HI-SPEED INDUSTRIAL SERVICE

MILLINGTON, TN

August 29, 2019

Blues City Brewery

Subject: September 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,

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Detailed Defects

Boiler 3 Fan Motor Bearings
Possible bearing defect frequencies in the motor; which look to be from fluting. Increase in the acceleration trend. Expect to change out the bearings in the future. **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.**

Sugar Tank Pump 4
The dominant 3x RPM vibration as well as the stepped time waveform are good indicators of a coupling and or alignment issue. The increase in vibrations require action. Inspect the unit soon. Replace worn or damaged components and re-align the shafts on the whole drivetrain. **Rated a Class III Defect.**

Reportable equipment

Filter Cellar Chill Water Circulator Pump 1
High vibrations are still at 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; however the overall vibration dropped to 0.66”/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 II Defect.**

Air Compressor 4
The unit vibrations still 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 I Defect.**

Boiler Feed Water Pump 2 Middle
The pump has a 1x RPM vibration at 0.646”/sec velocity peak at the pump top. Check for loose fasteners, poor condition of the shaft coupling or alignment, and or wear in the pump. **Rated a Class II Defect.**

Boiler Feed Water Pump 1 South
The pump has a 1x RPM vibration similar the middle pump but at only0.4”/sec. Check for loose fasteners, poor condition of the shaft coupling or alignment, and or wear in the pump only if time allows. **Rated a Class I 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.**

Yellow Box Filtered Water Pump
There has been an upward trend in what appears to be shaft harmonics for the inboard pump measurement. The overall peak velocity has risen to 0.674”/sec.
We recommend a thorough inspection of the pump and coupling. Check for looseness. **Rated a Class III Defect.**

Service Water Pump 8
Vibrations indicate possible coupling and or alignment issue. Inspect, repair and align.
Rated a Class II Defect.

Chill Water Wort A
Data indicates distress in the pump bearings. Be prepared to replace the pump in the near future.
Rated a Class II Defect.

G Cellar #4 Cold Glycol Pump
The pump vibration data shows race defects in the pump bearings.
Replace the Unit at the next opportunity. **Rated a Class III Defect.**

G Cellar #5 Cold Glycol Pump
Motor data shows multiple shaft speed harmonics throughout. Inspect the motor bearing, shaft and fits for looseness. Check all fasteners. **Rated a Class II Defect.**

Boiler 1 Fan
Check the unit for any issues. Drive housing measurements were at near 0.8”/sec velocity. Not sure if this correlates to any particular component.
Rated a Class II Defect.

Last Monitored Machine List

Database: Blues_city.rbm
Station: POWER HOUSE
Report Date: 03-Oct-19 07:22
Report Interval: 03-Sep-19 To 03-Oct-19

PERIODIC VIBRATION TECHNOLOGY

Collected Machine...

MACHINE ID	DESCRIPTION	NUMBER OF POINTS	LATEST DATE
250 COMP	COMPRESSOR #3 - 250HP	11 OUT OF 12	30-Sep-19
150HP	COMPRESSOR #4 - 150HP	12 OUT OF 12	30-Sep-19
COMP 5	COMPRESSOR #5	11 OUT OF 12	30-Sep-19
BFW - M	BOILER FEED WATER PUMP MID 2	10 OUT OF 10	30-Sep-19
BFW - 1S	BOILER FEED WATER PUMP S 1	10 OUT OF 10	30-Sep-19
FAN 1	BOILER FAN #1	8 OUT OF 8	30-Sep-19
FAN 3	BOILER FAN #3 - 1780 RPM Max	10 OUT OF 10	30-Sep-19
CR PUMP 1	CARBON RECIRC PUMP	10 OUT OF 10	30-Sep-19
YB PUMP 1	YELLOW BOX FILTERED WATER	10 OUT OF 10	30-Sep-19
SW PUMP 8	SERVICE WATER PUMP 8	10 OUT OF 10	30-Sep-19
SW PUMP 3	SERVICE WATER PUMP 3	10 OUT OF 10	30-Sep-19
RO 2	RO WATER PUMP 2	10 OUT OF 10	30-Sep-19
ACOMP #7	AMMONIA COMP - #2	18 OUT OF 18	30-Sep-19
800HP	AMMONIA COMP #3	20 OUT OF 20	30-Sep-19

Missed Machine...

MACHINE ID	DESCRIPTION	
175 COMP	COMPRESSOR #2 - 175HP	0 OUT OF 12
COMP 1	COMPRESSOR #1	0 OUT OF 12
COMP 6	COMPRESSOR #6	0 OUT OF 12
BFW - 3N	BOILER FEED WATER PUMP N 3	0 OUT OF 11
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 = 160 OUT OF 332
Monitored Machine Total = 14 OUT OF 30

Last Monitored Machine List

Database: Blues_city.rbm
Station: UPPER FLOORS
Report Date: 03-Oct-19 07:23
Report Interval: 03-Sep-19 To 03-Oct-19

PERIODIC VIBRATION TECHNOLOGY

Collected Machine...

MACHINE ID	DESCRIPTION	NUMBER OF POINTS	LATEST DATE
2NHWP	2ND FLOOR N. HOT WATER PUMP	10 OUT OF 10	30-Sep-19
GF-VP1	GALLERY DA VAC PUMP-SKID 1	10 OUT OF 10	30-Sep-19
GF-DP1	GALLERY DA DISCH PUMP-SKID 1	5 OUT OF 5	30-Sep-19
GF-CP1	GALLERY DA CIRC PUMP- SKID 1	5 OUT OF 5	30-Sep-19

Missed Machine...

MACHINE ID	DESCRIPTION	
4GB	4th FLOOR GRAIN BLOWER	0 OUT OF 10
3MM-N	3RD FLOOR MALT MILL #3 - N	0 OUT OF 59
3MM-S	3RD FLOOR MALT MILL#2 - S	0 OUT OF 59
2SHWP	2ND FLOOR S. 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 = 30 OUT OF 188
Monitored Machine Total = 4 OUT OF 11

Last Monitored Machine List
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Database: Blues_city.rbm
Station: BREWING 1ST FLOOR
Report Date: 03-Oct-19 07:23
Report Interval: 03-Sep-19 To 03-Oct-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
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Database: Blues_city.rbm
Station: BREWING BASEMENT
Report Date: 03-Oct-19 07:23

Report Interval: 03-Sep-19 To 03-Oct-19

PERIODIC VIBRATION TECHNOLOGY

Collected Machine...

MACHINE ID	DESCRIPTION	NUMBER OF POINTS	LATEST DATE
KCP2	KETTLE CIRC PUMP 2	10 OUT OF 10	30-Sep-19

Missed Machine...

