73	- MALE-CPLG END AXIAL	.256 In/Sec	.355 G-s
81	- MALE- OPP END HORIZ	.155 In/Sec	.677 G-s
82	- MALE- OPP END VERT	.242 In/Sec	.618 G-s
83	- MALE-OPP END AXIAL	.149 In/Sec	.191 G-s
71F	- FEMALE - CPLG END HORIZ	.206 In/Sec	.499 G-s
72F	- FEMALE- CPLG END VERT	.157 In/Sec	.736 G-s
73F	- FEMALE-CPLG END AXIAL	.194 In/Sec	1.697 G-s
81F	- FEMALE- OPP END HORIZ	.194 In/Sec	1.327 G-s
82F	- FEMALE- OPP END VERT	.130 In/Sec	.539 G-s
83F	- FEMALE- OPP END AXIAL	.185 In/Sec	.637 G-s

Clarification Of Vibration Units:

	Acc	-->	G-s	PK	
Vel	-->	In/Sec	PK		Abbreviated Last Measurement

Summary

Database: Blues_city.rbm
Station: UPPER FLOORS
Report Date: 29-Aug-19 14:09

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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3MM-N - 3RD FLOOR MALT MILL #3 - N (28-Aug-19)

OVERALL LEVEL 1-20 KHz

11	- MOTOR OUTBOARD HORIZ	.521 In/Sec	.201 G-s
12	- MOTOR OUTBOARD VERT	.390 In/Sec	.220 G-s
21	- MOTOR INBOARD HORIZ	.542 In/Sec	.206 G-s
22	- MOTOR INBOARD VERT	.452 In/Sec	.209 G-s
23	- MOTOR INBOARD AXIAL	.516 In/Sec	.145 G-s
		OVERALL LEVEL	1-20 KHz
1MH	- SHAFT 1 - MOTOR END HORIZ	.078 In/Sec	.234 G-s
1MV	- SHAFT 1 - MOTOR END VERT	.086 In/Sec	.198 G-s
1MA	- SHAFT 1 - MOTOR END AXIAL	.091 In/Sec	.282 G-s
1OH	- SHAFT 1 - OPP END HORIZ	.087 In/Sec	.168 G-s
1OV	- SHAFT 1 - OPP END VERT	.088 In/Sec	.130 G-s
1OA	- SHAFT 1 - OPP END AXIAL	.053 In/Sec	.125 G-s
2MH	- SHAFT 2 - MOTOR END HORIZ	.101 In/Sec	.174 G-s
2MV	- SHAFT 2 - MOTOR END VERT	.088 In/Sec	.147 G-s
2MA	- SHAFT 2 - MOTOR END AXIAL	.076 In/Sec	.146 G-s
2OH	- SHAFT 2 - OPP END HORIZ	.131 In/Sec	.108 G-s
2OV	- SHAFT 2 - OPP END VERT	.111 In/Sec	.102 G-s
2OA	- SHAFT 2 - OPP END AXIAL	.079 In/Sec	.172 G-s
3MH	- SHAFT 3 - MOTOR END HORIZ	.045 In/Sec	.031 G-s
3MV	- SHAFT 3 - MOTOR END VERT	.042 In/Sec	.074 G-s
3MA	- SHAFT 3 - MOTOR END AXIAL	.057 In/Sec	.292 G-s
3OH	- SHAFT 3 - OPP END HORIZ	.074 In/Sec	.189 G-s
3OV	- SHAFT 3 - OPP END VERT	.067 In/Sec	.178 G-s
3OA	- SHAFT 3 - OPP END AXIAL	.064 In/Sec	.338 G-s
4MH	- SHAFT 4 - MOTOR END HORIZ	.408 In/Sec	.142 G-s
4MV	- SHAFT 4 - MOTOR END VERT	.270 In/Sec	.277 G-s
4MA	- SHAFT 4 - MOTOR END AXIAL	.117 In/Sec	.027 G-s
4OH	- SHAFT 4 - OPP END HORIZ	.093 In/Sec	.352 G-s
4OV	- SHAFT 4 - OPP END VERT	.068 In/Sec	.217 G-s
4OA	- SHAFT 4 - OPP END AXIAL	.057 In/Sec	.201 G-s
5MH	- SHAFT 5 - MOTOR END HORIZ	.130 In/Sec	.292 G-s
5MV	- SHAFT 5 - MOTOR END VERT	.158 In/Sec	.464 G-s
5MA	- SHAFT 5 - MOTOR END AXIAL	.106 In/Sec	.273 G-s
5OH	- SHAFT 5 - OPP END HORIZ	.125 In/Sec	.410 G-s
5OV	- SHAFT 5 - OPP END VERT	.077 In/Sec	.389 G-s
5OA	- SHAFT 5 - OPP END AXIAL	.068 In/Sec	.314 G-s
6MH	- SHAFT 6 - MOTOR END HORIZ	.088 In/Sec	.372 G-s
6MV	- SHAFT 6 - MOTOR END VERT	.056 In/Sec	.293 G-s
6MA	- SHAFT 6 - MOTOR END AXIAL	.073 In/Sec	.233 G-s
6OH	- SHAFT 6 - OPP END HORIZ	.124 In/Sec	.236 G-s
6OV	- SHAFT 6 - OPP END VERT	.093 In/Sec	.345 G-s
6OA	- SHAFT 6 - OPP END AXIAL	.092 In/Sec	.375 G-s
7MH	- SHAFT 7 - MOTOR END HORIZ	.079 In/Sec	.171 G-s
7MV	- SHAFT 7 - MOTOR END VERT	.057 In/Sec	.238 G-s
7MA	- SHAFT 7 - MOTOR END AXIAL	.069 In/Sec	.206 G-s
8MH	- SHAFT 8 - MOTOR END HORIZ	.098 In/Sec	.194 G-s
8MV	- SHAFT 8 - MOTOR END VERT	.072 In/Sec	.238 G-s
8MA	- SHAFT 8 - MOTOR END AXIAL	.094 In/Sec	.258 G-s
9MH	- SHAFT 9 - MOTOR END HORIZ	.059 In/Sec	.106 G-s
9MV	- SHAFT 9 - MOTOR END VERT	.040 In/Sec	.109 G-s
9MA	- SHAFT 9 - MOTOR END AXIAL	.054 In/Sec	.229 G-s

