HI-SPEED INDUSTRIAL SERVICE

MILLINGTON, TN

March 2, 2021

Blues City Brewery

Subject: March 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 Fan 2
Motor vibrations are slightly higher again for the motor inboard horizontal. Velocity in the time waveform is at 1"/second peak. 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.**

Boiler 3 Fan, Motor Bearings
Bearing defect frequencies are much higher in the motor outboard 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 100 Hz apart. Vibrations are over 3 g's RMS. Expect to change out the bearings in the future. **Rated a Class II Defect.**

Yellow Box Filtered Water Pump
Shaft speed vibration has dropped substantially for the inboard pump horizontal but is still above 0.4"/second velocity peak overall. Still recommend inspecting the coupling 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 I Defect.**

Service Water Pump 8
The axial motor 1x vibrations for this unit has increased again. We recommend inspecting all foot bolts, the coupling for wear and have a laser alignment preformed as time allows. **Rated as a Class II Defect.**

RO Water Pump 2
This units still have a vibration at what appears to be vane pass, (5x RPM, 127.5 HZ). The vibrations are over 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 ½" 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 II Defect.**

Gallery DA Vacuum Pump Skid 1
The unit vibration was still measured at over ½"/sec velocity peak in the outboard pump bearing. Unit vibrations are dominated by a shaft speed vibration and a small 2x RPM harmonic. The outboard pump bearing is showing non-synchronous vibration peaks in the data. We suspect bearing defects are present. Recommend being prepared to replace the pump bearings, or it might be better to rebuild the whole pump or have it replaced. Inspect for loose fasteners, worn or eccentric coupling during repairs. **Rated a Class II Defect.**

Filter Cellar Chill Water Circulator Pump 1
The motor air gap issue has increased again. Possible causes are soft foot, eccentric rotor, eccentric bearing bores, electrical imbalance. **Rated a Class II Defect.**

G Cellar Cold Glycol Pump 2
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.**

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.**

ALC Skid 2 RO Pump 3
Pump axial vibration is over 0.4"/second velocity peak overall. Check the coupling insert for distress and perform an alignment check. **Rated a Class I Defect.**

Administration HVAC Hot Water Pump
Motor vibration is over 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.**

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                    Abbreviated Last Measurement Summary
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                Database:  Blues_city.rbm
                Station:   POWER HOUSE
                Report Date:  09-Feb-21   13:52