MACHINE ID	DESCRIPTION	
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
BKP1	BREW KETTLE PUMP (IN PIT)	0 OUT OF 10
SGB-A	SPENT GRAIN BLOWER A	0 OUT OF 10

Monitored Point Total = 10 OUT OF 80
Monitored Machine Total = 1 OUT OF 8
Last Monitored Machine List
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Database: Blues_city.rbm
Station: GRAIN TRANSFER
Report Date: 03-Oct-19 07:23
Report Interval: 03-Sep-19 To 03-Oct-19

PERIODIC VIBRATION TECHNOLOGY

No Collected Machine...

Missed Machine...

MACHINE ID	DESCRIPTION	
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
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Database: Blues_city.rbm
Station: SUGAR PUMPS
Report Date: 03-Oct-19 07:23
Report Interval: 03-Sep-19 To 03-Oct-19

PERIODIC VIBRATION TECHNOLOGY

Collected Machine...

MACHINE ID	DESCRIPTION	NUMBER OF POINTS	LATEST DATE
V3	SUGAR TANK VIKING PUMP #3	13 OUT OF 17	30-Sep-19
V4	SUGAR TANK VIKING PUMP #4	13 OUT OF 17	30-Sep-19
V5	SUGAR TANK VIKING PUMP #5	8 OUT OF 16	30-Sep-19

No Missed Machine...

Monitored Point Total = 34 OUT OF 50
Monitored Machine Total = 3 OUT OF 3

Last Monitored Machine List
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Database: Blues_city.rbm
Station: ALCOHOL PUMP ROOM
Report Date: 03-Oct-19 07:23
Report Interval: 03-Sep-19 To 03-Oct-19

PERIODIC VIBRATION TECHNOLOGY

Collected Machine...

MACHINE ID	DESCRIPTION	NUMBER OF POINTS	LATEST DATE
SK1 RO1	SKID 1 - RO PUMP #1	5 OUT OF 5	30-Sep-19
SK1 RO4	SKID 1 - RO PUMP #4	5 OUT OF 5	30-Sep-19
SK1 RO3	SKID 1 - RO PUMP #3	10 OUT OF 10	30-Sep-19
SK1 RO2	SKID 1 - RO PUMP #2	10 OUT OF 10	30-Sep-19
SK2 RO1	SKID 2 - RO PUMP #1	5 OUT OF 5	30-Sep-19
SK2 RO4	SKID 2 - RO PUMP #4	5 OUT OF 5	30-Sep-19
SK2 RO3	SKID 2 - RO PUMP #3	10 OUT OF 10	30-Sep-19
SK2 RO2	SKID 2 - RO PUMP #2	10 OUT OF 10	30-Sep-19

No Missed Machine...

Monitored Point Total = 60 OUT OF 60
Monitored Machine Total = 8 OUT OF 8

Last Monitored Machine List
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Database: Blues_city.rbm
Station: ADMINISTRATIVE AREA
Report Date: 03-Oct-19 07:23
Report Interval: 03-Sep-19 To 03-Oct-19

PERIODIC VIBRATION TECHNOLOGY

Collected Machine...

MACHINE ID	DESCRIPTION	NUMBER OF POINTS	LATEST DATE
HVAC COLD	HVAC COLD GLYCOL CIRC PUMP	10 OUT OF 10	30-Sep-19

HVAC HOT	HVAC HOT WATER CIRC PUMP	10 OUT OF 10	30-Sep-19

No Missed Machine...

Monitored Point Total = 20 OUT OF 20
Monitored Machine Total = 2 OUT OF 2

Last Monitored Machine List
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Database: Blues_city.rbm
Station: FILTER CELLAR
Report Date: 03-Oct-19 07:23
Report Interval: 03-Sep-19 To 03-Oct-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	30-Sep-19
W COOL A	CHILL WATER WORT COOL SIDE A	10 OUT OF 10	30-Sep-19
WARM GLY 1	WARM GLYCOL PUMP #1	10 OUT OF 10	30-Sep-19
WARM GLY 2	WARM GLYCOL PUMP #2	10 OUT OF 10	30-Sep-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 B	CHILL WATER WORT COOL SIDE B	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 = 40 OUT OF 100
Monitored Machine Total = 4 OUT OF 10

Last Monitored Machine List
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Database: Blues_city.rbm
Station: GOVERNMENT CELLAR
Report Date: 03-Oct-19 07:23
Report Interval: 03-Sep-19 To 03-Oct-19

PERIODIC VIBRATION TECHNOLOGY

Collected Machine...

MACHINE ID	DESCRIPTION	NUMBER OF POINTS	LATEST DATE
COLD GLY 1	COLD GLYCOL PUMP #1	10 OUT OF 10	30-Sep-19
COLD GLY 4	COLD GLYCOL PUMP #4	10 OUT OF 10	30-Sep-19
COLD GLY 5	COLD GLYCOL PUMP #5	10 OUT OF 10	30-Sep-19

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   COLD GLY 6  COLD GLYCOL PUMP #6             10 OUT OF 10       30-Sep-19
   PACK GLY 1  PACKAGING COLD GLYCOL PUMP 1    10 OUT OF 10       30-Sep-19

  Missed Machine...

   MACHINE ID           DESCRIPTION
   ----------           -----------
   COLD GLY 2  COLD GLYCOL PUMP #2              0 OUT OF 10
   COLD GLY 3  COLD GLYCOL PUMP #3              0 OUT OF 10
   PACK GLY 2  PACKAGING COLD GLYCOL PUMP 2     0 OUT OF 10
   NANO 126    NANO SKID PUMP 126               0 OUT OF 10
   NANO 127    NANO SKID PUMP 127               0 OUT OF 10
   NANO 128    NANO SKID PUMP 128               0 OUT OF 10
   NANO 129    NANO SKID PUMP 129               0 OUT OF 10
   AHU 2       AHU 2                            0 OUT OF 10
   AHU 3       AHU 3                            0 OUT OF 10

               Monitored Point Total =         50 OUT OF 140
               Monitored Machine Total =        5 OUT OF 14
                           Last Monitored Machine List
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              Database:  Blues_city.rbm
              Station:   UNUSED / REMOVED
              Report Date:  03-Oct-19   07:23
              Report Interval:  03-Sep-19  To  03-Oct-19


PERIODIC VIBRATION TECHNOLOGY

  No Collected Machine...


  Missed Machine...