2SHWP - 2ND FLOOR S. HOT WATER PUMP (28-Aug-19)

		OVERALL LEVEL	1-20 KHz
11	- MOTOR OUTBOARD HORIZ	.147 In/Sec	.791 G-s
12	- MOTOR OUTBOARD VERT	.381 In/Sec	1.014 G-s
21	- MOTOR INBOARD HORIZ	.163 In/Sec	1.234 G-s

22	- MOTOR INBOARD VERT	.409 In/Sec	1.237 G-s
23	- MOTOR INBOARD AXIAL	.526 In/Sec	1.531 G-s
71	- PUMP CPLG END HORIZ	.156 In/Sec	1.732 G-s
72	- PUMP CPLG END VERT	.253 In/Sec	1.571 G-s
73	- PUMP CPLG END AXIAL	.364 In/Sec	3.176 G-s
81	- PUMP OPP END HORIZ	.261 In/Sec	2.864 G-s
82	- PUMP OPP END VERT	.156 In/Sec	2.083 G-s

GF-VP1 - GALLERY DA VAC PUMP-SKID 1 (28-Aug-19)

		OVERALL LEVEL	1-20 KHZ
11	- MOTOR OUTBOARD HORIZ	.100 In/Sec	.157 G-s
12	- MOTOR OUTBOARD VERT	.516 In/Sec	.522 G-s
21	- MOTOR INBOARD HORIZ	.121 In/Sec	.374 G-s
22	- MOTOR INBOARD VERT	.159 In/Sec	.289 G-s
23	- MOTOR INBOARD AXIAL	.257 In/Sec	.171 G-s
		OVERALL LEVEL	1-20 KHZ
71	- COUPLING END HORIZ	.149 In/Sec	1.081 G-s
72	- COUPLING END VERT	.198 In/Sec	1.083 G-s
73	- COUPLING END AXIAL	.116 In/Sec	1.075 G-s
81	- OPP END HORIZ	.242 In/Sec	3.463 G-s
82	- OPP END VERT	.375 In/Sec	.581 G-s

GF-DP1 - GALLERY DA DISCH PUMP-SKID 1 (28-Aug-19)

		OVERALL LEVEL	1-20 KHZ
11	- MOTOR OUTBOARD HORIZ	.264 In/Sec	.172 G-s
12	- MOTOR OUTBOARD VERT	.227 In/Sec	.328 G-s
21	- MOTOR INBOARD HORIZ	.196 In/Sec	.557 G-s
22	- MOTOR INBOARD VERT	.111 In/Sec	.470 G-s
23	- MOTOR INBOARD AXIAL	.241 In/Sec	.265 G-s

GF-CP1 - GALLERY DA CIRC PUMP- SKID 1 (28-Aug-19)

		OVERALL LEVEL	1-20 KHZ
11	- MOTOR OUTBOARD HORIZ	.156 In/Sec	.319 G-s
12	- MOTOR OUTBOARD VERT	.289 In/Sec	.137 G-s
21	- MOTOR INBOARD HORIZ	.354 In/Sec	.498 G-s
22	- MOTOR INBOARD VERT	.151 In/Sec	.714 G-s
23	- MOTOR INBOARD AXIAL	.264 In/Sec	.607 G-s

Clarification Of Vibration Units:

	Acc	--> G-s	PK
Vel	--> In/Sec	PK	Abbreviated Last Measurement

Summary

Database: Blues_city.rbm

Station: BREWING 1ST FLOOR

Report Date: 29-Aug-19 14:09

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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*** NO DATA Was Found That Meets the Report Specification ***
Abbreviated Last Measurement Summary

Database: Blues_city.rbm

Station: BREWING BASEMENT
Report Date: 29-Aug-19 14:09

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

WORTA - WORT TRANSFER PUMP A (02-Jul-19)		
OVERALL LEVEL 1-20 KHZ		
11 - MOTOR OUTBOARD HORIZ	.144 In/Sec	.607 G-s
12 - MOTOR OUTBOARD VERT	.200 In/Sec	.607 G-s
21 - MOTOR INBOARD HORIZ	.181 In/Sec	.607 G-s
22 - MOTOR INBOARD VERT	.084 In/Sec	.607 G-s
23 - MOTOR INBOARD AXIAL	.431 In/Sec	.607 G-s
71 - PUMP CPLG END HORIZ	.102 In/Sec	.607 G-s
72 - PUMP CPLG END VERT	.064 In/Sec	.607 G-s
73 - PUMP CPLG END AXIAL	.118 In/Sec	.607 G-s
81 - PUMP OPP END HORIZ	.066 In/Sec	.607 G-s
82 - PUMP OPP END VERT	.062 In/Sec	.607 G-s
KCP2 - KETTLE CIRC PUMP 2 (02-Jul-19)		
OVERALL LEVEL 1-20 KHZ		
11 - MOTOR OUTBOARD HORIZ	.048 In/Sec	.607 G-s
12 - MOTOR OUTBOARD VERT	.018 In/Sec	.607 G-s
21 - MOTOR INBOARD HORIZ	.061 In/Sec	.607 G-s
22 - MOTOR INBOARD VERT	.050 In/Sec	.607 G-s
23 - MOTOR INBOARD AXIAL	.092 In/Sec	.607 G-s
71 - PUMP CPLG END HORIZ	.048 In/Sec	.607 G-s
72 - PUMP CPLG END VERT	.032 In/Sec	.607 G-s
73 - PUMP CPLG END AXIAL	.034 In/Sec	.607 G-s
81 - PUMP OPP END HORIZ	.058 In/Sec	.607 G-s
82 - PUMP OPP END VERT	.039 In/Sec	.607 G-s
BKP1 - BREW KETTLE PUMP (IN PIT) (02-Jul-19)		
OVERALL LEVEL 1-20 KHZ		
11 - MOTOR OUTBOARD HORIZ	.024 In/Sec	.607 G-s
12 - MOTOR OUTBOARD VERT	.018 In/Sec	.607 G-s
21 - MOTOR INBOARD HORIZ	.024 In/Sec	.607 G-s
22 - MOTOR INBOARD VERT	.032 In/Sec	.607 G-s
23 - MOTOR INBOARD AXIAL	.024 In/Sec	.607 G-s
71 - PUMP CPLG END HORIZ	.218 In/Sec	.607 G-s
72 - PUMP CPLG END VERT	.179 In/Sec	.607 G-s
73 - PUMP CPLG END AXIAL	.010 In/Sec	.607 G-s
81 - PUMP OPP END HORIZ	.062 In/Sec	.607 G-s
82 - PUMP OPP END VERT	.0079 In/Sec	.607 G-s

Clarification Of Vibration Units:

Vel	Acc	PK	Abbreviated Last Measurement
--> In/Sec	--> G-s		

Summary

Database: Blues_city.rbm
Station: GRAIN TRANSFER
Report Date: 29-Aug-19 14:09

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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*** NO DATA Was Found That Meets the Report Specification ***
 Abbreviated Last Measurement Summary