MEASUREMENT POINT     OVERALL LEVEL       HFD / VHFD      MACHINE SPEED
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AIR COMP 2 - COMPRESSOR #2 - 175HP		**(08-Feb-21)**	
	OVERALL LEVEL	**1-20 KHZ**	
11	**.105 In/Sec**	**1.388 G-s**	**1794.0 RPM**
12	**.114 In/Sec**	**2.090 G-s**	
13	**.069 In/Sec**	**.452 G-s**	
21	**.080 In/Sec**	**1.526 G-s**	
22	**.136 In/Sec**	**2.523 G-s**	
23	**.140 In/Sec**	**1.641 G-s**	
71	**.105 In/Sec**	**1.545 G-s**	**3659.8 RPM**
72	**.173 In/Sec**	**1.438 G-s**	
73	**.162 In/Sec**	**3.049 G-s**	
81	**.100 In/Sec**	**1.943 G-s**	
82	**.129 In/Sec**	**1.002 G-s**	
AIR COMP 1 - COMPRESSOR #1		**(08-Feb-21)**	
	OVERALL LEVEL	**1-20 KHZ**	
11	**.138 In/Sec**	**1.887 G-s**	**1794.0 RPM**
12	**.142 In/Sec**	**1.304 G-s**	
13	**.179 In/Sec**	**.266 G-s**	
21	**.128 In/Sec**	**1.356 G-s**	
22	**.093 In/Sec**	**.743 G-s**	
23	**.172 In/Sec**	**2.206 G-s**	
71	**.100 In/Sec**	**.928 G-s**	**3659.8 RPM**
72	**.206 In/Sec**	**.562 G-s**	
73	**.177 In/Sec**	**.868 G-s**	
81	**.103 In/Sec**	**.810 G-s**	
82	**.177 In/Sec**	**1.947 G-s**	
83	**.149 In/Sec**	**1.300 G-s**	
AIR COMP 5 - COMPRESSOR #5		**(08-Feb-21)**	
	OVERALL LEVEL	**1-20 KHZ**	
11	**.129 In/Sec**	**.254 G-s**	**1788.0 RPM**
12	**.088 In/Sec**	**.262 G-s**	
13	**.053 In/Sec**	**.100 G-s**	
21	**.054 In/Sec**	**.118 G-s**	
22	**.064 In/Sec**	**.113 G-s**	
23	**.099 In/Sec**	**.425 G-s**	
71	**.184 In/Sec**	**.639 G-s**	**1785.0 RPM**
72	**.161 In/Sec**	**.663 G-s**	
73	**.129 In/Sec**	**.872 G-s**	
81	**.127 In/Sec**	**.455 G-s**	
82	**.051 In/Sec**	**.504 G-s**	
83	**.081 In/Sec**	**.402 G-s**	
AIR COMP 6 - COMPRESSOR #6		**(08-Feb-21)**	
	OVERALL LEVEL	**1-20 KHZ**	
11	**.135 In/Sec**	**.181 G-s**	**1788.0 RPM**
12	**.073 In/Sec**	**2.590 G-s**	
13	**.100 In/Sec**	**.405 G-s**	
21	**.165 In/Sec**	**.430 G-s**	
22	**.120 In/Sec**	**.328 G-s**	
23	**.097 In/Sec**	**.245 G-s**	
71	**.118 In/Sec**	**.771 G-s**	**1785.0 RPM**
72	**.079 In/Sec**	**.616 G-s**	
73	**.142 In/Sec**	**1.020 G-s**	

81	.138 In/Sec	.627 G-s	
82	.063 In/Sec	.704 G-s	
83	.128 In/Sec	.889 G-s	

BFWPMIDLE2 - BOILER FEED WATER PUMP MID 2 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.273 In/Sec	.721 G-s	3540.0 RPM
12	.168 In/Sec	.317 G-s	
21	.207 In/Sec	.190 G-s	
22	.089 In/Sec	.372 G-s	
23	.157 In/Sec	.360 G-s	
71	.368 In/Sec	1.341 G-s	
72	.151 In/Sec	1.038 G-s	
73	.105 In/Sec	.979 G-s	
81	.299 In/Sec	1.802 G-s	
82	.118 In/Sec	1.194 G-s	

BFWPSOUTH1 - BOILER FEED WATER PUMP S 1 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.069 In/Sec	.267 G-s	3540.0 RPM
12	.087 In/Sec	.243 G-s	
21	.124 In/Sec	.444 G-s	
22	.085 In/Sec	.505 G-s	
23	.113 In/Sec	.072 G-s	
71	.309 In/Sec	1.191 G-s	
72	.164 In/Sec	.859 G-s	
73	.079 In/Sec	1.132 G-s	
81	.173 In/Sec	1.508 G-s	
82	.174 In/Sec	.659 G-s	

BOILERFAN2 - BOILER FAN #2 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.536 In/Sec	.186 G-s	1780.0 RPM
12	.755 In/Sec	.430 G-s	
21	.711 In/Sec	.280 G-s	
22	.237 In/Sec	.411 G-s	

BOILERFAN3 - BOILER FAN #3 - 1780 RPM Max (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.144 In/Sec	2.220 G-s	1780.0 RPM
12	.224 In/Sec	4.844 G-s	
21	.167 In/Sec	2.796 G-s	
22	.187 In/Sec	2.752 G-s	
23	.111 In/Sec	2.540 G-s	
71	.162 In/Sec	6.543 G-s	
72	.093 In/Sec	2.966 G-s	
73	.088 In/Sec	1.388 G-s	
81	.105 In/Sec	.335 G-s	
82	.127 In/Sec	.167 G-s	

