

September 28, 2021

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.

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

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

<u>Class III:</u> Defect (s) present that may cause failure in short term (less than 2 months.). This should be addressed as soon as practical, with a high maintenance priority. Increase monitoring frequency.

<u>Class IV;</u> Defect (s) present that makes continued reliability unpredictable, and possibility of secondary damage is high. Repairs should be made ASAP. An unscheduled shutdown should be considered for repairs

Hi-Speed Industrial Service tests and inspects industrial machinery and equipment and makes recommendations concerning maintenance and repairs based on its experience in the field of industrial repair and maintenance. The information contained herein is provided as an opinion only, not as a 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

David W. Shook
Senior Reliability Specialists

Hi-Speed Industrial Service
dshook@gohispeed.com

Reportable equipment

Powerhouse #3 Air Compressor

Vibrations have returned to normal after the coupling was replaced.

Boiler Fan 2

Vibrations are still high in the motor. Velocity overall is still over 1.5"/second peak for radial and 0.8" for axial measurements. Ensure all foot bolts on the motor and all fan bearing bolts are torqued and there is no soft foot. This is more than likely a fan imbalance that is transferring through the motor. Still recommend having fan pulled and shop balanced on a balance stand. Rated as a Class III Defect.

Yellow Box Filtered Water Pump

Shaft speed vibration is still evident in the inboard pump horizontal. Inspect the coupling first for signs of wear that could cause imbalance. Check the alignment if the coupling looks good. The pump could be in distress if the coupling and alignment are good. **Rated a Class II Defect.**

Service Water Pump 8

The shaft speed vibrations in the motor radial and axial are still reportable. There are still signs of loose fasteners, structural looseness, possible misalignment, bent shaft, or coupling defects. **Rated a Class II Defect.**

Service Water Pump 3

There has been an increase in a 2x shaft speed vibration in the motor and it is the dominant vibration. This could be caused by shaft misalignment, bent shaft, or coupling defects. **Rated a Class I Defect.**

Service Water Pump 5

The unit still has signs of possible misalignment or coupling defects. Check in the near future. The pump also has multiple non-synchronous vibration peaks in the upper frequencies, which we believe to be bearing defects. **Rated a Class II Defect.**

RO Water Pump 2

This unit still has a vibration at what appears to be vane pass, (5x RPM, 122 HZ). The vibrations are still almost 0.4"/sec velocity peak in the time waveform now. 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. **Rated a Class I Defect.**

Sugar Tank Viking Pump #3

The pump data still shows slight non-synchronous harmonic peaks in the data. This could indicate distress in the unit bearings. We will watch for changes. **Rated a Class I Defect.**

Filter Cellar Chill Water Circulator Pump 1

Vibrations are still at 2x line frequency. Unbalanced electrical phases or poor connections can cause the vibration since it changes in amplitude over time. Perform a motor phase and voltage analysis up to and including PDMA if necessary. **Rated a Class I Defect.**

Gov Cellar Packaging Cold Glycol Pump #2

Motor vibration data still indicates possible early distress in the bearings. Ensure the bearings are lubricated properly. No other action is suggested. **Rated a Class I Defect.**

Gov Cellar Packaging Cold Glycol Pump #3

Motor vibration data indicates possible early distress in the bearings and possibly an air gap issue that could be loading the DE bearing. There was an odd smell of cooking paint and the area near the bearing was excessively hot, especially for the ambient conditions. At this point in time, it is suggested that the motor be replaced and that a precision alignment be performed as well as a soft foot check to ensure the stator housing is not distorted. **Rated a Class III Defect.**

G Cellar 128 NANO Pump

Vibrations at shaft speed are still excessive. Ensure all fasteners are tight and support structure is sound. Check for pipe strain. Make sure coupling is in good shape and shaft alignment is precise.

Rated a Class II Defect.

G Cellar 129 NANO Pump

Motor bearings have signs of early defects. No action required at this time other than ensuring the bearings have lubrication. **Rated a Class I Defect.**

2nd Floor South Hot Water Pump

Shaft speed vibration still dominates the motor vibration data at near 0.4" per second velocity peak. A 2x RPM vibration is also present. Inspect the unit base, structure, coupling and fasteners for issues. Have the shaft alignment checked too. **Rated a Class I Defect.**

Administration HVAC Hot Water Pump

Motor and pump vibration is still 0.4"/second velocity peak overall. There could still be an alignment or coupling issue. Inspect the coupling and check the shaft alignment. **Rated a Class I Defect.**

Units previously reported but not running this survey

Boiler 3 Fan, Motor Bearings

Bearing defect frequencies are present in the motor vibration data. The acceleration trend has increased this survey. The overalls are above 3 g's RMS. Expect to change out the bearings in the future. Rated a Class II Defect.