Database: Blues_city.rbm
 Station: SUGAR PUMPS
 Report Date: 29-Aug-19 14:09

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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V3 - SUGAR TANK VIKING PUMP #3 (28-Aug-19)		
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OB HORZ	.100 In/Sec	.317 G-s
12 - MOTOR OB VERT	.093 In/Sec	.281 G-s
21 - MOTOR IB HORZ	.054 In/Sec	.522 G-s
22 - MOTOR IB VERT	.103 In/Sec	.342 G-s
23 - MOTOR IB AXIAL	.089 In/Sec	.185 G-s
	OVERALL LEVEL	1-20 KHZ
31 - GEARBOX INPUT HORZ	.104 In/Sec	1.205 G-s
32 - GEARBOX INPUT VERT	.083 In/Sec	.885 G-s
33 - GEARBOX INPUT AXIAL	.088 In/Sec	.822 G-s
61 - GEARBOX OUTPUT HORZ	.103 In/Sec	1.759 G-s
62 - GEARBOX OUTPUT VERT	.070 In/Sec	.797 G-s
63 - GEARBOX OUTPUT AXIAL	.085 In/Sec	.779 G-s
	OVERALL LEVEL	1-20 KHZ
71 - PUMP IB HORZ	.082 In/Sec	.385 G-s
72 - PUMP IB VERT	.053 In/Sec	.460 G-s
73 - PUMP IB AXIAL	.125 In/Sec	.360 G-s
81 - PUMP OB HORZ	.106 In/Sec	.541 G-s
82 - PUMP OB VERT	.060 In/Sec	.079 G-s
V4 - SUGAR TANK VIKING PUMP #4 (28-Aug-19)		
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OB HORZ	.139 In/Sec	.289 G-s
12 - MOTOR OB VERT	.116 In/Sec	.283 G-s
21 - MOTOR IB HORZ	.099 In/Sec	.299 G-s
22 - MOTOR IB VERT	.278 In/Sec	.648 G-s
23 - MOTOR IB AXIAL	.161 In/Sec	.422 G-s
	OVERALL LEVEL	1-20 KHZ
31 - GEARBOX INPUT HORZ	.174 In/Sec	.499 G-s
32 - GEARBOX INPUT VERT	.314 In/Sec	.417 G-s
33 - GEARBOX INPUT AXIAL	.624 In/Sec	.325 G-s
61 - GEARBOX OUTPUT HORZ	.125 In/Sec	.440 G-s
62 - GEARBOX OUTPUT VERT	.323 In/Sec	.391 G-s
63 - GEARBOX OUTPUT AXIAL	.631 In/Sec	.295 G-s
	OVERALL LEVEL	1-20 KHZ
71 - PUMP IB HORZ	.187 In/Sec	.224 G-s
72 - PUMP IB VERT	.367 In/Sec	.654 G-s
73 - PUMP IB AXIAL	.162 In/Sec	.636 G-s
81 - PUMP OB HORZ	.075 In/Sec	.351 G-s
82 - PUMP OB VERT	.265 In/Sec	.509 G-s
V5 - SUGAR TANK VIKING PUMP #5 (28-Aug-19)		
	OVERALL LEVEL	1-20 KHZ

11	- MOTOR OB HORZ	.064 In/Sec	.268 G-s
12	- MOTOR OB VERT	.044 In/Sec	.377 G-s
21	- MOTOR IB HORZ	.062 In/Sec	.333 G-s
22	- MOTOR IB VERT	.037 In/Sec	.351 G-s
23	- MOTOR IB AXIAL	.056 In/Sec	.595 G-s
71	- PUMP IB HORZ	.050 In/Sec	.725 G-s
72	- PUMP IB VERT	.039 In/Sec	.598 G-s
73	- PUMP IB AXIAL	.056 In/Sec	.228 G-s
81	- PUMP OB HORZ	.042 In/Sec	.449 G-s
82	- PUMP OB VERT	.091 In/Sec	.557 G-s

Clarification Of Vibration Units:

Vel	--> In/Sec	PK	Acc --> G-s	PK	Abbreviated Last Measurement
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Summary

Database: Blues_city.rbm
Station: ALCOHOL PUMP ROOM
Report Date: 29-Aug-19 14:09

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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SK1 RO1 - SKID 1 - RO PUMP #1	(28-Aug-19)	
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.065 In/Sec	.497 G-s
12 - MOTOR OUTBOARD VERT	.037 In/Sec	.443 G-s
21 - MOTOR INBOARD HORIZ	.097 In/Sec	.541 G-s
22 - MOTOR INBOARD VERT	.120 In/Sec	.452 G-s
23 - MOTOR INBOARD AXIAL	.122 In/Sec	.702 G-s
SK1 RO4 - SKID 1 - RO PUMP #4	(28-Aug-19)	
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.073 In/Sec	.195 G-s
12 - MOTOR OUTBOARD VERT	.108 In/Sec	.181 G-s
21 - MOTOR INBOARD HORIZ	.096 In/Sec	.230 G-s
22 - MOTOR INBOARD VERT	.079 In/Sec	.262 G-s
23 - MOTOR INBOARD AXIAL	.114 In/Sec	.128 G-s
SK1 RO3 - SKID 1 - RO PUMP #3	(28-Aug-19)	
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.213 In/Sec	1.084 G-s
12 - MOTOR OUTBOARD VERT	.206 In/Sec	.827 G-s
21 - MOTOR INBOARD HORIZ	.163 In/Sec	1.126 G-s
22 - MOTOR INBOARD VERT	.215 In/Sec	.831 G-s
23 - MOTOR INBOARD AXIAL	.321 In/Sec	.600 G-s
71 - PUMP CPLG END HORIZ	.123 In/Sec	.752 G-s
72 - PUMP CPLG END VERT	.305 In/Sec	.895 G-s
73 - PUMP CPLG END AXIAL	.232 In/Sec	.222 G-s
81 - PUMP OPP END HORIZ	.138 In/Sec	.693 G-s
82 - PUMP OPP END VERT	.146 In/Sec	.653 G-s
SK1 RO2 - SKID 1 - RO PUMP #2	(28-Aug-19)	
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.064 In/Sec	1.771 G-s