CR PUMP 1 - CARBON RECIRC PUMP (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.039 In/Sec	.252 G-s	3545.0 RPM
12	.051 In/Sec	.219 G-s	
21	.049 In/Sec	.174 G-s	
22	.066 In/Sec	.154 G-s	
23	.048 In/Sec	.060 G-s	

71	.034 In/Sec	.232 G-s	
72	.036 In/Sec	.139 G-s	
73	.031 In/Sec	.028 G-s	
81	.023 In/Sec	.096 G-s	
82	.029 In/Sec	.078 G-s	

YB PUMP 1 - YELLOW BOX FILTERED WATER (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.111 In/Sec	.607 G-s	3545.0 RPM
12	.163 In/Sec	1.047 G-s	
21	.250 In/Sec	.995 G-s	
22	.185 In/Sec	.283 G-s	
23	.240 In/Sec	.162 G-s	
71	.858 In/Sec	.649 G-s	
72	.323 In/Sec	.372 G-s	
73	.080 In/Sec	.361 G-s	
81	.518 In/Sec	.437 G-s	
82	.271 In/Sec	.134 G-s	

SW PUMP 8 - SERVICE WATER PUMP 8 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.085 In/Sec	.236 G-s	3545.0 RPM
12	.337 In/Sec	.598 G-s	
21	.076 In/Sec	.947 G-s	
22	.219 In/Sec	.749 G-s	
23	.351 In/Sec	.530 G-s	
71	.359 In/Sec	.587 G-s	
72	.230 In/Sec	.611 G-s	
73	.159 In/Sec	1.186 G-s	
81	.169 In/Sec	1.014 G-s	
82	.147 In/Sec	.472 G-s	

SW PUMP 3 - SERVICE WATER PUMP 3 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.231 In/Sec	.292 G-s	3545.0 RPM
12	.147 In/Sec	.373 G-s	
21	.258 In/Sec	1.791 G-s	
22	.072 In/Sec	.470 G-s	
23	.058 In/Sec	.822 G-s	
71	.231 In/Sec	.717 G-s	
72	.140 In/Sec	.953 G-s	
73	.122 In/Sec	1.290 G-s	
81	.126 In/Sec	1.217 G-s	
82	.088 In/Sec	.617 G-s	

SW PUMP 5 - SERVICE WATER PUMP 5 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.306 In/Sec	.589 G-s	3545.0 RPM
12	.244 In/Sec	.617 G-s	
21	.346 In/Sec	1.265 G-s	
22	.324 In/Sec	1.897 G-s	
23	.078 In/Sec	1.523 G-s	
71	.304 In/Sec	2.247 G-s	
72	.202 In/Sec	1.596 G-s	
73	.225 In/Sec	2.005 G-s	
81	.339 In/Sec	5.433 G-s	
82	.187 In/Sec	1.381 G-s	

RO 2 - RO WATER PUMP 2 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.137 In/Sec	.354 G-s	3545.0 RPM
12	.161 In/Sec	.413 G-s	
21	.164 In/Sec	.500 G-s	
22	.226 In/Sec	.440 G-s	
23	.152 In/Sec	.342 G-s	
71	.368 In/Sec	1.108 G-s	
72	.341 In/Sec	.584 G-s	
73	.421 In/Sec	.829 G-s	
81	.166 In/Sec	1.105 G-s	
82	.249 In/Sec	.683 G-s	

