



MILLINGTON, TN

May 13, 2021

Blues City Brewery

Subject: May 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

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Reportable equipment

Boiler Feed Water Pump #1 South

The Bottom of the pump has a shaft speed vibration at just over 0.4"/second velocity peak and dominated by a 1xRPM vibration. We suspect wear in the pump, debris/build up/damage, or possibly a coupling issue. Inspect as time allows. **Rated a Class I Defect.**

Boiler Fan 2

Motor vibrations are still high for the motor. Velocity overall is at 1"/second peak. Ensure all foot bolts on the motor are torqued and there is no soft foot. This is more than likely a fan imbalance that is transferring through the motor. Recommend having the fan wheel cleaned. Field or shop balancing should be considered if cleaning has no effect. **Rated as a Class III Defect.**

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 2 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 5 g's RMS. Expect to change out the bearings in the future. **Rated a Class II Defect.**

Chilled Water Makeup Pump 2

The inboard measurements have risen this survey. Check the unit coupling and fasteners. Have the alignment checked as time allows. **Rated a Class I Defect.**

Yellow Box Filtered Water Pump

Shaft speed vibration has jumped 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 high vibrations in the unit have dropped substantially, however, there is still signs of possible misalignment or coupling defects. Recheck as time allows. **Rated a Class I Defect.**

Service Water Pump 5

The unit has signs of possible misalignment or coupling defects. Check as time allows. The pump also has multiple non-synchronous vibration peaks in the upper frequencies, which we believe to be bearing defects, however they have not significantly increased. **Rated a Class I Defect.**

RO Water Pump 2

This unit still has a vibration at what appears to be vane pass, (5x RPM, 127.5 HZ). The vibrations are almost 0.5"/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 II 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.**

Basement Wort A Transfer Pump

Check the fasteners, structure, coupling and alignment as time allows. **Rated a Class I Defect.**

Basement Kettle Circulation Pump 1

Motor has a little rotor bar passing vibration and possible bearing fluting. No immediate issue. **Rated a Class I Defect.**

Sugar Tank Pump V3

The gearbox input vibration has dropped significantly. We will watch for changes. Non-rated.

Gallery DA Vacuum Pump Skid 2

The motor vibration has jumped up again. We see a large shaft speed vibration at near 1"/second velocity peak. The unit shutoff before all measurements were collected though. Inspect the unit fasteners and structure for issues. Check the coupling for defects and have the alignment checked.

Rated a Class III Defect.

Filter Cellar Wort A Cool Side Pump

There appears to be sidebands around shaft speed in the motor. Perform an inspection of the coupling, fasteners and structure as soon as possible. If nothing is found, we suggest the motor needs to be inspected as well as all electrical connections. Motor replacement should be considered if all else reveals nothing. **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.**

ALCS Skid 1 RO#3

Data seems to show possible harmonics of the pump impeller pass. Ensure the pump is operating in the best part of the performance curve. **Rated a Class I Defect.**

ALCS Skid 2 RO#3

Unit has shaft speed vibration in all measurements. Check the fasteners, structure, coupling and alignment as time allows. **Rated a Class I Defect.**

Administration HVAC Hot Water Pump

Motor and pump vibration is near ½"/second velocity peak overall. There could still be an alignment or coupling issue. Inspect the coupling and check the shaft alignment. **Rated a Class II Defect.**

Abbreviated Last Measurement Summary *****

Database: Blues_city.rbm
Station: POWER HOUSE
Report Date: 13-May-21 15:05

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
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AIR COMP 3 - COMPRESSOR #3 - 250HP		(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.157 In/Sec	1.293 G-s	1792.0 RPM
12	.185 In/Sec	1.470 G-s	
21	.192 In/Sec	3.115 G-s	
22	.179 In/Sec	1.512 G-s	
23	.082 In/Sec	.673 G-s	
71	.159 In/Sec	1.950 G-s	3655.7 RPM
72	.108 In/Sec	2.540 G-s	
73	.231 In/Sec	2.408 G-s	
81	.132 In/Sec	1.371 G-s	
82	.117 In/Sec	1.358 G-s	
83	.148 In/Sec	2.007 G-s	
AIR COMP 4 - COMPRESSOR #4 - 150HP		(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.062 In/Sec	.334 G-s	1788.0 RPM
12	.154 In/Sec	.727 G-s	
21	.139 In/Sec	.441 G-s	
22	.086 In/Sec	.242 G-s	
23	.092 In/Sec	.677 G-s	