12	- MOTOR OUTBOARD VERT	.059 In/Sec	.945 G-s
21	- MOTOR INBOARD HORIZ	.052 In/Sec	1.149 G-s
22	- MOTOR INBOARD VERT	.050 In/Sec	.918 G-s
23	- MOTOR INBOARD AXIAL	.074 In/Sec	.460 G-s
71	- PUMP CPLG END HORIZ	.049 In/Sec	.456 G-s
72	- PUMP CPLG END VERT	.062 In/Sec	.503 G-s
73	- PUMP CPLG END AXIAL	.129 In/Sec	.969 G-s
81	- PUMP OPP END HORIZ	.060 In/Sec	.857 G-s
82	- PUMP OPP END VERT	.069 In/Sec	.590 G-s

SK2 RO1 - SKID 2 - RO PUMP #1

(28-Aug-19)

OVERALL LEVEL		1-20 KHZ
11	- MOTOR OUTBOARD HORIZ	.084 In/Sec
12	- MOTOR OUTBOARD VERT	.078 In/Sec
21	- MOTOR INBOARD HORIZ	.057 In/Sec
22	- MOTOR INBOARD VERT	.182 In/Sec
23	- MOTOR INBOARD AXIAL	.039 In/Sec

11	- MOTOR OUTBOARD HORIZ	.084 In/Sec	.361 G-s
12	- MOTOR OUTBOARD VERT	.078 In/Sec	.530 G-s
21	- MOTOR INBOARD HORIZ	.057 In/Sec	.630 G-s
22	- MOTOR INBOARD VERT	.182 In/Sec	.404 G-s
23	- MOTOR INBOARD AXIAL	.039 In/Sec	.203 G-s

SK2 RO4 - SKID 2 - RO PUMP #4

(28-Aug-19)

OVERALL LEVEL		1-20 KHZ
11	- MOTOR OUTBOARD HORIZ	.065 In/Sec
12	- MOTOR OUTBOARD VERT	.103 In/Sec
21	- MOTOR INBOARD HORIZ	.060 In/Sec
22	- MOTOR INBOARD VERT	.070 In/Sec
23	- MOTOR INBOARD AXIAL	.071 In/Sec

11	- MOTOR OUTBOARD HORIZ	.065 In/Sec	.120 G-s
12	- MOTOR OUTBOARD VERT	.103 In/Sec	.123 G-s
21	- MOTOR INBOARD HORIZ	.060 In/Sec	.128 G-s
22	- MOTOR INBOARD VERT	.070 In/Sec	.134 G-s
23	- MOTOR INBOARD AXIAL	.071 In/Sec	.047 G-s

SK2 RO3 - SKID 2 - RO PUMP #3

(28-Aug-19)

OVERALL LEVEL		1-20 KHZ
11	- MOTOR OUTBOARD HORIZ	.165 In/Sec
12	- MOTOR OUTBOARD VERT	.305 In/Sec
21	- MOTOR INBOARD HORIZ	.144 In/Sec
22	- MOTOR INBOARD VERT	.242 In/Sec
23	- MOTOR INBOARD AXIAL	.266 In/Sec
71	- PUMP CPLG END HORIZ	.157 In/Sec
72	- PUMP CPLG END VERT	.223 In/Sec
73	- PUMP CPLG END AXIAL	.222 In/Sec
81	- PUMP OPP END HORIZ	.164 In/Sec
82	- PUMP OPP END VERT	.225 In/Sec

11	- MOTOR OUTBOARD HORIZ	.165 In/Sec	1.104 G-s
12	- MOTOR OUTBOARD VERT	.305 In/Sec	1.446 G-s
21	- MOTOR INBOARD HORIZ	.144 In/Sec	.570 G-s
22	- MOTOR INBOARD VERT	.242 In/Sec	.778 G-s
23	- MOTOR INBOARD AXIAL	.266 In/Sec	.179 G-s
71	- PUMP CPLG END HORIZ	.157 In/Sec	.802 G-s
72	- PUMP CPLG END VERT	.223 In/Sec	1.136 G-s
73	- PUMP CPLG END AXIAL	.222 In/Sec	.808 G-s
81	- PUMP OPP END HORIZ	.164 In/Sec	.702 G-s
82	- PUMP OPP END VERT	.225 In/Sec	.817 G-s

SK2 RO2 - SKID 2 - RO PUMP #2

(28-Aug-19)