   MACHINE ID           DESCRIPTION
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   CC-1        CEREAL COOKER                    0 OUT OF 15
   MT-1        MASH TUN                         0 OUT OF 15
Last Monitored Machine List
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              Database:  Blues_city.rbm
              The Entire Database
              Report Date:  03-Oct-19   07:24
              Report Interval:  03-Sep-19  To  03-Oct-19


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             *************** OVERALL SUMMARY ****************
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PERIODIC VIBRATION TECHNOLOGY

  Collected Machine...
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Monitored Point Total = 404 OUT OF 970
Monitored Machine Total = 41 OUT OF 86

Abbreviated Last Measurement Summary

Database: Blues_city.rbm
Station: POWER HOUSE
Report Date: 03-Oct-19 07:25

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
250 COMP - COMPRESSOR #3 - 250HP	(30-Sep-19)	
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.117 In/Sec	2.673 G-s
12 - MOTOR OUTBOARD VERT	.149 In/Sec	2.312 G-s
13 - MOTOR OUTBOARD AXIAL	.149 In/Sec	.839 G-s
21 - MOTOR INBOARD HORIZ	.145 In/Sec	2.658 G-s
22 - MOTOR INBOARD VERT	.142 In/Sec	2.014 G-s
23 - MOTOR INBOARD AXIAL	.140 In/Sec	.999 G-s
	OVERALL LEVEL	1-20 KHz
71 - CPLG END HORIZ	.204 In/Sec	2.461 G-s
72 - CPLG END VERT	.103 In/Sec	2.225 G-s
73 - CPLG END AXIAL	.239 In/Sec	1.797 G-s
81 - OPP END HORIZ	.132 In/Sec	1.646 G-s
82 - OPP END VERT	.118 In/Sec	1.811 G-s
150HP - COMPRESSOR #4 - 150HP	(30-Sep-19)	
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.083 In/Sec	.376 G-s
12 - MOTOR OUTBOARD VERT	.235 In/Sec	.894 G-s
13 - MOTOR OUTBOARD AXIAL	.492 In/Sec	2.212 G-s
21 - MOTOR INBOARD HORIZ	.149 In/Sec	.757 G-s
22 - MOTOR INBOARD VERT	.394 In/Sec	1.159 G-s
23 - MOTOR INBOARD AXIAL	.244 In/Sec	.450 G-s
	OVERALL LEVEL	1-20 KHz
71 - CPLG END HORIZ	.214 In/Sec	.322 G-s
72 - CPLG END VERT	.512 In/Sec	.812 G-s
73 - CPLG END AXIAL	.134 In/Sec	.397 G-s
81 - OPP END HORIZ	.198 In/Sec	.653 G-s
82 - OPP END VERT	.454 In/Sec	1.142 G-s
83 - OPP END AXIAL	.466 In/Sec	.714 G-s
COMP 5 - COMPRESSOR #5	(30-Sep-19)	
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.132 In/Sec	.322 G-s
12 - MOTOR OUTBOARD VERT	.084 In/Sec	.935 G-s
13 - MOTOR OUTBOARD AXIAL	.137 In/Sec	.441 G-s
21 - MOTOR INBOARD HORIZ	.194 In/Sec	.324 G-s
22 - MOTOR INBOARD VERT	.073 In/Sec	.612 G-s
23 - MOTOR INBOARD AXIAL	.137 In/Sec	.356 G-s
	OVERALL LEVEL	1-20 KHz
71 - CPLG END HORIZ	.126 In/Sec	.982 G-s

72	– CPLG END VERT	.115 In/Sec	.691 G-s
73	– CPLG END AXIAL	.130 In/Sec	.880 G-s
81	– OPP END HORIZ	.102 In/Sec	1.387 G-s
82	– OPP END VERT	.050 In/Sec	1.242 G-s

BFW – M	– BOILER FEED WATER PUMP MID 2	(30–Sep–19)	
		OVERALL LEVEL	1–20 KHZ
11	– MOTOR TOP N–S	.238 In/Sec	.810 G-s
12	– MOTOR TOP E–W	.074 In/Sec	.889 G-s
21	– MOTOR BOTTOM N–S	.211 In/Sec	.743 G-s
22	– MOTOR BOTTOM E–W	.095 In/Sec	.625 G-s
23	– MOTOR BOTTOM AXIAL	.051 In/Sec	.773 G-s
71	– PUMP TOP N–S	.646 In/Sec	.982 G-s
72	– PUMP TOP E–W	.193 In/Sec	1.398 G-s
73	– PUMP TOP AXIAL	.085 In/Sec	.760 G-s
81	– PUMP BOTTOM N–S	.499 In/Sec	1.813 G-s
82	– PUMP BOTTOM E–W	.174 In/Sec	1.223 G-s

BFW – 1S	– BOILER FEED WATER PUMP S 1	(30–Sep–19)	
		OVERALL LEVEL	1–20 KHZ
11	– MOTOR TOP N–S	.217 In/Sec	.253 G-s
12	– MOTOR TOP E–W	.082 In/Sec	.119 G-s
21	– MOTOR BOTTOM N–S	.217 In/Sec	.501 G-s
22	– MOTOR BOTTOM E–W	.077 In/Sec	.392 G-s
23	– MOTOR BOTTOM AXIAL	.160 In/Sec	.394 G-s
71	– PUMP TOP N–S	.409 In/Sec	1.452 G-s
72	– PUMP TOP E–W	.168 In/Sec	1.609 G-s
73	– PUMP TOP AXIAL	.087 In/Sec	.754 G-s
81	– PUMP BOTTOM N–S	.444 In/Sec	2.353 G-s
82	– PUMP BOTTOM E–W	.099 In/Sec	1.564 G-s

FAN 1	– BOILER FAN #1	(30–Sep–19)	
		OVERALL LEVEL	1–20 KHZ
11	– MOTOR OUTBOARD HORIZ	.333 In/Sec	.177 G-s
12	– MOTOR OUTBOARD VERT	.402 In/Sec	.057 G-s
21	– MOTOR INBOARD HORIZ	.254 In/Sec	.615 G-s
22	– MOTOR INBOARD VERT	.276 In/Sec	.655 G-s
23	– MOTOR INBOARD AXIAL	.232 In/Sec	.505 G-s
71	– FAN BRG HORIZONTAL	.841 In/Sec	.158 G-s
72	– FAN BRG VERTICAL	.386 In/Sec	.182 G-s
73	– FAN BRG AXIAL	.489 In/Sec	.305 G-s

FAN 3	– BOILER FAN #3 – 1780 RPM Max	(30–Sep–19)	
		OVERALL LEVEL	1–20 KHZ
11	– MOTOR OUTBOARD HORIZ	.102 In/Sec	3.676 G-s
12	– MOTOR OUTBOARD VERT	.058 In/Sec	6.572 G-s
21	– MOTOR INBOARD HORIZ	.119 In/Sec	3.870 G-s
22	– MOTOR INBOARD VERT	.074 In/Sec	7.889 G-s
23	– MOTOR INBOARD AXIAL	.076 In/Sec	4.629 G-s
71	– FAN BEARING INBOARD HORZ	.052 In/Sec	2.453 G-s
72	– FAN BEARING INBOARD VERT	.054 In/Sec	1.176 G-s
73	– FAN BEARING INBOARD AXIAL	.080 In/Sec	.943 G-s
81	– FAN BEARING OUTBOARD HORZ	.130 In/Sec	.071 G-s
82	– FAN BEARING OUTBOARD VERT	.181 In/Sec	.379 G-s