71	.109 In/Sec	.614 G-s	1785.0 RPM
72	.390 In/Sec	.600 G-s	
73	.252 In/Sec	.258 G-s	
81	.086 In/Sec	.713 G-s	
82	.399 In/Sec	.680 G-s	
83	.139 In/Sec	.726 G-s	

AIR COMP 5 - COMPRESSOR #5 (13-May-21)

	OVERALL LEVEL	1-20 KHZ	
11	.160 In/Sec	.524 G-s	1788.0 RPM
12	.081 In/Sec	1.134 G-s	
21	.142 In/Sec	.169 G-s	
22	.081 In/Sec	.628 G-s	
23	.095 In/Sec	.451 G-s	
71	.090 In/Sec	.341 G-s	1785.0 RPM
72	.102 In/Sec	.577 G-s	
73	.136 In/Sec	.488 G-s	
81	.117 In/Sec	.654 G-s	
82	.047 In/Sec	.623 G-s	

BFWPMIDLE2 - BOILER FEED WATER PUMP MID 2 (13-May-21)

	OVERALL LEVEL	1-20 KHZ	
11	.238 In/Sec	.259 G-s	3540.0 RPM
12	.136 In/Sec	.545 G-s	
21	.193 In/Sec	.587 G-s	
22	.072 In/Sec	.512 G-s	
23	.163 In/Sec	.434 G-s	
71	.331 In/Sec	1.190 G-s	
72	.175 In/Sec	1.418 G-s	
73	.081 In/Sec	1.332 G-s	
81	.323 In/Sec	.706 G-s	
82	.125 In/Sec	.414 G-s	

BFWPSOUTH1 - BOILER FEED WATER PUMP S 1 (13-May-21)

	OVERALL LEVEL	1-20 KHZ	
11	.126 In/Sec	.289 G-s	3540.0 RPM
12	.100 In/Sec	.441 G-s	
21	.110 In/Sec	.407 G-s	
22	.089 In/Sec	.231 G-s	
23	.123 In/Sec	.305 G-s	
71	.414 In/Sec	1.158 G-s	
72	.173 In/Sec	.983 G-s	
73	.075 In/Sec	1.143 G-s	
81	.269 In/Sec	1.785 G-s	
82	.114 In/Sec	.771 G-s	

BOILERFAN2 - BOILER FAN #2 (13-May-21)

	OVERALL LEVEL	1-20 KHZ	
11	.509 In/Sec	.147 G-s	1780.0 RPM
12	.728 In/Sec	.849 G-s	
21	1.174 In/Sec	.261 G-s	
22	.529 In/Sec	.420 G-s	
23	.704 In/Sec	.024 G-s	

BOILERFAN3 - BOILER FAN #3 - 1780 RPM Max (13-May-21)

	OVERALL LEVEL	1-20 KHZ	
11	.168 In/Sec	2.099 G-s	1780.0 RPM

12	.159 In/Sec	2.485 G-s	
21	.129 In/Sec	1.148 G-s	
22	.190 In/Sec	2.230 G-s	
23	.139 In/Sec	.789 G-s	
71	.161 In/Sec	5.711 G-s	
72	.098 In/Sec	1.745 G-s	
73	.139 In/Sec	1.877 G-s	
81	.252 In/Sec	.337 G-s	
82	.214 In/Sec	.323 G-s	
CR PUMP 1 - CARBON RECIRC PUMP (13-May-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.048 In/Sec	.142 G-s	3545.0 RPM
12	.060 In/Sec	.129 G-s	
21	.053 In/Sec	.117 G-s	
22	.066 In/Sec	.115 G-s	
23	.044 In/Sec	.085 G-s	
71	.036 In/Sec	.354 G-s	
72	.039 In/Sec	.264 G-s	
73	.030 In/Sec	.051 G-s	
81	.026 In/Sec	.135 G-s	
82	.026 In/Sec	.113 G-s	
MAKEUP #2 - CHILLED WATER MAKEUP PUMP 2 (13-May-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.167 In/Sec	.642 G-s	3600.0 RPM
12	.122 In/Sec	.674 G-s	
21	.186 In/Sec	.558 G-s	
22	.190 In/Sec	.552 G-s	
23	.166 In/Sec	.252 G-s	
71	.373 In/Sec	.777 G-s	
72	.240 In/Sec	.554 G-s	
73	.124 In/Sec	.054 G-s	
81	.360 In/Sec	.322 G-s	
82	.190 In/Sec	.348 G-s	
YB PUMP 1 - YELLOW BOX FILTERED WATER (13-May-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.142 In/Sec	.404 G-s	3545.0 RPM
12	.062 In/Sec	.262 G-s	
21	.193 In/Sec	.205 G-s	
22	.177 In/Sec	.216 G-s	
23	.184 In/Sec	.373 G-s	
71	.679 In/Sec	.713 G-s	
72	.270 In/Sec	.493 G-s	
73	.105 In/Sec	.279 G-s	
81	.367 In/Sec	.182 G-s	
82	.203 In/Sec	.422 G-s	
SW PUMP 8 - SERVICE WATER PUMP 8 (13-May-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.161 In/Sec	.192 G-s	3545.0 RPM
12	.333 In/Sec	.574 G-s	
21	.090 In/Sec	.723 G-s	
22	.199 In/Sec	.574 G-s	
23	.304 In/Sec	.467 G-s	
71	.355 In/Sec	.825 G-s	