Boiler 3 Fan, Fan Bearings

The inboard fan bearing shows strong peaks in the acceleration spectrum up around 2500 Hz with peaks around 114 Hz apart. Vibrations are over 4 g's RMS. Expect to change out the bearings in the future. **Rated a Class II Defect.**

G Cellar Cold Glycol Pump #5

Motor still has a dominant vibration at 4X shaft speed with sidebands or shaft speed harmonics. Inspect for loose fasteners, coupling, and alignment issues. Could be a pump issue too if it has 4 flutes in the impeller. **Rated a Class II Defect.**

Abbreviated Last Measurement Summary

Database: Blues_city.rbm Station: POWER HOUSE

Report Date: 28-Sep-21 13:36

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
AIR COMP 3 - COMPRES			
	OVERALL LEVEL		
11		.949 G-s	1792.0 RPM
12	.112 In/Sec		
13	.060 In/Sec		
21	.125 In/Sec		
22	.142 In/Sec	.720 G-s	
23	.068 In/Sec		
71		.565 G-s	3655.7 RPM
72	.059 In/Sec	.641 G-s	
73	.129 In/Sec	.519 G-s	
81	.071 In/Sec	.598 G-s	
82	.108 In/Sec	.601 G-s	
83	.091 In/Sec	1.022 G-s	
ATD GOVER F. GOVERNER	00D #F	(00 0 01)	
AIR COMP 5 - COMPRES	OVERALL LEVEL	(28-Sep-21)	
			1500 0 554
11	· ·	.515 G-s	1788.0 RPM
12	.086 In/Sec		
13	.110 In/Sec		
21	.134 In/Sec		
22	.086 In/Sec		
23	.103 In/Sec		
71		.803 G-s	1785.0 RPM
72	.106 In/Sec		
73	.163 In/Sec	.991 G-s	
81	.133 In/Sec		
82	.056 In/Sec	1.002 G-s	
83	.085 In/Sec	.354 G-s	