CR PUMP 1	– CARBON RECIRC PUMP	(30–Sep–19)	
		OVERALL LEVEL	1–20 KHZ

11	– MOTOR OUTBOARD HORIZ	.039 In/Sec	.129 G-s
12	– MOTOR OUTBOARD VERT	.057 In/Sec	.116 G-s
21	– MOTOR INBOARD HORIZ	.051 In/Sec	.144 G-s
22	– MOTOR INBOARD VERT	.070 In/Sec	.153 G-s
23	– MOTOR INBOARD AXIAL	.102 In/Sec	.068 G-s
71	– PUMP CPLG END HORIZ	.051 In/Sec	.202 G-s
72	– PUMP CPLG END VERT	.051 In/Sec	.351 G-s
73	– PUMP CPLG END AXIAL	.041 In/Sec	.118 G-s
81	– PUMP OPP END HORIZ	.061 In/Sec	.099 G-s
82	– PUMP OPP END VERT	.026 In/Sec	.061 G-s

YB PUMP 1 – YELLOW BOX FILTERED WATER (30-Sep-19)

		OVERALL LEVEL	1-20 KHZ
11	– MOTOR OUTBOARD HORIZ	.165 In/Sec	.654 G-s
12	– MOTOR OUTBOARD VERT	.073 In/Sec	1.252 G-s
21	– MOTOR INBOARD HORIZ	.258 In/Sec	.421 G-s
22	– MOTOR INBOARD VERT	.151 In/Sec	.338 G-s
23	– MOTOR INBOARD AXIAL	.181 In/Sec	1.023 G-s
71	– PUMP CPLG END HORIZ	.674 In/Sec	.416 G-s
72	– PUMP CPLG END VERT	.389 In/Sec	.315 G-s
73	– PUMP CPLG END AXIAL	.265 In/Sec	.299 G-s
81	– PUMP OPP END HORIZ	.265 In/Sec	.486 G-s
82	– PUMP OPP END VERT	.225 In/Sec	.277 G-s

SW PUMP 8 – SERVICE WATER PUMP 8 (30-Sep-19)

		OVERALL LEVEL	1-20 KHZ
11	– MOTOR OUTBOARD HORIZ	.125 In/Sec	.184 G-s
12	– MOTOR OUTBOARD VERT	.214 In/Sec	.691 G-s
21	– MOTOR INBOARD HORIZ	.098 In/Sec	.852 G-s
22	– MOTOR INBOARD VERT	.222 In/Sec	.562 G-s
23	– MOTOR INBOARD AXIAL	.506 In/Sec	.328 G-s
71	– PUMP CPLG END HORIZ	.301 In/Sec	.721 G-s
72	– PUMP CPLG END VERT	.220 In/Sec	.552 G-s
73	– PUMP CPLG END AXIAL	.211 In/Sec	.872 G-s
81	– PUMP OPP END HORIZ	.153 In/Sec	1.328 G-s
82	– PUMP OPP END VERT	.150 In/Sec	1.327 G-s

SW PUMP 3 – SERVICE WATER PUMP 3 (30-Sep-19)

		OVERALL LEVEL	1-20 KHZ
11	– MOTOR OUTBOARD HORIZ	.290 In/Sec	.455 G-s
12	– MOTOR OUTBOARD VERT	.110 In/Sec	.437 G-s
21	– MOTOR INBOARD HORIZ	.265 In/Sec	1.215 G-s
22	– MOTOR INBOARD VERT	.099 In/Sec	1.048 G-s
23	– MOTOR INBOARD AXIAL	.103 In/Sec	.240 G-s
71	– PUMP CPLG END HORIZ	.207 In/Sec	1.207 G-s
72	– PUMP CPLG END VERT	.137 In/Sec	.830 G-s
73	– PUMP CPLG END AXIAL	.204 In/Sec	1.216 G-s
81	– PUMP OPP END HORIZ	.195 In/Sec	1.313 G-s
82	– PUMP OPP END VERT	.063 In/Sec	.864 G-s

RO 2 – RO WATER PUMP 2 (30-Sep-19)

		OVERALL LEVEL	1-20 KHZ
11	– MOTOR OUTBOARD HORIZ	.139 In/Sec	.734 G-s
12	– MOTOR OUTBOARD VERT	.120 In/Sec	.656 G-s
21	– MOTOR INBOARD HORIZ	.156 In/Sec	.653 G-s
22	– MOTOR INBOARD VERT	.182 In/Sec	.510 G-s
23	– MOTOR INBOARD AXIAL	.152 In/Sec	.331 G-s

71 – PUMP CPLG END HORIZ	.663 In/Sec	.333 G-s
72 – PUMP CPLG END VERT	.212 In/Sec	.560 G-s
73 – PUMP CPLG END AXIAL	.271 In/Sec	.557 G-s
81 – PUMP OPP END HORIZ	.150 In/Sec	.579 G-s
82 – PUMP OPP END VERT	.252 In/Sec	.376 G-s

ACOMP #7 – AMMONIA COMP – #2	(30-Sep-19)	
	OVERALL LEVEL	1-20 KHZ
11 – MOTOR OUTBOARD HORIZ	.081 In/Sec	.261 G-s
12 – MOTOR OUTBOARD VERT	.073 In/Sec	.046 G-s
13 – MOTOR OUTBOARD AXIAL	.116 In/Sec	.030 G-s
21 – MOTOR INBOARD HORIZ	.089 In/Sec	.121 G-s
22 – MOTOR INBOARD VERT	.038 In/Sec	.115 G-s
23 – MOTOR INBOARD AXIAL	.090 In/Sec	.110 G-s
	OVERALL LEVEL	1-20 KHz
71 – MALE – CPLG END HORIZ	.138 In/Sec	.687 G-s
72 – MALE – CPLG END VERT	.149 In/Sec	.589 G-s
73 – MALE-CPLG END AXIAL	.119 In/Sec	.173 G-s
81 – MALE- OPP END HORIZ	.115 In/Sec	.312 G-s
82 – MALE- OPP END VERT	.095 In/Sec	.411 G-s
83 – MALE-OPP END AXIAL	.085 In/Sec	.499 G-s
71F – FEMALE – CPLG END HORIZ	.134 In/Sec	.677 G-s
72F – FEMALE- CPLG END VERT	.116 In/Sec	.649 G-s
73F – FEMALE-CPLG END AXIAL	.096 In/Sec	.597 G-s
81F – FEMALE- OPP END HORIZ	.060 In/Sec	.727 G-s
82F – FEMALE- OPP END VERT	.116 In/Sec	.813 G-s
83F – FEMALE- OPP END AXIAL	.065 In/Sec	.438 G-s