72	.223 In/Sec	.600 G-s
73	.110 In/Sec	1.230 G-s
81	.179 In/Sec	.755 G-s
82	.156 In/Sec	.235 G-s

SW PUMP 5	- SERVICE WATER PUMP 5	(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.382 In/Sec	.928 G-s	3545.0 RPM
12	.407 In/Sec	.549 G-s	
21	.362 In/Sec	1.374 G-s	
22	.296 In/Sec	1.657 G-s	
23	.084 In/Sec	1.064 G-s	
71	.334 In/Sec	1.915 G-s	
72	.234 In/Sec	1.982 G-s	
73	.406 In/Sec	1.506 G-s	
81	.337 In/Sec	3.283 G-s	
82	.287 In/Sec	1.105 G-s	

RO 2	- RO WATER PUMP 2	(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.072 In/Sec	.531 G-s	3545.0 RPM
12	.075 In/Sec	.371 G-s	
21	.071 In/Sec	1.148 G-s	
22	.111 In/Sec	.381 G-s	
23	.073 In/Sec	.386 G-s	
71	.473 In/Sec	.342 G-s	
72	.211 In/Sec	.397 G-s	
73	.094 In/Sec	.990 G-s	
81	.257 In/Sec	.939 G-s	
82	.160 In/Sec	.470 G-s	

AMMCOMP 2	- AMMONIA COMP - #2	(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.042 In/Sec	.080 G-s	3592.0 RPM
12	.082 In/Sec	.060 G-s	
13	.059 In/Sec	.476 G-s	
21	.079 In/Sec	.046 G-s	
22	.053 In/Sec	.077 G-s	
23	.082 In/Sec	.208 G-s	
71	.127 In/Sec	1.242 G-s	
72	.185 In/Sec	.696 G-s	
73	.133 In/Sec	.561 G-s	
81	.103 In/Sec	1.278 G-s	
82	.218 In/Sec	.735 G-s	
83	.123 In/Sec	.391 G-s	
71F	.095 In/Sec	.575 G-s	
72F	.187 In/Sec	.697 G-s	
73F	.107 In/Sec	.500 G-s	
81F	.062 In/Sec	.836 G-s	
82F	.121 In/Sec	.577 G-s	
83F	.085 In/Sec	.494 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: 13-May-21 15:06

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED

2SHWP	- 2ND FLOOR S. HOT WATER PUMP	(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.102 In/Sec	.387 G-s	3545.0 RPM
12	.379 In/Sec	.670 G-s	
21	.158 In/Sec	.895 G-s	
22	.304 In/Sec	.955 G-s	
23	.329 In/Sec	.929 G-s	
71	.113 In/Sec	.821 G-s	
72	.146 In/Sec	.757 G-s	
73	.077 In/Sec	.841 G-s	
81	.089 In/Sec	1.200 G-s	
82	.087 In/Sec	1.156 G-s	
GF-VP2	- GALLERY DA VAC PUMP-SKID 2	(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.776 In/Sec	.116 G-s	1770.0 RPM
12	.979 In/Sec	.591 G-s	
21	.136 In/Sec	.251 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: 13-May-21 15:06