AMMCOMP 1 - AMMONIA COMP #1 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.102 In/Sec	.088 G-s	3592.0 RPM
12	.159 In/Sec	.126 G-s	
13	.160 In/Sec	.038 G-s	
21	.090 In/Sec	.153 G-s	
22	.168 In/Sec	.120 G-s	
23	.162 In/Sec	.125 G-s	
71	.111 In/Sec	1.112 G-s	
72	.146 In/Sec	1.149 G-s	
73	.141 In/Sec	1.137 G-s	
81	.085 In/Sec	.947 G-s	
82	.114 In/Sec	.817 G-s	
83	.137 In/Sec	.883 G-s	
71F	.104 In/Sec	.904 G-s	
72F	.134 In/Sec	.975 G-s	
73F	.175 In/Sec	.735 G-s	
81F	.105 In/Sec	1.078 G-s	
82F	.090 In/Sec	1.113 G-s	
83F	.146 In/Sec	.938 G-s	

AMMCOMP 2 - AMMONIA COMP - #2 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.056 In/Sec	.088 G-s	3592.0 RPM
12	.074 In/Sec	.488 G-s	
13	.077 In/Sec	.334 G-s	
21	.082 In/Sec	.201 G-s	
22	.071 In/Sec	.122 G-s	
23	.085 In/Sec	.173 G-s	
71	.127 In/Sec	.959 G-s	
72	.225 In/Sec	.910 G-s	
73	.187 In/Sec	.496 G-s	
81	.114 In/Sec	1.228 G-s	
82	.218 In/Sec	1.016 G-s	
83	.115 In/Sec	.391 G-s	
71F	.108 In/Sec	.635 G-s	
72F	.208 In/Sec	.833 G-s	
73F	.118 In/Sec	.576 G-s	
81F	.081 In/Sec	.795 G-s	
82F	.170 In/Sec	1.002 G-s	
83F	.124 In/Sec	.295 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: 09-Feb-21 13:52

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
2SHWP - 2ND FLOOR S. HOT WATER PUMP (08-Feb-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.134 In/Sec	.338 G-s	3545.0 RPM
12	.324 In/Sec	.062 G-s	
21	.141 In/Sec	.740 G-s	
22	.309 In/Sec	.858 G-s	
23	.478 In/Sec	.725 G-s	
71	.123 In/Sec	.625 G-s	
72	.132 In/Sec	.638 G-s	
73	.064 In/Sec	.823 G-s	
81	.066 In/Sec	.950 G-s	
82	.080 In/Sec	.907 G-s	
GF-VP1 - GALLERY DA VAC PUMP-SKID 1 (08-Feb-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.397 In/Sec	.218 G-s	1770.0 RPM
12	.354 In/Sec	.172 G-s	
21	.170 In/Sec	.182 G-s	
22	.380 In/Sec	.466 G-s	
23	.335 In/Sec	.250 G-s	
71	.125 In/Sec	.891 G-s	3610.8 RPM
72	.310 In/Sec	.467 G-s	
73	.172 In/Sec	.968 G-s	
81	.573 In/Sec	2.032 G-s	
82	.350 In/Sec	.705 G-s	
GF-DP1 - GALLERY DA DISCH PUMP-SKID 1 (08-Feb-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.223 In/Sec	.263 G-s	3520.0 RPM
12	.198 In/Sec	.653 G-s	
21	.128 In/Sec	1.249 G-s	
22	.108 In/Sec	1.168 G-s	
23	.214 In/Sec	.833 G-s	
GF-CP1 - GALLERY DA CIRC PUMP- SKID 1 (08-Feb-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.287 In/Sec	.255 G-s	3535.0 RPM
12	.336 In/Sec	.128 G-s	
21	.332 In/Sec	.864 G-s	
22	.155 In/Sec	.774 G-s	
23	.207 In/Sec	.568 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: 09-Feb-21 13:52

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED

*** 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: 09-Feb-21 13:52

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
KCP2 - KETTLE CIRC PUMP 2 (08-Feb-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.041 In/Sec	.511 G-s	1182.0 RPM
12	.020 In/Sec	.544 G-s	
21	.036 In/Sec	.150 G-s	
22	.031 In/Sec	.194 G-s	
23	.053 In/Sec	.278 G-s	
71	.038 In/Sec	.052 G-s	
72	.024 In/Sec	.073 G-s	
73	.035 In/Sec	.062 G-s	
81	.033 In/Sec	.063 G-s	
82	.019 In/Sec	.019 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: 09-Feb-21 13:52