800HP – AMMONIA COMP #3	(30-Sep-19)	
	OVERALL LEVEL	1-20 KHZ
11 – MOTOR OUTBOARD HORIZ	.430 In/Sec	1.028 G-s
11H – MOTOR OUTBOARD HORIZ HIFREQ	.468 In/Sec	
12 – MOTOR OUTBOARD VERT	.285 In/Sec	.955 G-s
12H – MOTOR OUTBOARD VERT HIGH FREQ	.283 In/Sec	
13 – MOTOR OUTBOARD AXIAL	.155 In/Sec	.934 G-s
21 – MOTOR INBOARD HORIZ	.177 In/Sec	2.093 G-s
22 – MOTOR INBOARD VERT	.209 In/Sec	2.529 G-s
23 – MOTOR INBOARD AXIAL	.147 In/Sec	1.850 G-s
	OVERALL LEVEL	1-20 KHz
71 – MALE – CPLG END HORIZ	.236 In/Sec	1.037 G-s
72 – MALE – CPLG END VERT	.189 In/Sec	.544 G-s
73 – MALE-CPLG END AXIAL	.127 In/Sec	1.630 G-s
81 – MALE- OPP END HORIZ	.151 In/Sec	.964 G-s
82 – MALE- OPP END VERT	.213 In/Sec	.586 G-s
83 – MALE-OPP END AXIAL	.133 In/Sec	.795 G-s
71F – FEMALE – CPLG END HORIZ	.211 In/Sec	.538 G-s
72F – FEMALE- CPLG END VERT	.126 In/Sec	.584 G-s
73F – FEMALE-CPLG END AXIAL	.227 In/Sec	1.580 G-s
81F – FEMALE- OPP END HORIZ	.159 In/Sec	.996 G-s
82F – FEMALE- OPP END VERT	.154 In/Sec	.576 G-s
83F – FEMALE- OPP END AXIAL	.185 In/Sec	.119 G-s

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

Abbreviated Last Measurement Summary

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Database: Blues_city.rbm
Station: UPPER FLOORS
Report Date: 03-Oct-19 07:25

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
2NHWP - 2ND FLOOR N. HOT WATER PUMP	(30-Sep-19)	
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.134 In/Sec	.404 G-s
12 - MOTOR OUTBOARD VERT	.059 In/Sec	.527 G-s
21 - MOTOR INBOARD HORIZ	.067 In/Sec	.536 G-s
22 - MOTOR INBOARD VERT	.117 In/Sec	.321 G-s
23 - MOTOR INBOARD AXIAL	.163 In/Sec	.164 G-s
71 - PUMP CPLG END HORIZ	.181 In/Sec	1.721 G-s
72 - PUMP CPLG END VERT	.185 In/Sec	1.313 G-s
73 - PUMP CPLG END AXIAL	.188 In/Sec	2.279 G-s
81 - PUMP OPP END HORIZ	.173 In/Sec	2.213 G-s
82 - PUMP OPP END VERT	.114 In/Sec	2.243 G-s
GF-VP1 - GALLERY DA VAC PUMP-SKID 1	(30-Sep-19)	
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.178 In/Sec	.131 G-s
12 - MOTOR OUTBOARD VERT	.192 In/Sec	.133 G-s
21 - MOTOR INBOARD HORIZ	.120 In/Sec	.418 G-s
22 - MOTOR INBOARD VERT	.216 In/Sec	.337 G-s
23 - MOTOR INBOARD AXIAL	.225 In/Sec	.115 G-s
	OVERALL LEVEL	1-20 KHz
71 - COUPLING END HORIZ	.184 In/Sec	.933 G-s
72 - COUPLING END VERT	.236 In/Sec	1.055 G-s
73 - COUPLING END AXIAL	.195 In/Sec	.615 G-s
81 - OPP END HORIZ	.262 In/Sec	3.163 G-s
82 - OPP END VERT	.358 In/Sec	2.640 G-s
GF-DP1 - GALLERY DA DISCH PUMP-SKID 1	(30-Sep-19)	
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.156 In/Sec	.034 G-s
12 - MOTOR OUTBOARD VERT	.189 In/Sec	.399 G-s
21 - MOTOR INBOARD HORIZ	.161 In/Sec	.832 G-s
22 - MOTOR INBOARD VERT	.139 In/Sec	.755 G-s
23 - MOTOR INBOARD AXIAL	.265 In/Sec	.617 G-s
GF-CP1 - GALLERY DA CIRC PUMP- SKID 1	(30-Sep-19)	
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.140 In/Sec	.236 G-s
12 - MOTOR OUTBOARD VERT	.384 In/Sec	.062 G-s
21 - MOTOR INBOARD HORIZ	.441 In/Sec	.846 G-s
22 - MOTOR INBOARD VERT	.211 In/Sec	.551 G-s
23 - MOTOR INBOARD AXIAL	.258 In/Sec	.518 G-s

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

Abbreviated Last Measurement Summary

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Database: Blues_city.rbm
Station: BREWING 1ST FLOOR
Report Date: 03-Oct-19 07:25

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

*** NO DATA Was Found That Meets the Report Specification ***

Abbreviated Last Measurement Summary

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Database: Blues_city.rbm
Station: BREWING BASEMENT
Report Date: 03-Oct-19 07:25

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
KCP2 - KETTLE CIRC PUMP 2	(30-Sep-19)	
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.061 In/Sec	.530 G-s
12 - MOTOR OUTBOARD VERT	.024 In/Sec	.711 G-s
21 - MOTOR INBOARD HORIZ	.066 In/Sec	.794 G-s
22 - MOTOR INBOARD VERT	.060 In/Sec	.115 G-s
23 - MOTOR INBOARD AXIAL	.102 In/Sec	1.426 G-s
71 - PUMP CPLG END HORIZ	.044 In/Sec	.177 G-s
72 - PUMP CPLG END VERT	.030 In/Sec	.189 G-s
73 - PUMP CPLG END AXIAL	.032 In/Sec	.172 G-s
81 - PUMP OPP END HORIZ	.028 In/Sec	.157 G-s
82 - PUMP OPP END VERT	.039 In/Sec	.183 G-s

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

Abbreviated Last Measurement Summary

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Database: Blues_city.rbm
Station: GRAIN TRANSFER
Report Date: 03-Oct-19 07:25

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

*** NO DATA Was Found That Meets the Report Specification ***

Abbreviated Last Measurement Summary

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Database: Blues_city.rbm
Station: SUGAR PUMPS
Report Date: 03-Oct-19 07:25

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

V3	- SUGAR TANK VIKING PUMP #3	(30-Sep-19)	
		OVERALL LEVEL	1-20 KHZ
11	- MOTOR OB HORZ	.107 In/Sec	.164 G-s
12	- MOTOR OB VERT	.112 In/Sec	.347 G-s
21	- MOTOR IB HORZ	.052 In/Sec	.497 G-s
22	- MOTOR IB VERT	.099 In/Sec	.299 G-s
23	- MOTOR IB AXIAL	.092 In/Sec	.316 G-s
		OVERALL LEVEL	1-20 KHz
31	- GEARBOX INPUT HORZ	.118 In/Sec	1.501 G-s
32	- GEARBOX INPUT VERT	.088 In/Sec	.662 G-s
33	- GEARBOX INPUT AXIAL	.074 In/Sec	.509 G-s
61	- GEARBOX OUTPUT HORZ	.098 In/Sec	.931 G-s
62	- GEARBOX OUTPUT VERT	.106 In/Sec	.679 G-s
63	- GEARBOX OUTPUT AXIAL	.072 In/Sec	.690 G-s
		OVERALL LEVEL	1-20 KHZ
71	- PUMP IB HORZ	.149 In/Sec	.392 G-s
72	- PUMP IB VERT	.066 In/Sec	.359 G-s