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: BREWING BASEMENT
Report Date: 13-May-21 15:06

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED

WORTA	- WORT TRANSFER PUMP A	(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.155 In/Sec	.364 G-s	3565.0 RPM
12	.170 In/Sec	.205 G-s	

21	.144 In/Sec	.490 G-s
22	.155 In/Sec	.567 G-s
23	.227 In/Sec	.229 G-s
71	.186 In/Sec	.899 G-s
72	.159 In/Sec	.755 G-s
73	.338 In/Sec	1.784 G-s
81	.113 In/Sec	.727 G-s
82	.112 In/Sec	.701 G-s

MASH TRANS - MASH TUN TRANSFER PUMP (13-May-21)
OVERALL LEVEL 1-20 KHZ
12 .017 In/Sec 1.511 G-s 3565.0 RPM

KCP1 - KETTLE CIRC PUMP 1 (13-May-21)
OVERALL LEVEL 1-20 KHZ
11 .073 In/Sec 2.975 G-s 1182.0 RPM
12 .010 In/Sec 4.863 G-s
21 .071 In/Sec 2.394 G-s
22 .022 In/Sec 2.312 G-s
23 .047 In/Sec 2.418 G-s
71 .041 In/Sec .195 G-s
72 .067 In/Sec .292 G-s
73 .027 In/Sec .065 G-s
81 .166 In/Sec .159 G-s
82 .027 In/Sec .118 G-s

KCP2 - KETTLE CIRC PUMP 2 (13-May-21)
OVERALL LEVEL 1-20 KHZ
11 .089 In/Sec .225 G-s 1182.0 RPM
12 .016 In/Sec 1.205 G-s
21 .039 In/Sec 1.730 G-s
22 .015 In/Sec .106 G-s
23 .029 In/Sec .488 G-s
71 .039 In/Sec .087 G-s
72 .037 In/Sec .088 G-s
73 .038 In/Sec .060 G-s
81 .039 In/Sec .059 G-s
82 .020 In/Sec .131 G-s

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

Database: Blues_city.rbm
Station: GRAIN TRANSFER
Report Date: 13-May-21 15:06

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
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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: 13-May-21 15:06

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
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V3	- SUGAR TANK VIKING PUMP #3	(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.108 In/Sec	.206 G-s	1750.0 RPM
12	.157 In/Sec	.233 G-s	
21	.084 In/Sec	.534 G-s	
22	.141 In/Sec	.419 G-s	
23	.199 In/Sec	.312 G-s	
31	.234 In/Sec	1.014 G-s	
32	.197 In/Sec	.641 G-s	
33	.135 In/Sec	1.657 G-s	
61	.271 In/Sec	1.398 G-s	
62	.195 In/Sec	.727 G-s	
71	.289 In/Sec	.326 G-s	
72	.136 In/Sec	.376 G-s	
73	.130 In/Sec	.229 G-s	
81	.311 In/Sec	.207 G-s	
82	.117 In/Sec	.016 G-s	

V4	- SUGAR TANK VIKING PUMP #4	(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.041 In/Sec	.230 G-s	1750.0 RPM
12	.057 In/Sec	.267 G-s	
21	.055 In/Sec	.432 G-s	
22	.126 In/Sec	.551 G-s	
23	.123 In/Sec	.338 G-s	
31	.081 In/Sec	.549 G-s	
32	.108 In/Sec	.813 G-s	
33	.145 In/Sec	.345 G-s	
61	.060 In/Sec	.402 G-s	
62	.099 In/Sec	.385 G-s	
71	.071 In/Sec	.077 G-s	
72	.127 In/Sec	.333 G-s	
73	.088 In/Sec	.694 G-s	
81	.037 In/Sec	.155 G-s	
82	.089 In/Sec	.190 G-s	

Clarification Of Vibration Units:

Acc --> G-s PK

Vel --> In/Sec PK

Abbreviated Last Measurement

Summary

Database: Blues_city.rbm
 Station: ALCOHOL PUMP ROOM
 Report Date: 13-May-21 15:06