OVERALL LEVEL		1-20 KHZ
11	- MOTOR OUTBOARD HORIZ	.081 In/Sec
12	- MOTOR OUTBOARD VERT	.102 In/Sec
21	- MOTOR INBOARD HORIZ	.098 In/Sec
22	- MOTOR INBOARD VERT	.057 In/Sec
23	- MOTOR INBOARD AXIAL	.075 In/Sec
71	- PUMP CPLG END HORIZ	.079 In/Sec
72	- PUMP CPLG END VERT	.075 In/Sec
73	- PUMP CPLG END AXIAL	.168 In/Sec
81	- PUMP OPP END HORIZ	.115 In/Sec
82	- PUMP OPP END VERT	.099 In/Sec

11	- MOTOR OUTBOARD HORIZ	.081 In/Sec	.592 G-s
12	- MOTOR OUTBOARD VERT	.102 In/Sec	.536 G-s
21	- MOTOR INBOARD HORIZ	.098 In/Sec	.766 G-s
22	- MOTOR INBOARD VERT	.057 In/Sec	.533 G-s
23	- MOTOR INBOARD AXIAL	.075 In/Sec	.317 G-s
71	- PUMP CPLG END HORIZ	.079 In/Sec	.822 G-s
72	- PUMP CPLG END VERT	.075 In/Sec	.694 G-s
73	- PUMP CPLG END AXIAL	.168 In/Sec	.372 G-s
81	- PUMP OPP END HORIZ	.115 In/Sec	.943 G-s
82	- PUMP OPP END VERT	.099 In/Sec	.612 G-s

Clarification Of Vibration Units:

		Acc	-->	G-s	PK
Vel	-->	In/Sec	PK		Abbreviated Last Measurement
Summary					

Database: Blues_city.rbm
 Station: ADMINISTRATIVE AREA
 Report Date: 29-Aug-19 14:09

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
HVAC COLD - HVAC COLD GLYCOL CIRC PUMP (28-Aug-19)		
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.055 In/Sec	.348 G-s
12 - MOTOR OUTBOARD VERT	.056 In/Sec	.411 G-s
21 - MOTOR INBOARD HORIZ	.111 In/Sec	.402 G-s
22 - MOTOR INBOARD VERT	.047 In/Sec	.357 G-s
23 - MOTOR INBOARD AXIAL	.113 In/Sec	.173 G-s
71 - PUMP CPLG END HORIZ	.160 In/Sec	.221 G-s
72 - PUMP CPLG END VERT	.109 In/Sec	.482 G-s
73 - PUMP CPLG END AXIAL	.067 In/Sec	.763 G-s
81 - PUMP OPP END HORIZ	.203 In/Sec	.390 G-s
82 - PUMP OPP END VERT	.096 In/Sec	.588 G-s
HVAC HOT - HVAC HOT WATER CIRC PUMP (28-Aug-19)		
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.244 In/Sec	.710 G-s
12 - MOTOR OUTBOARD VERT	.243 In/Sec	.868 G-s
21 - MOTOR INBOARD HORIZ	.368 In/Sec	.931 G-s
22 - MOTOR INBOARD VERT	.333 In/Sec	.810 G-s
23 - MOTOR INBOARD AXIAL	.419 In/Sec	.106 G-s
71 - PUMP CPLG END HORIZ	.321 In/Sec	.377 G-s
72 - PUMP CPLG END VERT	.202 In/Sec	.812 G-s
73 - PUMP CPLG END AXIAL	.546 In/Sec	1.037 G-s
81 - PUMP OPP END HORIZ	.232 In/Sec	.335 G-s
82 - PUMP OPP END VERT	.231 In/Sec	.170 G-s

Clarification Of Vibration Units:

Acc --> G-s PK
 Vel --> In/Sec PK
 PK Abbreviated Last Measurement

Summary

Database: Blues_city.rbm
 Station: FILTER CELLAR
 Report Date: 29-Aug-19 14:09

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
CHILL 1 - CHILL WATER CIRC PUMP #1 (28-Aug-19)		
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	1.043 In/Sec	.962 G-s
12 - MOTOR OUTBOARD VERT	.301 In/Sec	.375 G-s
21 - MOTOR INBOARD HORIZ	.946 In/Sec	.329 G-s
22 - MOTOR INBOARD VERT	.163 In/Sec	1.037 G-s
23 - MOTOR INBOARD AXIAL	.273 In/Sec	1.249 G-s
71 - PUMP CPLG END HORIZ	.294 In/Sec	.819 G-s

72	- PUMP CPLG END VERT	.109 In/Sec	.875 G-s
73	- PUMP CPLG END AXIAL	.159 In/Sec	.879 G-s
81	- PUMP OPP END HORIZ	.204 In/Sec	.526 G-s
82	- PUMP OPP END VERT	.060 In/Sec	.376 G-s

WARM GLY 1 - WARM GLYCOL PUMP #1 (28-Aug-19)