V4	- SUGAR TANK VIKING PUMP #4	(30-Sep-19)	
		OVERALL LEVEL	1-20 KHZ
11	- MOTOR OB HORZ	.068 In/Sec	.276 G-s
12	- MOTOR OB VERT	.139 In/Sec	.344 G-s
21	- MOTOR IB HORZ	.117 In/Sec	.501 G-s
22	- MOTOR IB VERT	.254 In/Sec	.849 G-s
23	- MOTOR IB AXIAL	.110 In/Sec	.490 G-s
		OVERALL LEVEL	1-20 KHz
31	- GEARBOX INPUT HORZ	.165 In/Sec	.362 G-s
32	- GEARBOX INPUT VERT	.330 In/Sec	.366 G-s
33	- GEARBOX INPUT AXIAL	.634 In/Sec	.395 G-s
61	- GEARBOX OUTPUT HORZ	.196 In/Sec	.477 G-s
62	- GEARBOX OUTPUT VERT	.316 In/Sec	.279 G-s
63	- GEARBOX OUTPUT AXIAL	.589 In/Sec	.182 G-s
		OVERALL LEVEL	1-20 KHZ
71	- PUMP IB HORZ	.301 In/Sec	.504 G-s
72	- PUMP IB VERT	.333 In/Sec	.123 G-s

V5	- SUGAR TANK VIKING PUMP #5	(30-Sep-19)	
		OVERALL LEVEL	1-20 KHZ
11	- MOTOR OB HORZ	.101 In/Sec	.150 G-s
12	- MOTOR OB VERT	.022 In/Sec	.377 G-s
21	- MOTOR IB HORZ	.134 In/Sec	.602 G-s
22	- MOTOR IB VERT	.052 In/Sec	.417 G-s
23	- MOTOR IB AXIAL	.047 In/Sec	.140 G-s
71	- PUMP IB HORZ	.043 In/Sec	.917 G-s
72	- PUMP IB VERT	.039 In/Sec	1.021 G-s
73	- PUMP IB AXIAL	.090 In/Sec	.213 G-s

Clarification Of Vibration Units:

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

Abbreviated Last Measurement Summary

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Database: Blues_city.rbm
Station: ALCOHOL PUMP ROOM

Report Date: 03-Oct-19 07:25

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
SK1 RO1 - SKID 1 - RO PUMP #1	(30-Sep-19)	
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.047 In/Sec	.378 G-s
12 - MOTOR OUTBOARD VERT	.033 In/Sec	.429 G-s
21 - MOTOR INBOARD HORIZ	.108 In/Sec	.385 G-s
22 - MOTOR INBOARD VERT	.132 In/Sec	.376 G-s
23 - MOTOR INBOARD AXIAL	.062 In/Sec	.238 G-s
SK1 RO4 - SKID 1 - RO PUMP #4	(30-Sep-19)	
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.061 In/Sec	.140 G-s
12 - MOTOR OUTBOARD VERT	.081 In/Sec	.159 G-s
21 - MOTOR INBOARD HORIZ	.061 In/Sec	.175 G-s
22 - MOTOR INBOARD VERT	.068 In/Sec	.183 G-s
23 - MOTOR INBOARD AXIAL	.087 In/Sec	.146 G-s
SK1 RO3 - SKID 1 - RO PUMP #3	(30-Sep-19)	
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.198 In/Sec	1.626 G-s
12 - MOTOR OUTBOARD VERT	.200 In/Sec	1.100 G-s
21 - MOTOR INBOARD HORIZ	.165 In/Sec	.992 G-s
22 - MOTOR INBOARD VERT	.193 In/Sec	1.236 G-s
23 - MOTOR INBOARD AXIAL	.141 In/Sec	.380 G-s
71 - PUMP CPLG END HORIZ	.113 In/Sec	.673 G-s
72 - PUMP CPLG END VERT	.155 In/Sec	.743 G-s
73 - PUMP CPLG END AXIAL	.150 In/Sec	.561 G-s
81 - PUMP OPP END HORIZ	.117 In/Sec	.608 G-s
82 - PUMP OPP END VERT	.131 In/Sec	.599 G-s
SK1 RO2 - SKID 1 - RO PUMP #2	(30-Sep-19)	
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.047 In/Sec	.944 G-s
12 - MOTOR OUTBOARD VERT	.052 In/Sec	.740 G-s
21 - MOTOR INBOARD HORIZ	.053 In/Sec	.778 G-s
22 - MOTOR INBOARD VERT	.051 In/Sec	.821 G-s
23 - MOTOR INBOARD AXIAL	.074 In/Sec	.290 G-s
71 - PUMP CPLG END HORIZ	.051 In/Sec	.399 G-s
72 - PUMP CPLG END VERT	.022 In/Sec	.634 G-s
73 - PUMP CPLG END AXIAL	.094 In/Sec	.516 G-s
81 - PUMP OPP END HORIZ	.079 In/Sec	.863 G-s
82 - PUMP OPP END VERT	.120 In/Sec	.675 G-s
SK2 RO1 - SKID 2 - RO PUMP #1	(30-Sep-19)	
	OVERALL LEVEL	1-20 KHZ
11 - MOTOR OUTBOARD HORIZ	.080 In/Sec	.539 G-s
12 - MOTOR OUTBOARD VERT	.089 In/Sec	.531 G-s
21 - MOTOR INBOARD HORIZ	.050 In/Sec	.655 G-s
22 - MOTOR INBOARD VERT	.200 In/Sec	.406 G-s
23 - MOTOR INBOARD AXIAL	.067 In/Sec	.290 G-s
SK2 RO4 - SKID 2 - RO PUMP #4	(30-Sep-19)	
	OVERALL LEVEL	1-20 KHZ

11	- MOTOR OUTBOARD HORIZ	.075 In/Sec	.172 G-s
12	- MOTOR OUTBOARD VERT	.121 In/Sec	.168 G-s
21	- MOTOR INBOARD HORIZ	.101 In/Sec	.225 G-s
22	- MOTOR INBOARD VERT	.075 In/Sec	.182 G-s
23	- MOTOR INBOARD AXIAL	.086 In/Sec	.064 G-s

SK2 RO3 - SKID 2 - RO PUMP #3 (30-Sep-19)