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
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SK1 RO1	- SKID 1 - RO PUMP #1	(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.097 In/Sec	1.333 G-s	3555.0 RPM
12	.089 In/Sec	1.789 G-s	
21	.159 In/Sec	1.160 G-s	
22	.206 In/Sec	1.170 G-s	
23	.138 In/Sec	.999 G-s	
SK1 RO4	- SKID 1 - RO PUMP #4	(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.035 In/Sec	.051 G-s	3515.0 RPM
12	.042 In/Sec	.065 G-s	
21	.046 In/Sec	.063 G-s	
22	.035 In/Sec	.150 G-s	
23	.045 In/Sec	.050 G-s	
SK1 RO3	- SKID 1 - RO PUMP #3	(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.223 In/Sec	1.697 G-s	3550.0 RPM
12	.138 In/Sec	1.231 G-s	
21	.193 In/Sec	1.175 G-s	
22	.278 In/Sec	1.033 G-s	
23	.173 In/Sec	1.183 G-s	
71	.218 In/Sec	2.694 G-s	
72	.254 In/Sec	3.626 G-s	
73	.271 In/Sec	1.300 G-s	
81	.228 In/Sec	5.689 G-s	
82	.227 In/Sec	2.605 G-s	
SK2 RO1	- SKID 2 - RO PUMP #1	(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.067 In/Sec	.145 G-s	3555.0 RPM
12	.048 In/Sec	1.016 G-s	
21	.078 In/Sec	.479 G-s	
22	.163 In/Sec	.287 G-s	
23	.088 In/Sec	.425 G-s	
SK2 RO4	- SKID 2 - RO PUMP #4	(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.077 In/Sec	.053 G-s	3515.0 RPM
12	.087 In/Sec	.157 G-s	
21	.058 In/Sec	.095 G-s	
22	.059 In/Sec	.104 G-s	
23	.065 In/Sec	.054 G-s	
SK2 RO3	- SKID 2 - RO PUMP #3	(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.220 In/Sec	1.042 G-s	3550.0 RPM
12	.366 In/Sec	.534 G-s	
21	.185 In/Sec	.831 G-s	
22	.340 In/Sec	.548 G-s	
23	.204 In/Sec	.401 G-s	
71	.148 In/Sec	.461 G-s	
72	.310 In/Sec	.574 G-s	
73	.366 In/Sec	.381 G-s	
81	.158 In/Sec	.717 G-s	
82	.153 In/Sec	.675 G-s	

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SK2 RO2      - SKID 2 - RO PUMP #2          (13-May-21)
              OVERALL LEVEL      1-20 KHZ
11            .053 In/Sec          .146 G-s      3570.0 RPM
12            .034 In/Sec          .553 G-s
21            .041 In/Sec          .672 G-s
22            .031 In/Sec          .859 G-s
23            .025 In/Sec          .565 G-s
71            .053 In/Sec          .360 G-s
72            .036 In/Sec          .315 G-s
73            .186 In/Sec          .089 G-s
81            .083 In/Sec          .170 G-s
82            .122 In/Sec          .604 G-s

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Clarification Of Vibration Units:

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

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Database:  Blues_city.rbm
Station:   ADMINISTRATIVE AREA
Report Date: 13-May-21  15:06

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MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
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HVAC COLD - HVAC COLD GLYCOL CIRC PUMP (13-May-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.068 In/Sec	.449 G-s	3600.0 RPM
12	.072 In/Sec	.452 G-s	
21	.145 In/Sec	.437 G-s	
22	.076 In/Sec	.371 G-s	
23	.085 In/Sec	.143 G-s	
71	.176 In/Sec	.380 G-s	
72	.132 In/Sec	.492 G-s	
73	.063 In/Sec	.278 G-s	
81	.252 In/Sec	.537 G-s	
82	.127 In/Sec	.512 G-s	

HVAC HOT - HVAC HOT WATER CIRC PUMP (13-May-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.231 In/Sec	.249 G-s	3600.0 RPM
12	.252 In/Sec	.452 G-s	
21	.234 In/Sec	.741 G-s	
22	.438 In/Sec	.441 G-s	
23	.373 In/Sec	.435 G-s	
71	.291 In/Sec	.521 G-s	
72	.524 In/Sec	.507 G-s	
73	.165 In/Sec	.314 G-s	
81	.208 In/Sec	.212 G-s	
82	.175 In/Sec	.267 G-s	

Clarification Of Vibration Units:

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Acc      -->  G-s      PK

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

Database: Blues_city.rbm
Station: FILTER CELLAR
Report Date: 13-May-21 15:06

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
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CHILL 1 - CHILL WATER CIRC PUMP #1		(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.276 In/Sec	.855 G-s	3600.0 RPM
12	.189 In/Sec	.408 G-s	
21	.289 In/Sec	.603 G-s	
22	.136 In/Sec	.407 G-s	
23	.243 In/Sec	.864 G-s	
71	.152 In/Sec	.727 G-s	
72	.122 In/Sec	.441 G-s	
73	.165 In/Sec	.761 G-s	
81	.093 In/Sec	.410 G-s	
82	.066 In/Sec	.335 G-s	
W COOL A - CHILL WATER WORT COOL SIDE A		(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	1.046 In/Sec	.839 G-s	3600.0 RPM
12	1.129 In/Sec	.955 G-s	
21	.868 In/Sec	.315 G-s	
22	1.055 In/Sec	.942 G-s	
23	.705 In/Sec	.543 G-s	
71	.116 In/Sec	.197 G-s	
72	.108 In/Sec	.362 G-s	
73	.082 In/Sec	.393 G-s	
81	.051 In/Sec	.268 G-s	
82	.031 In/Sec	.149 G-s	
WARM GLY 1 - WARM GLYCOL PUMP #1		(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.034 In/Sec	.162 G-s	3600.0 RPM
12	.058 In/Sec	.238 G-s	
21	.081 In/Sec	.274 G-s	
22	.088 In/Sec	.251 G-s	
23	.119 In/Sec	.063 G-s	
71	.244 In/Sec	.169 G-s	
72	.168 In/Sec	.135 G-s	
73	.145 In/Sec	.197 G-s	
81	.073 In/Sec	.108 G-s	
82	.122 In/Sec	.129 G-s	
WARM GLY 2 - WARM GLYCOL PUMP #2		(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.033 In/Sec	.338 G-s	3600.0 RPM
12	.021 In/Sec	.205 G-s	
21	.047 In/Sec	.230 G-s	
22	.024 In/Sec	.211 G-s	
23	.054 In/Sec	.203 G-s	

71	.029 In/Sec	.086 G-s
72	.064 In/Sec	.077 G-s
73	.054 In/Sec	.012 G-s
81	.031 In/Sec	.109 G-s
82	.041 In/Sec	.055 G-s

WARM GLY 3 - WARM GLYCOL PUMP #3 (13-May-21)

	OVERALL LEVEL	1-20 KHZ	
11	.032 In/Sec	.441 G-s	3600.0 RPM
12	.055 In/Sec	.108 G-s	
21	.034 In/Sec	.298 G-s	
22	.052 In/Sec	.244 G-s	
23	.062 In/Sec	.199 G-s	
71	.053 In/Sec	.152 G-s	
72	.052 In/Sec	.252 G-s	
73	.034 In/Sec	.098 G-s	
81	.022 In/Sec	.100 G-s	
82	.025 In/Sec	.088 G-s	

WARM GLY 4 - WARM GLYCOL PUMP #4 (13-May-21)

	OVERALL LEVEL	1-20 KHZ	
11	.052 In/Sec	.057 G-s	3600.0 RPM
12	.027 In/Sec	.111 G-s	
21	.058 In/Sec	.120 G-s	
22	.080 In/Sec	.243 G-s	
23	.096 In/Sec	.070 G-s	
71	.093 In/Sec	.115 G-s	
72	.111 In/Sec	.075 G-s	
73	.071 In/Sec	.018 G-s	
81	.054 In/Sec	.089 G-s	
82	.055 In/Sec	.055 G-s	

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: 13-May-21 15:06

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
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COLD GLY 2 - COLD GLYCOL PUMP #2 (13-May-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.275 In/Sec	.157 G-s	3600.0 RPM
12	.100 In/Sec	.358 G-s	
21	.145 In/Sec	.159 G-s	
22	.169 In/Sec	.410 G-s	
23	.110 In/Sec	.223 G-s	
71	.112 In/Sec	.249 G-s	
72	.060 In/Sec	.244 G-s	
73	.056 In/Sec	.111 G-s	
81	.058 In/Sec	.203 G-s	