AIR COMP 6 - COMPRES	2000 #6	(00 G 01)	
	OVERALL LEVEL	(28-Sep-21)	
11	.146 In/Sec		1788.0 RPM
12	.056 In/Sec		1700.0 1411
13	.097 In/Sec	.533 G-s	
21	.137 In/Sec	.338 G-s	
22	.097 In/Sec	.469 G-s	
23	.068 In/Sec	.371 G-s	
71	.117 In/Sec .130 In/Sec	.653 G-s	1785.0 RPM
72		.246 G-s	
73	.157 In/Sec		
81	.109 In/Sec	.790 G-s	
82	.059 In/Sec	.671 G-s	
83	.119 In/Sec	.407 G-s	
BFWPMIDLE2 - BOILER	FEED WATER PUMP MID	2 (28-Sep-21)	
	OVERALL LEVEL		
11	.148 In/Sec	.538 G-s	3540.0 RPM
12	.139 In/Sec	.414 G-s	
21	.193 In/Sec	.440 G-s	
22	.072 In/Sec	.408 G-s	
23	.092 In/Sec .325 In/Sec	.317 G-s	
71	.325 In/Sec	1.336 G-s	
72	.201 In/Sec	1.329 G-S	
73	.072 In/Sec	1.234 G-s	
81	.309 In/Sec .093 In/Sec	.986 G-s	
82	.093 In/Sec	.832 G-s	
BFWPSOUTH1 - BOILER	FEED WATER PUMP S 1	(28-Sep-21)	
	OVERALL LEVEL		
11	.096 In/Sec		3540.0 RPM
12	.101 In/Sec	.417 G-s	
21			
	.209 In/Sec	.363 G-s	
22	.209 In/Sec .097 In/Sec	.424 G-s	
22 23	.209 In/Sec .097 In/Sec .094 In/Sec	.424 G-s .063 G-s	
22 23 71	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec	.424 G-s .063 G-s .993 G-s	
22 23 71 72	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec .161 In/Sec	.424 G-s .063 G-s .993 G-s 1.013 G-s	
22 23 71 72 73	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec .161 In/Sec .096 In/Sec	.424 G-s .063 G-s .993 G-s 1.013 G-s 1.341 G-s	
22 23 71 72 73 81	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec .161 In/Sec .096 In/Sec	.424 G-s .063 G-s .993 G-s 1.013 G-s 1.341 G-s .769 G-s	
22 23 71 72 73	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec .161 In/Sec	.424 G-s .063 G-s .993 G-s 1.013 G-s 1.341 G-s	
22 23 71 72 73 81	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec .161 In/Sec .096 In/Sec .093 In/Sec .086 In/Sec	.424 G-s .063 G-s .993 G-s 1.013 G-s 1.341 G-s .769 G-s .875 G-s	
22 23 71 72 73 81 82 BOILERFAN1 - BOILER	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec .161 In/Sec .096 In/Sec .093 In/Sec .086 In/Sec	.424 G-s .063 G-s .993 G-s 1.013 G-s 1.341 G-s .769 G-s .875 G-s (28-Sep-21)	
22 23 71 72 73 81 82 BOILERFAN1 - BOILER	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec .161 In/Sec .096 In/Sec .093 In/Sec .086 In/Sec FAN #1 OVERALL LEVEL .126 In/Sec	.424 G-s .063 G-s .993 G-s 1.013 G-s 1.341 G-s .769 G-s .875 G-s (28-Sep-21) 1-20 KHZ .175 G-s	1750.0 RPM
22 23 71 72 73 81 82 BOILERFAN1 - BOILER	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec .161 In/Sec .096 In/Sec .093 In/Sec .086 In/Sec FAN #1 OVERALL LEVEL .126 In/Sec .251 In/Sec	.424 G-s .063 G-s .993 G-s 1.013 G-s 1.341 G-s .769 G-s .875 G-s (28-Sep-21) 1-20 KHZ .175 G-s .089 G-s	1750.0 RPM
22 23 71 72 73 81 82 BOILERFAN1 - BOILER 11 12 21	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec .161 In/Sec .096 In/Sec .093 In/Sec .086 In/Sec FAN #1 OVERALL LEVEL .126 In/Sec .251 In/Sec .118 In/Sec	.424 G-s .063 G-s .993 G-s 1.013 G-s 1.341 G-s .769 G-s .875 G-s (28-Sep-21) 1-20 KHZ .175 G-s .089 G-s .294 G-s	1750.0 RPM
22 23 71 72 73 81 82 BOILERFAN1 - BOILER 11 12 21	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec .161 In/Sec .096 In/Sec .093 In/Sec .086 In/Sec FAN #1 OVERALL LEVEL .126 In/Sec .251 In/Sec .118 In/Sec .082 In/Sec	.424 G-s .063 G-s .993 G-s 1.013 G-s 1.341 G-s .769 G-s .875 G-s (28-Sep-21) 1-20 KHZ .175 G-s .089 G-s .294 G-s	1750.0 RPM
22 23 71 72 73 81 82 BOILERFAN1 - BOILER 11 12 21 22 23	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec .161 In/Sec .096 In/Sec .093 In/Sec .086 In/Sec FAN #1 OVERALL LEVEL .126 In/Sec .251 In/Sec .118 In/Sec .082 In/Sec .168 In/Sec	.424 G-s .063 G-s .993 G-s 1.013 G-s 1.341 G-s .769 G-s .875 G-s (28-Sep-21) 1-20 KHZ .175 G-s .089 G-s .294 G-s .341 G-s .282 G-s	1750.0 RPM
22 23 71 72 73 81 82 BOILERFAN1 - BOILER 11 12 21	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec .161 In/Sec .096 In/Sec .093 In/Sec .086 In/Sec FAN #1 OVERALL LEVEL .126 In/Sec .251 In/Sec .118 In/Sec .082 In/Sec	.424 G-s .063 G-s .993 G-s 1.013 G-s 1.341 G-s .769 G-s .875 G-s (28-Sep-21) 1-20 KHZ .175 G-s .089 G-s .294 G-s	1750.0 RPM
22 23 71 72 73 81 82 BOILERFAN1 - BOILER 11 12 21 22 23	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec .161 In/Sec .096 In/Sec .093 In/Sec .086 In/Sec .086 In/Sec .126 In/Sec .251 In/Sec .118 In/Sec .118 In/Sec .168 In/Sec .232 In/Sec	.424 G-s .063 G-s .993 G-s 1.013 G-s 1.341 G-s .769 G-s .875 G-s (28-Sep-21) 1-20 KHZ .175 G-s .089 G-s .294 G-s .341 G-s .282 G-s .102 G-s	1750.0 RPM
22 23 71 72 73 81 82 BOILERFAN1 - BOILER 11 12 21 22 23 71 BOILERFAN2 - BOILER	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec .161 In/Sec .096 In/Sec .093 In/Sec .086 In/Sec .086 In/Sec .126 In/Sec .251 In/Sec .118 In/Sec .118 In/Sec .168 In/Sec .232 In/Sec	.424 G-s .063 G-s .993 G-s .993 G-s 1.013 G-s 1.341 G-s .769 G-s .875 G-s (28-Sep-21) 1-20 KHZ .175 G-s .089 G-s .294 G-s .341 G-s .282 G-s .102 G-s (28-Sep-21) 1-20 KHZ	
22 23 71 72 73 81 82 BOILERFAN1 - BOILER 11 12 21 22 23 71 BOILERFAN2 - BOILER	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec .161 In/Sec .096 In/Sec .093 In/Sec .086 In/Sec .086 In/Sec .126 In/Sec .251 In/Sec .118 In/Sec .118 In/Sec .168 In/Sec .232 In/Sec FAN #2 OVERALL LEVEL .452 In/Sec	.424 G-s .063 G-s .993 G-s .993 G-s 1.013 G-s 1.341 G-s .769 G-s .875 G-s (28-Sep-21) 1-20 KHZ .175 G-s .089 G-s .294 G-s .341 G-s .282 G-s .102 G-s (28-Sep-21) 1-20 KHZ .493 G-s	1750.0 RPM 1780.0 RPM
22 23 71 72 73 81 82 BOILERFAN1 - BOILER 11 12 21 22 23 71 BOILERFAN2 - BOILER 11 12	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec .161 In/Sec .096 In/Sec .093 In/Sec .086 In/Sec .086 In/Sec .126 In/Sec .251 In/Sec .118 In/Sec .118 In/Sec .168 In/Sec .232 In/Sec .232 In/Sec .2452 In/Sec .677 In/Sec	.424 G-s .063 G-s .993 G-s .993 G-s 1.013 G-s 1.341 G-s .769 G-s .875 G-s (28-Sep-21) 1-20 KHZ .175 G-s .089 G-s .294 G-s .341 G-s .282 G-s .102 G-s (28-Sep-21) 1-20 KHZ .493 G-s .128 G-s	
22 23 71 72 73 81 82 BOILERFAN1 - BOILER 11 12 21 22 23 71 BOILERFAN2 - BOILER	.209 In/Sec .097 In/Sec .094 In/Sec .325 In/Sec .161 In/Sec .096 In/Sec .093 In/Sec .086 In/Sec .086 In/Sec .126 In/Sec .251 In/Sec .118 In/Sec .118 In/Sec .168 In/Sec .232 In/Sec FAN #2 OVERALL LEVEL .452 In/Sec	.424 G-s .063 G-s .993 G-s .993 G-s 1.013 G-s 1.341 G-s .769 G-s .875 G-s (28-Sep-21) 1-20 KHZ .175 G-s .089 G-s .294 G-s .341 G-s .282 G-s .102 G-s (28-Sep-21) 1-20 KHZ .493 G-s	