		OVERALL LEVEL	1-20 KHZ
11	- MOTOR OUTBOARD HORIZ	.161 In/Sec	1.185 G-s
12	- MOTOR OUTBOARD VERT	.206 In/Sec	.557 G-s
21	- MOTOR INBOARD HORIZ	.120 In/Sec	.207 G-s
22	- MOTOR INBOARD VERT	.279 In/Sec	.615 G-s
23	- MOTOR INBOARD AXIAL	.145 In/Sec	.410 G-s
71	- PUMP CPLG END HORIZ	.161 In/Sec	.983 G-s
72	- PUMP CPLG END VERT	.235 In/Sec	1.108 G-s
73	- PUMP CPLG END AXIAL	.206 In/Sec	.685 G-s
81	- PUMP OPP END HORIZ	.157 In/Sec	.722 G-s
82	- PUMP OPP END VERT	.214 In/Sec	.688 G-s

SK2 RO2 - SKID 2 - RO PUMP #2 (30-Sep-19)

		OVERALL LEVEL	1-20 KHZ
11	- MOTOR OUTBOARD HORIZ	.089 In/Sec	.607 G-s
12	- MOTOR OUTBOARD VERT	.043 In/Sec	.616 G-s
21	- MOTOR INBOARD HORIZ	.082 In/Sec	.576 G-s
22	- MOTOR INBOARD VERT	.069 In/Sec	.486 G-s
23	- MOTOR INBOARD AXIAL	.089 In/Sec	.339 G-s
71	- PUMP CPLG END HORIZ	.072 In/Sec	.949 G-s
72	- PUMP CPLG END VERT	.046 In/Sec	.782 G-s
73	- PUMP CPLG END AXIAL	.151 In/Sec	.330 G-s
81	- PUMP OPP END HORIZ	.105 In/Sec	.756 G-s
82	- PUMP OPP END VERT	.079 In/Sec	.892 G-s

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

Abbreviated Last Measurement Summary

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Database: Blues_city.rbm
Station: ADMINISTRATIVE AREA
Report Date: 03-Oct-19 07:25

MEASUREMENT POINT		OVERALL LEVEL	HFD / VHFD
HVAC COLD	- HVAC COLD GLYCOL CIRC PUMP	(30-Sep-19)	
		OVERALL LEVEL	1-20 KHZ
11	- MOTOR OUTBOARD HORIZ	.060 In/Sec	.373 G-s
12	- MOTOR OUTBOARD VERT	.062 In/Sec	.304 G-s
21	- MOTOR INBOARD HORIZ	.120 In/Sec	.388 G-s
22	- MOTOR INBOARD VERT	.073 In/Sec	.377 G-s
23	- MOTOR INBOARD AXIAL	.094 In/Sec	.113 G-s
71	- PUMP CPLG END HORIZ	.177 In/Sec	.196 G-s
72	- PUMP CPLG END VERT	.139 In/Sec	.499 G-s
73	- PUMP CPLG END AXIAL	.081 In/Sec	.287 G-s
81	- PUMP OPP END HORIZ	.205 In/Sec	.291 G-s

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   82  - PUMP OPP END VERT                        .135 In/Sec       .346 G-s

   HVAC HOT   - HVAC HOT WATER CIRC PUMP       (30-Sep-19)
                                                OVERALL LEVEL     1-20 KHZ
   11  - MOTOR OUTBOARD HORIZ                     .225 In/Sec       .918 G-s
   12  - MOTOR OUTBOARD VERT                      .224 In/Sec       .765 G-s
   21  - MOTOR INBOARD HORIZ                      .161 In/Sec       .491 G-s
   22  - MOTOR INBOARD VERT                       .480 In/Sec       .643 G-s
   23  - MOTOR INBOARD AXIAL                      .557 In/Sec       .509 G-s
   71  - PUMP CPLG END HORIZ                      .338 In/Sec       .372 G-s
   72  - PUMP CPLG END VERT                       .265 In/Sec       .557 G-s
   73  - PUMP CPLG END AXIAL                      .308 In/Sec       .287 G-s
   81  - PUMP OPP END HORIZ                       .231 In/Sec       .259 G-s
   82  - PUMP OPP END VERT                        .274 In/Sec       .540 G-s

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   Clarification Of Vibration Units:
      Acc      -->  G-s      PK
      Vel      -->  In/Sec   PK                       Abbreviated Last Measurement
Summary
                    ***********************************

               Database:  Blues_city.rbm
               Station:   FILTER CELLAR
               Report Date:  03-Oct-19   07:25

         MEASUREMENT POINT                    OVERALL LEVEL       HFD / VHFD
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   CHILL 1    - CHILL WATER CIRC PUMP #1     (30-Sep-19)
                                                OVERALL LEVEL     1-20 KHZ
   11  - MOTOR OUTBOARD HORIZ                     .864 In/Sec       .552 G-s
   12  - MOTOR OUTBOARD VERT                      .083 In/Sec       .273 G-s
   21  - MOTOR INBOARD HORIZ                      .954 In/Sec       .433 G-s
   22  - MOTOR INBOARD VERT                       .092 In/Sec       .319 G-s
   23  - MOTOR INBOARD AXIAL                      .199 In/Sec       .761 G-s
   71  - PUMP CPLG END HORIZ                      .246 In/Sec       .508 G-s
   72  - PUMP CPLG END VERT                       .128 In/Sec       .686 G-s
   73  - PUMP CPLG END AXIAL                      .162 In/Sec       .555 G-s
   81  - PUMP OPP END HORIZ                       .171 In/Sec       .540 G-s
   82  - PUMP OPP END VERT                        .067 In/Sec       .307 G-s

   W COOL A   - CHILL WATER WORT COOL SIDE A  (30-Sep-19)
                                                OVERALL LEVEL     1-20 KHZ
   11  - MOTOR OUTBOARD HORIZ                     .250 In/Sec       .694 G-s
   12  - MOTOR OUTBOARD VERT                      .173 In/Sec       .790 G-s
   21  - MOTOR INBOARD HORIZ                      .246 In/Sec       .667 G-s
   22  - MOTOR INBOARD VERT                       .143 In/Sec      1.118 G-s
   23  - MOTOR INBOARD AXIAL                      .286 In/Sec       .449 G-s
   71  - PUMP CPLG END HORIZ                      .169 In/Sec      3.123 G-s
   72  - PUMP CPLG END VERT                       .177 In/Sec      4.341 G-s
   73  - PUMP CPLG END AXIAL                      .122 In/Sec      6.153 G-s
   81  - PUMP OPP END HORIZ                       .054 In/Sec      3.886 G-s
   82  - PUMP OPP END VERT                        .119 In/Sec      5.933 G-s

   WARM GLY 1 - WARM GLYCOL PUMP #1           (30-Sep-19)
                                                OVERALL LEVEL     1-20 KHZ
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11	– MOTOR OUTBOARD HORIZ	.034 In/Sec	.144 G-s
12	– MOTOR OUTBOARD VERT	.067 In/Sec	.312 G-s
21	– MOTOR INBOARD HORIZ	.089 In/Sec	.259 G-s
22	– MOTOR INBOARD VERT	.084 In/Sec	.321 G-s
23	– MOTOR INBOARD AXIAL	.121 In/Sec	.101 G-s
71	– PUMP CPLG END HORIZ	.240 In/Sec	.815 G-s
72	– PUMP CPLG END VERT	.127 In/Sec	.380 G-s
73	– PUMP CPLG END AXIAL	.188 In/Sec	.209 G-s
81	– PUMP OPP END HORIZ	.106 In/Sec	.518 G-s
82	– PUMP OPP END VERT	.069 In/Sec	.328 G-s