82	.075 In/Sec	.314 G-s	
COLD GLY 3 - COLD GLYCOL PUMP #3		(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.056 In/Sec	.150 G-s	3600.0 RPM
12	.036 In/Sec	.147 G-s	
21	.077 In/Sec	.055 G-s	
22	.055 In/Sec	.309 G-s	
23	.073 In/Sec	.167 G-s	
71	.096 In/Sec	.228 G-s	
72	.057 In/Sec	.171 G-s	
73	.074 In/Sec	.093 G-s	
81	.060 In/Sec	.205 G-s	
82	.036 In/Sec	.186 G-s	
COLD GLY 4 - COLD GLYCOL PUMP #4		(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.120 In/Sec	.128 G-s	3600.0 RPM
12	.030 In/Sec	.298 G-s	
21	.103 In/Sec	.624 G-s	
22	.064 In/Sec	.597 G-s	
23	.056 In/Sec	.197 G-s	
71	.053 In/Sec	.812 G-s	
72	.041 In/Sec	.824 G-s	
73	.024 In/Sec	.222 G-s	
81	.037 In/Sec	.463 G-s	
82	.024 In/Sec	.516 G-s	
COLD GLY 5 - COLD GLYCOL PUMP #5		(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.370 In/Sec	.199 G-s	3600.0 RPM
12	.114 In/Sec	.154 G-s	
21	.270 In/Sec	.307 G-s	
22	.114 In/Sec	.620 G-s	
23	.199 In/Sec	.228 G-s	
71	.065 In/Sec	.132 G-s	
72	.032 In/Sec	.102 G-s	
73	.046 In/Sec	.051 G-s	
81	.043 In/Sec	.074 G-s	
82	.029 In/Sec	.116 G-s	
PACK GLY 2 - PACKAGING COLD GLYCOL PUMP 2		(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.034 In/Sec	1.549 G-s	3600.0 RPM
12	.021 In/Sec	.293 G-s	
21	.040 In/Sec	1.683 G-s	
22	.033 In/Sec	.876 G-s	
23	.024 In/Sec	1.204 G-s	
71	.032 In/Sec	.459 G-s	
72	.021 In/Sec	.289 G-s	
73	.040 In/Sec	.346 G-s	
81	.022 In/Sec	.346 G-s	
82	.017 In/Sec	.319 G-s	
NANO 126 - NANO SKID PUMP 126		(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.129 In/Sec	.307 G-s	3570.0 RPM

12	.133 In/Sec	.943 G-s
21	.207 In/Sec	.612 G-s
22	.117 In/Sec	.270 G-s
23	.129 In/Sec	.306 G-s
71	.176 In/Sec	.444 G-s
72	.139 In/Sec	.522 G-s
73	.106 In/Sec	.084 G-s
81	.171 In/Sec	.313 G-s
82	.091 In/Sec	.309 G-s

NANO 127 - NANO SKID PUMP 127		(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.149 In/Sec	.189 G-s	3570.0 RPM
12	.120 In/Sec	.877 G-s	
21	.191 In/Sec	.407 G-s	
22	.161 In/Sec	.232 G-s	
23	.103 In/Sec	.407 G-s	
71	.102 In/Sec	.351 G-s	
72	.220 In/Sec	.558 G-s	
73	.171 In/Sec	.179 G-s	
81	.111 In/Sec	.386 G-s	
82	.187 In/Sec	.387 G-s	

NANO 128 - NANO SKID PUMP 128		(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.750 In/Sec	.260 G-s	3570.0 RPM
12	.654 In/Sec	.572 G-s	
21	.629 In/Sec	.556 G-s	
22	.243 In/Sec	.587 G-s	
23	.574 In/Sec	.331 G-s	
71	.170 In/Sec	.411 G-s	
72	.565 In/Sec	.503 G-s	
73	.694 In/Sec	.118 G-s	
81	.265 In/Sec	.303 G-s	
82	.371 In/Sec	.327 G-s	

NANO 129 - NANO SKID PUMP 129		(13-May-21)	
	OVERALL LEVEL	1-20 KHZ	
11	.114 In/Sec	.502 G-s	3570.0 RPM
12	.150 In/Sec	4.081 G-s	
21	.151 In/Sec	1.111 G-s	
22	.193 In/Sec	1.904 G-s	
23	.137 In/Sec	1.277 G-s	
71	.127 In/Sec	.411 G-s	
72	.116 In/Sec	.542 G-s	
73	.158 In/Sec	.241 G-s	
81	.105 In/Sec	.401 G-s	
82	.192 In/Sec	.456 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: 13-May-21 15:06

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