		OVERALL LEVEL	1-20 KHZ
11	- MOTOR OUTBOARD HORIZ	.044 In/Sec	.110 G-s
12	- MOTOR OUTBOARD VERT	.054 In/Sec	.265 G-s
21	- MOTOR INBOARD HORIZ	.080 In/Sec	.286 G-s
22	- MOTOR INBOARD VERT	.088 In/Sec	.195 G-s
23	- MOTOR INBOARD AXIAL	.122 In/Sec	.070 G-s
71	- PUMP CPLG END HORIZ	.163 In/Sec	.230 G-s
72	- PUMP CPLG END VERT	.164 In/Sec	.216 G-s
73	- PUMP CPLG END AXIAL	.096 In/Sec	.166 G-s
81	- PUMP OPP END HORIZ	.055 In/Sec	.143 G-s
82	- PUMP OPP END VERT	.088 In/Sec	.179 G-s

Clarification Of Vibration Units:

Vel	--> In/Sec	Acc	--> G-s	PK	Abbreviated Last Measurement
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Summary

Database: Blues_city.rbm
 Station: GOVERNMENT CELLAR
 Report Date: 29-Aug-19 14:09

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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COLD GLY 1 - COLD GLYCOL PUMP #1 (02-Jul-19)

		OVERALL LEVEL	1-20 KHZ
11	- MOTOR OUTBOARD HORIZ	.077 In/Sec	.179 G-s
12	- MOTOR OUTBOARD VERT	.023 In/Sec	.179 G-s
21	- MOTOR INBOARD HORIZ	.078 In/Sec	.179 G-s
22	- MOTOR INBOARD VERT	.045 In/Sec	.179 G-s
23	- MOTOR INBOARD AXIAL	.058 In/Sec	.179 G-s
71	- PUMP CPLG END HORIZ	.096 In/Sec	.179 G-s
72	- PUMP CPLG END VERT	.077 In/Sec	.179 G-s
73	- PUMP CPLG END AXIAL	.058 In/Sec	.179 G-s
81	- PUMP OPP END HORIZ	.042 In/Sec	.179 G-s
82	- PUMP OPP END VERT	.058 In/Sec	.179 G-s

COLD GLY 4 - COLD GLYCOL PUMP #4 (02-Jul-19)

		OVERALL LEVEL	1-20 KHZ
11	- MOTOR OUTBOARD HORIZ	.135 In/Sec	.179 G-s
12	- MOTOR OUTBOARD VERT	.035 In/Sec	.179 G-s
21	- MOTOR INBOARD HORIZ	.123 In/Sec	.179 G-s
22	- MOTOR INBOARD VERT	.064 In/Sec	.179 G-s
23	- MOTOR INBOARD AXIAL	.082 In/Sec	.179 G-s
71	- PUMP CPLG END HORIZ	.054 In/Sec	.179 G-s
72	- PUMP CPLG END VERT	.035 In/Sec	.179 G-s
73	- PUMP CPLG END AXIAL	.055 In/Sec	.179 G-s
81	- PUMP OPP END HORIZ	.035 In/Sec	.179 G-s
82	- PUMP OPP END VERT	.066 In/Sec	.179 G-s

COLD GLY 5 - COLD GLYCOL PUMP #5

(02-Jul-19)

	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.188 In/Sec	.179 G-s
12 - MOTOR OUTBOARD VERT	.223 In/Sec	.179 G-s
21 - MOTOR INBOARD HORIZ	.268 In/Sec	.179 G-s
22 - MOTOR INBOARD VERT	.290 In/Sec	.179 G-s
23 - MOTOR INBOARD AXIAL	.250 In/Sec	.179 G-s
71 - PUMP CPLG END HORIZ	.093 In/Sec	.179 G-s
72 - PUMP CPLG END VERT	.036 In/Sec	.179 G-s
73 - PUMP CPLG END AXIAL	.049 In/Sec	.179 G-s
81 - PUMP OPP END HORIZ	.035 In/Sec	.179 G-s
82 - PUMP OPP END VERT	.034 In/Sec	.179 G-s

COLD GLY 6 - COLD GLYCOL PUMP #6

(02-Jul-19)

	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.049 In/Sec	.179 G-s
12 - MOTOR OUTBOARD VERT	.025 In/Sec	.179 G-s
21 - MOTOR INBOARD HORIZ	.082 In/Sec	.179 G-s
22 - MOTOR INBOARD VERT	.044 In/Sec	.179 G-s
23 - MOTOR INBOARD AXIAL	.073 In/Sec	.179 G-s
71 - PUMP CPLG END HORIZ	.038 In/Sec	.179 G-s
72 - PUMP CPLG END VERT	.019 In/Sec	.179 G-s
73 - PUMP CPLG END AXIAL	.076 In/Sec	.179 G-s
81 - PUMP OPP END HORIZ	.031 In/Sec	.179 G-s
82 - PUMP OPP END VERT	.026 In/Sec	.179 G-s

PACK GLY 2 - PACKAGING COLD GLYCOL PUMP 2 (02-Jul-19)