WARM GLY 2 – WARM GLYCOL PUMP #2		(30-Sep-19)	
		OVERALL LEVEL	1-20 KHZ
11	– MOTOR OUTBOARD HORIZ	.036 In/Sec	.177 G-s
12	– MOTOR OUTBOARD VERT	.025 In/Sec	.196 G-s
21	– MOTOR INBOARD HORIZ	.031 In/Sec	.200 G-s
22	– MOTOR INBOARD VERT	.037 In/Sec	.234 G-s
23	– MOTOR INBOARD AXIAL	.088 In/Sec	.142 G-s
71	– PUMP CPLG END HORIZ	.036 In/Sec	.047 G-s
72	– PUMP CPLG END VERT	.024 In/Sec	.142 G-s
73	– PUMP CPLG END AXIAL	.046 In/Sec	.015 G-s
81	– PUMP OPP END HORIZ	.025 In/Sec	.119 G-s
82	– PUMP OPP END VERT	.032 In/Sec	.057 G-s

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

Abbreviated Last Measurement Summary

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Database: Blues_city.rbm
Station: GOVERNMENT CELLAR
Report Date: 03-Oct-19 07:25

MEASUREMENT POINT		OVERALL LEVEL	HFD / VHFD
COLD GLY 1 – COLD GLYCOL PUMP #1		(30-Sep-19)	
		OVERALL LEVEL	1-20 KHZ
11	– MOTOR OUTBOARD HORIZ	.082 In/Sec	.171 G-s
12	– MOTOR OUTBOARD VERT	.035 In/Sec	.128 G-s
21	– MOTOR INBOARD HORIZ	.088 In/Sec	.240 G-s
22	– MOTOR INBOARD VERT	.051 In/Sec	.213 G-s
23	– MOTOR INBOARD AXIAL	.067 In/Sec	.301 G-s
71	– PUMP CPLG END HORIZ	.086 In/Sec	.668 G-s
72	– PUMP CPLG END VERT	.112 In/Sec	1.364 G-s
73	– PUMP CPLG END AXIAL	.116 In/Sec	.316 G-s
81	– PUMP OPP END HORIZ	.052 In/Sec	.831 G-s
82	– PUMP OPP END VERT	.127 In/Sec	1.273 G-s
COLD GLY 4 – COLD GLYCOL PUMP #4		(30-Sep-19)	
		OVERALL LEVEL	1-20 KHZ
11	– MOTOR OUTBOARD HORIZ	.142 In/Sec	.416 G-s
12	– MOTOR OUTBOARD VERT	.043 In/Sec	.665 G-s
21	– MOTOR INBOARD HORIZ	.132 In/Sec	.795 G-s
22	– MOTOR INBOARD VERT	.089 In/Sec	.921 G-s

23 – MOTOR INBOARD AXIAL	.095 In/Sec	.316 G-s
71 – PUMP CPLG END HORIZ	.457 In/Sec	1.732 G-s
72 – PUMP CPLG END VERT	.333 In/Sec	1.448 G-s
73 – PUMP CPLG END AXIAL	.285 In/Sec	.583 G-s
81 – PUMP OPP END HORIZ	.337 In/Sec	1.522 G-s
82 – PUMP OPP END VERT	.243 In/Sec	1.100 G-s

COLD GLY 5 – COLD GLYCOL PUMP #5 (30-Sep-19)

	OVERALL LEVEL	1-20 KHZ
11 – MOTOR OUTBOARD HORIZ	.384 In/Sec	.205 G-s
12 – MOTOR OUTBOARD VERT	.261 In/Sec	.264 G-s
21 – MOTOR INBOARD HORIZ	.549 In/Sec	.952 G-s
22 – MOTOR INBOARD VERT	.385 In/Sec	.747 G-s
23 – MOTOR INBOARD AXIAL	.421 In/Sec	.169 G-s
71 – PUMP CPLG END HORIZ	.135 In/Sec	.296 G-s
72 – PUMP CPLG END VERT	.041 In/Sec	.151 G-s
73 – PUMP CPLG END AXIAL	.086 In/Sec	.179 G-s
81 – PUMP OPP END HORIZ	.064 In/Sec	.064 G-s
82 – PUMP OPP END VERT	.034 In/Sec	.173 G-s

COLD GLY 6 – COLD GLYCOL PUMP #6 (30-Sep-19)

	OVERALL LEVEL	1-20 KHZ
11 – MOTOR OUTBOARD HORIZ	.049 In/Sec	.238 G-s
12 – MOTOR OUTBOARD VERT	.034 In/Sec	.270 G-s
21 – MOTOR INBOARD HORIZ	.078 In/Sec	.310 G-s
22 – MOTOR INBOARD VERT	.056 In/Sec	.336 G-s
23 – MOTOR INBOARD AXIAL	.033 In/Sec	.322 G-s
71 – PUMP CPLG END HORIZ	.046 In/Sec	.057 G-s
72 – PUMP CPLG END VERT	.071 In/Sec	.111 G-s
73 – PUMP CPLG END AXIAL	.054 In/Sec	.016 G-s
81 – PUMP OPP END HORIZ	.141 In/Sec	.190 G-s
82 – PUMP OPP END VERT	.033 In/Sec	.152 G-s

PACK GLY 1 – PACKAGING COLD GLYCOL PUMP 1 (30-Sep-19)

	OVERALL LEVEL	1-20 KHZ
11 – MOTOR OUTBOARD HORIZ	.178 In/Sec	.992 G-s
12 – MOTOR OUTBOARD VERT	.093 In/Sec	1.598 G-s
21 – MOTOR INBOARD HORIZ	.188 In/Sec	.921 G-s
22 – MOTOR INBOARD VERT	.057 In/Sec	1.745 G-s
23 – MOTOR INBOARD AXIAL	.127 In/Sec	.613 G-s
71 – PUMP CPLG END HORIZ	.082 In/Sec	.213 G-s
72 – PUMP CPLG END VERT	.034 In/Sec	.193 G-s
73 – PUMP CPLG END AXIAL	.032 In/Sec	.179 G-s
81 – PUMP OPP END HORIZ	.063 In/Sec	.154 G-s
82 – PUMP OPP END VERT	.012 In/Sec	.317 G-s

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

Abbreviated Last Measurement Summary

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Database: Blues_city.rbm
Station: UNUSED / REMOVED
Report Date: 03-Oct-19 07:25

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD

*** NO DATA Was Found That Meets the Report Specification ***