23	.798 In/Sec	.032 G-s	
CR PUMP 1	- CARBON RECIRC PUMP	(28-Sep-21)	
-	OVERALL LEVEL	1-20 KHZ	
11	.049 In/Sec	.133 G-s	3545.0 RPM
12	.065 In/Sec	.119 G-s	
21	.058 In/Sec	.130 G-s	
22	.058 In/Sec	.125 G-s	
23	.071 In/Sec	.080 G-s	
71	.034 In/Sec	.262 G-s	
72	.040 In/Sec	.034 G-s	
73	.027 In/Sec	.033 G-s	
81	.025 In/Sec	.155 G-s	
82	.025 In/Sec	.130 G-s	
MAKEUP #2	- CHILLED WATER MAKEUP PUMP	_	
	OVERALL LEVEL	1-20 KHZ	
11	.193 In/Sec		3600.0 RPM
12	.133 In/Sec	.720 G-s	
21	.213 In/Sec	.527 G-s	
22	.167 In/Sec	.568 G-s	
23	.212 In/Sec	.204 G-s	
71 72	.356 In/Sec .285 In/Sec	.314 G-s .281 G-s	
73	.132 In/Sec	.154 G-s	
81	.380 In/Sec	.399 G-s	
82	.300 In/sec	.357 G-s	
02	.247 111/560	.557 G-S	
YB PUMP 1	- YELLOW BOX FILTERED WATER	(28-Sep-21)	
11	.181 In/Sec	.279 G-s	3545.0 RPM
12	.097 In/Sec	.299 G-s	
21	.244 In/Sec	.803 G-s	
22	.161 In/Sec	.502 G-s	
23	.205 In/Sec	.533 G-s	
71	.686 In/Sec	.521 G-s	
72	.278 In/Sec	.647 G-s	
73	.062 In/Sec	.154 G-s	
81	.375 In/Sec	.224 G-s	
82	.225 In/Sec	.357 G-s	
SW PUMP 8	- SERVICE WATER PUMP 8	(28-Sep-21)	
		1-20 KHZ	
11	.196 In/Sec	.572 G-s	3545.0 RPM
12	.460 In/Sec	.331 G-s	
21	.131 In/Sec	.646 G-s	
22	.365 In/Sec	.692 G-s	
23	.481 In/Sec	.291 G-s	
71	.333 In/Sec	.662 G-s	
72 73	.318 In/Sec	.609 G-s	
73	.125 In/Sec	.655 G-s	
81 82	.163 In/Sec .169 In/Sec	1.429 G-s .260 G-s	
82	.109 In/Sec		
SW PUMP 3	- SERVICE WATER PUMP 3	(28-Sep-21)	
	OVERALL LEVEL		
11	.397 In/Sec	.692 G-s	3545.0 RPM