	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.016 In/Sec	.179 G-s
12 - MOTOR OUTBOARD VERT	.030 In/Sec	.179 G-s
21 - MOTOR INBOARD HORIZ	.026 In/Sec	.179 G-s
22 - MOTOR INBOARD VERT	.015 In/Sec	.179 G-s
23 - MOTOR INBOARD AXIAL	.015 In/Sec	.179 G-s
71 - PUMP CPLG END HORIZ	.037 In/Sec	.179 G-s
72 - PUMP CPLG END VERT	.037 In/Sec	.179 G-s
73 - PUMP CPLG END AXIAL	.056 In/Sec	.179 G-s
81 - PUMP OPP END HORIZ	.023 In/Sec	.179 G-s
82 - PUMP OPP END VERT	.017 In/Sec	.179 G-s

NANO 126 - NANO SKID PUMP 126

(28-Aug-19)

	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.159 In/Sec	.353 G-s
12 - MOTOR OUTBOARD VERT	.163 In/Sec	1.322 G-s
21 - MOTOR INBOARD HORIZ	.108 In/Sec	.740 G-s
22 - MOTOR INBOARD VERT	.084 In/Sec	.661 G-s
23 - MOTOR INBOARD AXIAL	.156 In/Sec	.310 G-s
71 - PUMP CPLG END HORIZ	.134 In/Sec	.558 G-s
72 - PUMP CPLG END VERT	.096 In/Sec	.511 G-s
73 - PUMP CPLG END AXIAL	.105 In/Sec	.160 G-s
81 - PUMP OPP END HORIZ	.078 In/Sec	.409 G-s
82 - PUMP OPP END VERT	.064 In/Sec	.374 G-s

NANO 127 - NANO SKID PUMP 127

(28-Aug-19)

	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.112 In/Sec	.364 G-s
12 - MOTOR OUTBOARD VERT	.117 In/Sec	1.468 G-s

21	- MOTOR INBOARD HORIZ	.172 In/Sec	.653 G-s
22	- MOTOR INBOARD VERT	.173 In/Sec	.512 G-s
23	- MOTOR INBOARD AXIAL	.237 In/Sec	.624 G-s
71	- PUMP CPLG END HORIZ	.185 In/Sec	.464 G-s
72	- PUMP CPLG END VERT	.163 In/Sec	.456 G-s
73	- PUMP CPLG END AXIAL	.119 In/Sec	.178 G-s
81	- PUMP OPP END HORIZ	.335 In/Sec	.555 G-s
82	- PUMP OPP END VERT	.168 In/Sec	.397 G-s

NANO 128 - NANO SKID PUMP 128

(28-Aug-19)

		OVERALL LEVEL	1-20 KHZ
11	- MOTOR OUTBOARD HORIZ	.241 In/Sec	.420 G-s
12	- MOTOR OUTBOARD VERT	.084 In/Sec	2.309 G-s
21	- MOTOR INBOARD HORIZ	.307 In/Sec	1.697 G-s
22	- MOTOR INBOARD VERT	.125 In/Sec	.959 G-s
23	- MOTOR INBOARD AXIAL	.129 In/Sec	.698 G-s
71	- PUMP CPLG END HORIZ	.127 In/Sec	.439 G-s
72	- PUMP CPLG END VERT	.175 In/Sec	.462 G-s
73	- PUMP CPLG END AXIAL	.215 In/Sec	.158 G-s
81	- PUMP OPP END HORIZ	.124 In/Sec	.329 G-s
82	- PUMP OPP END VERT	.093 In/Sec	.308 G-s

NANO 129 - NANO SKID PUMP 129

(28-Aug-19)

		OVERALL LEVEL	1-20 KHZ
11	- MOTOR OUTBOARD HORIZ	.140 In/Sec	.507 G-s
12	- MOTOR OUTBOARD VERT	.115 In/Sec	2.378 G-s
21	- MOTOR INBOARD HORIZ	.123 In/Sec	2.808 G-s
22	- MOTOR INBOARD VERT	.134 In/Sec	1.827 G-s
23	- MOTOR INBOARD AXIAL	.152 In/Sec	1.052 G-s
71	- PUMP CPLG END HORIZ	.083 In/Sec	.593 G-s
72	- PUMP CPLG END VERT	.094 In/Sec	.626 G-s
73	- PUMP CPLG END AXIAL	.136 In/Sec	.352 G-s
81	- PUMP OPP END HORIZ	.057 In/Sec	.390 G-s
82	- PUMP OPP END VERT	.087 In/Sec	.385 G-s

Clarification Of Vibration Units:

		Acc	-->	G-s	PK	
Vel	-->	In/Sec	PK			Abbreviated Last Measurement

Summary

Database: Blues_city.rbm
 Station: UNUSED / REMOVED
 Report Date: 29-Aug-19 14:09

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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*** NO DATA Was Found That Meets the Report Specification ***