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.352 G-s
      12
                      .189 In/Sec
                                     1.068 G-s
      21
                      .397 In/Sec
                      .116 In/Sec
                                      .851 G-s
      22
      23
                      .193 In/Sec
                                       .196 G-s
      71
                      .230 In/Sec
                                       1.216 G-s
                      .139 In/Sec
                                      1.241 G-s
      72
      73
                       .118 In/Sec
                                      1.098 G-s
                       .146 In/Sec
                                      1.179 G-s
      81
                      .072 In/Sec
                                      1.118 G-s
      82
SW PUMP 5 - SERVICE WATER PUMP 5
                                        (28-Sep-21)
                     OVERALL LEVEL
                                     1-20 KHZ
                                                       3545.0 RPM
      11
                      .493 In/Sec
                                      .629 G-s
                                      1.203 G-s
      12
                      .175 In/Sec
                      .369 In/Sec
                                     1.713 G-s
      21
                      .329 In/Sec
                                     2.218 G-s
      22
                                      .580 G-s
                      .103 In/Sec
      23
      71
                      .385 In/Sec
                                      2.756 G-s
      72
                      .240 In/Sec
                                      2.572 G-s
                                      2.651 G-s
                      .266 In/Sec
      73
                                     5.685 G-s
      81
                      .336 In/Sec
                      .185 In/Sec
                                      3.296 G-s
      82
RO 1
     - RO WATER PUMP 1
                                        (28-Sep-21)
                     OVERALL LEVEL
                                     1-20 KHZ
                                      .287 G-s
      11
                      .066 In/Sec
                                                       1540.0 RPM
      12
                      .105 In/Sec
                                       .236 G-s
                                                       3545.0 RPM
                                       .294 G-s
      21
                      .072 In/Sec
                      .122 In/Sec
                                       .187 G-s
      22
                                       .191 G-s
      23
                      .044 In/Sec
                                       .362 G-s
      71
                      .177 In/Sec
                      .135 In/Sec
                                       .237 G-s
      72
      73
                       .179 In/Sec
                                       .046 G-s
      81
                       .077 In/Sec
                                        .304 G-s
                       .152 In/Sec
                                       .218 G-s
      82
RO 2
       - RO WATER PUMP 2
                                        (28-Sep-21)
                     OVERALL LEVEL
                                     1-20 KHZ
      11
                      .072 In/Sec
                                       .518 G-s
                                                       3545.0 RPM
      12
                      .078 In/Sec
                                     1.014 G-s
      21
                      .065 In/Sec
                                      .691 G-s
      22
                      .085 In/Sec
                                       .435 G-s
      23
                      .086 In/Sec
                                       .605 G-s
                                       .899 G-s
      71
                      .381 In/Sec
                                       .592 G-s
      72
                      .202 In/Sec
                      .233 In/Sec
                                      1.232 G-s
      73
                       .175 In/Sec
      81
                                     1.551 G-s
      82
                       .156 In/Sec
                                       .844 G-s
AMMCOMP 1 - AMMONIA COMP #1
                                        (28-Sep-21)
                                     1-20 KHZ
                     OVERALL LEVEL
                                      .088 G-s
                       .104 In/Sec
                                                       3592.0 RPM
      11
      12
                      .134 In/Sec
                                       .106 G-s
      13
                      .142 In/Sec
                                       .029 G-s
      21
                      .118 In/Sec
                                       .055 G-s
      22
                      .127 In/Sec
                                       .044 G-s
      23
                      .159 In/Sec
                                       .032 G-s
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71	.121	In/Sec	1.316	G-s
72	.132	In/Sec	1.148	G-s
73	.173	In/Sec	.874	G-s
81	.096	In/Sec	1.269	G-s
82	.102	In/Sec	.984	G-s
83	.139	In/Sec	1.612	G-s
71F	.140	In/Sec	1.070	G-s
72F	.110	In/Sec	.860	G-s
73F	.145	In/Sec	1.681	G-s
81F	.095	In/Sec	. 927	G-s
82F	.131	In/Sec	1.131	G-s
83F	.191	In/Sec	. 685	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: 28-Sep-21 13:37

MEASUREMENT POINT	C OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
2SHWP - 2ND	FLOOR S. HOT WATER PUMP	(28-Sep-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.141 In/Sec	.531 G-s	3545.0 RPM
12	.354 In/Sec	.270 G-s	
21	.155 In/Sec	.764 G-s	
22	.290 In/Sec	1.097 G-s	
23	.321 In/Sec	.699 G-s	
71	.118 In/Sec	.688 G-s	
72	.135 In/Sec	1.757 G-s	
73	.113 In/Sec	.238 G-s	
81	.098 In/Sec	2.205 G-s	
82	.106 In/Sec	2.189 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: 28-Sep-21 13:37

MEASUREMENT POINT OVERALL LEVEL HFD / VHFD MACHINE SPEED

Database: Blues_city.rbm Station: BREWING BASEMENT Report Date: 28-Sep-21 13:37

MEASUREMENT POINT OVERALL LEVEL HFD / VHFD MACHINE SPEED

 $\,$ *** NO DATA Was Found That Meets the Report Specification *** Abbreviated Last Measurement Summary

Database: Blues_city.rbm Station: GRAIN TRANSFER

Report Date: 28-Sep-21 13:37

MEASUREMENT POINT OVERALL LEVEL HFD / VHFD MACHINE SPEED

> Database: Blues_city.rbm Station: SUGAR PUMPS

Report Date: 28-Sep-21 13:37

	OVERALL LEVEL	•	MACHINE SPEED	
V3 - SUGAR	TANK VIKING PUMP #3	(28-Sep-21)		
	OVERALL LEVEL	1-20 KHZ		
11	.095 In/Sec	.275 G-s	1750.0 RPM	
12	.119 In/Sec	.256 G-s		
21	.073 In/Sec	.666 G-s		
22	.079 In/Sec	.310 G-s		
23	.048 In/Sec	.455 G-s		
31	.112 In/Sec	1.361 G-s		
32	.099 In/Sec	.823 G-s		
33	.087 In/Sec	.744 G-s		
61	.097 In/Sec	.739 G-s		
62	.081 In/Sec	.936 G-s		
63	.086 In/Sec	.497 G-s		
71	.124 In/Sec	.288 G-s		
72	.058 In/Sec	.179 G-s		
V4 - SUGAR	TANK VIKING PUMP #4	(28-Sep-21)		
	OVERALL LEVEL	1-20 KHZ		
11	.041 In/Sec		1750.0 RPM	
12	.063 In/Sec	.217 G-s		
21	.048 In/Sec	.781 G-s		
22	.120 In/Sec	.630 G-s		
23	.063 In/Sec	.330 G-s		
31	.057 In/Sec	.197 G-s		
32	.109 In/Sec	.263 G-s		
33	.075 In/Sec	.257 G-s		
61	.054 In/Sec	.307 G-s		

	62	.107 In/Sec	.255 G-s	
	63	.078 In/Sec	.159 G-s	
	71	.087 In/Sec	.212 G-s	
	72	.164 In/Sec	.552 G-s	
V5		- SUGAR TANK VIKING PUMP #5	(28-Sep-21)	
		OVERALL LEVEL	1-20 KHZ	
	11	.121 In/Sec	.212 G-s	1175.0 RPM
	12	.028 In/Sec	.332 G-s	
	21	.107 In/Sec	.344 G-s	
	22	.034 In/Sec	.247 G-s	
	23	.046 In/Sec	.223 G-s	
	71	.104 In/Sec	.547 G-s	
	72	.059 In/Sec	.666 G-s	
	73	.051 In/Sec	.116 G-s	

Clarification Of Vibration Units:

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

Vel --> In/Sec PK Abbreviated Last Measurement

Summary

Database: Blues_city.rbm Station: ALCOHOL PUMP ROOM Report Date: 28-Sep-21 13:37

MEASUREMENT POINT OVERALL LEVEL HFD / VHFD MACHINE SPEED

> Database: Blues_city.rbm Station: ADMINISTRATIVE AREA

> Station: ADMINISTRATIVE AREA Report Date: 28-Sep-21 13:37

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
HVAC COLD - HVAC	COLD GLYCOL CIRC PUMP	(28-Sep-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.068 In/Sec	.475 G-s	3600.0 RPM
12	.059 In/Sec	.500 G-s	
21	.137 In/Sec	.350 G-s	
22	.056 In/Sec	.362 G-s	
23	.106 In/Sec	.219 G-s	
71	.196 In/Sec	.258 G-s	
72	.125 In/Sec	.278 G-s	
73	.066 In/Sec	.089 G-s	
81	.281 In/Sec	.285 G-s	
82	.126 In/Sec	.222 G-s	
HVAC HOT - HVAC	HOT WATER CIRC PUMP	(28-Sep-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.253 In/Sec	.246 G-s	3600.0 RPM

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: 28-Sep-21 13:37

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
CHILL 1 - CHILL	WATER CIRC PUMP #1		
	OVERALL LEVEL		
11		.777 G-s	3600.0 RPM
12	.178 In/Sec	.612 G-s	
21	.270 In/Sec		
22	.156 In/Sec	.804 G-s	
23	.269 In/Sec	1.041 G-s	
71	.127 In/Sec	.545 G-s	
72	.126 In/Sec	.693 G-s	
73	.156 In/Sec	.374 G-s	
81	.081 In/Sec	.780 G-s	
82	.069 In/Sec	.434 G-s	
WARM GLY 1 - WARM G	GLYCOL PUMP #1	(28-Sep-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.034 In/Sec	.296 G-s	3600.0 RPM
12	.040 In/Sec	.187 G-s	
21	.069 In/Sec	.341 G-s	
22	.091 In/Sec	.27 4 G-s	
23	.110 In/Sec	.075 G-s	
71	.248 In/Sec	.106 G-s	
72	.189 In/Sec	.108 G-s	
73	.111 In/Sec	.158 G-s	
81	.096 In/Sec	.135 G-s	
82	.088 In/Sec		
	•		

Clarification Of Vibration Units:

Acc --> G-s PK

Vel --> In/Sec PK Abbreviated Last Measurement

Summary

Database: Blues_city.rbm Station: GOVERNMENT CELLAR Report Date: 28-Sep-21 13:37

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
COLD GLY 2 - COLD	GLYCOL PUMP #2	(28-Sep-21)	
	OVERALL LEVEL		
11	.225 In/Sec	.329 G-s .445 G-s	3600.0 RPM
12			
21	.183 In/Sec		
22	.096 In/Sec	.226 G-s .204 G-s	
23	.169 In/Sec	.204 G-s	
71	.110 In/Sec		
72	.060 In/Sec		
73	.070 In/Sec	.075 G-s	
81	.068 In/Sec		
82	.051 In/Sec	.401 G-s	
COLD GLY 3 - COLD	GLYCOL PUMP #3		
	OVERALL LEVEL		
11	.096 In/Sec	.242 G-s .554 G-s	3600.0 RPM
12	.044 In/Sec	.554 G-s	
21	.107 In/Sec	.314 G-S	
22	.044 In/Sec		
23	.057 In/Sec .114 In/Sec	.178 G-s	
71 72			
72	.062 In/Sec	.208 G-S	
73 81	.050 In/Sec .086 In/Sec	.077 G-S	
82	.047 In/Sec	.089 G-s	
		D 0 (00 G 01)	
PACK GLY 2 - PACK	AGING COLD GLYCOL PUM OVERALL LEVEL		
11			2600 0 DDM
11 12	.039 In/Sec	1.181 G-s	3600.0 RPM
21	.027 In/Sec .032 In/Sec	1.145 G-S	
22	.034 In/Sec		
23	033 In/Sec	.967 G-s	
71	.033 In/Sec .032 In/Sec	284 G-s	
72	015 In/Sec	167 G-s	
73	.024 In/Sec		
81	.021 In/Sec	.285 G-s .481 G-s	
82	.015 In/Sec	.078 G-s	
NANO 126 - NANO	SKID PUMP 126	(28-Sep-21)	
	OVERALL LEVEL	-	
11	.255 In/Sec	.208 G-s	3570.0 RPM
12	.078 In/Sec	.727 G-s	· · ·
21	.139 In/Sec	.462 G-s	
22	.120 In/Sec	.178 G-s	
23	.183 In/Sec	.368 G-s	
71	.159 In/Sec	.527 G-s	
72	.087 In/Sec	.453 G-s	
73	.145 In/Sec	.070 G-s	
81	.262 In/Sec	.311 G-s	

82	.1	46 In/Sec	.307 G-s	
NANO 127	- NANO SKID PUM	P 127	(28-Sep-21	.)
	OVE	RALL LEVEL	1-20 KHZ	
11	,1	52 In/Sec	.347 G-s	3570.0 RPM
12	.1	05 In/Sec	1.306 G-s	
21	.1	50 In/Sec	.695 G-s	
22	.1	87 In/Sec	.849 G-s	
23	.1	17 In/Sec	.333 G-s	
71		13 In/Sec	.413 G-s	
72		21 In/Sec	.474 G-s	
73	.0	94 In/Sec	.209 G-s	
81		49 In/Sec	.271 G-s	
82	. 0	97 In/Sec	.450 G-s	
NANO 128	- NANO SKID PUM	P 128	(28-Sep-21	.)
	OVE	RALL LEVEL	1-20 KHZ	
11	. 6	30 In/Sec	.226 G-s	3570.0 RPM
12		54 In/Sec	.900 G-s	
21			.688 G-s	
22		73 In/Sec	.567 G-s	
23		42 In/Sec	.266 G-s	
71		03 In/Sec	.302 G-s	
72		03 In/Sec		
73		79 In/Sec	.153 G-s	
81		11 In/Sec	.278 G-s	
82	.2	83 In/Sec	.445 G-s	
NANO 129	- NANO SKID PUM		(28-Sep-21	.)
	OVE	RALL LEVEL	1-20 KHZ	
11	.1	22 In/Sec	.424 G-s	3570.0 RPM
12	.1	39 In/Sec	2.259 G-s	
21		26 In/Sec	.541 G-s	
22		•	.440 G-s	
23	.1	43 In/Sec	.788 G-s	
71		72 In/Sec	.460 G-s	
72		21 In/Sec	.466 G-s	
73		28 In/Sec	.230 G-s	
81		90 In/Sec	.318 G-s	
82	. 2	28 In/Sec	.461 G-s	
	tion Of Vibrati			
	> G-s		_	bbundated Task Marrows
Vel	> In/Sec	PK	A	bbreviated Last Measurement
Summary	****	*****	*****	****
	Database: B	lues_city.rb	m	

Database: Blues_city.rbm Station: UNUSED / REMOVED Report Date: 28-Sep-21 13:37

MEASUREMENT POINT OVERALL LEVEL HFD / VHFD MACHINE SPEED

^{***} NO DATA Was Found That Meets the Report Specification ***