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED

*** 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: 09-Feb-21 13:52

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
V3 - SUGAR TANK VIKING PUMP #3 (08-Feb-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.077 In/Sec	.434 G-s	1750.0 RPM
12	.138 In/Sec	.265 G-s	
21	.113 In/Sec	1.029 G-s	
22	.115 In/Sec	.298 G-s	
23	.134 In/Sec	.440 G-s	
31	.176 In/Sec	2.018 G-s	
32	.186 In/Sec	1.283 G-s	
33	.128 In/Sec	1.266 G-s	
61	.176 In/Sec	.903 G-s	
62	.175 In/Sec	.784 G-s	
63	.123 In/Sec	.854 G-s	
71	.163 In/Sec	.564 G-s	
72	.098 In/Sec	.178 G-s	
73	.119 In/Sec	.462 G-s	
81	.196 In/Sec	.097 G-s	
82	.064 In/Sec	.185 G-s	
V4 - SUGAR TANK VIKING PUMP #4 (08-Feb-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.061 In/Sec	.439 G-s	1750.0 RPM
12	.050 In/Sec	.318 G-s	
21	.072 In/Sec	.505 G-s	
22	.106 In/Sec	.591 G-s	
23	.103 In/Sec	.243 G-s	
31	.097 In/Sec	.327 G-s	
32	.128 In/Sec	.366 G-s	
33	.200 In/Sec	.489 G-s	
61	.104 In/Sec	.587 G-s	
62	.155 In/Sec	.333 G-s	
63	.230 In/Sec	.408 G-s	
71	.100 In/Sec	.220 G-s	
72	.144 In/Sec	.548 G-s	
73	.080 In/Sec	.714 G-s	
81	.083 In/Sec	.213 G-s	
82	.078 In/Sec	.280 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: 09-Feb-21 13:53

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
SK1 RO1 - SKID 1 - RO PUMP #1 (08-Feb-21)			

	OVERALL LEVEL	1-20 KHZ	
11	.072 In/Sec	.825 G-s	3555.0 RPM
12	.078 In/Sec	.871 G-s	
21	.099 In/Sec	.580 G-s	
22	.164 In/Sec	.333 G-s	
23	.142 In/Sec	.604 G-s	

SK1 RO4 - SKID 1 - RO PUMP #4 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.054 In/Sec	.114 G-s	3515.0 RPM
12	.087 In/Sec	.245 G-s	
21	.059 In/Sec	.116 G-s	
22	.057 In/Sec	.225 G-s	
23	.052 In/Sec	.124 G-s	

SK1 RO3 - SKID 1 - RO PUMP #3 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.214 In/Sec	1.216 G-s	3550.0 RPM
12	.209 In/Sec	.565 G-s	
21	.164 In/Sec	.675 G-s	
22	.167 In/Sec	.607 G-s	
23	.112 In/Sec	.428 G-s	
71	.123 In/Sec	.651 G-s	
72	.141 In/Sec	.670 G-s	
73	.158 In/Sec	.327 G-s	
81	.122 In/Sec	.673 G-s	
82	.122 In/Sec	.527 G-s	

SK1 RO2 - SKID 1 - RO PUMP #2 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.067 In/Sec	.216 G-s	3570.0 RPM
12	.041 In/Sec	.462 G-s	
21	.054 In/Sec	.691 G-s	
22	.052 In/Sec	.587 G-s	
23	.061 In/Sec	.194 G-s	
71	.063 In/Sec	.676 G-s	
72	.025 In/Sec	.380 G-s	
73	.095 In/Sec	.760 G-s	
81	.083 In/Sec	1.107 G-s	
82	.063 In/Sec	.674 G-s	

SK2 RO1 - SKID 2 - RO PUMP #1 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.090 In/Sec	.503 G-s	3555.0 RPM
12	.064 In/Sec	.485 G-s	
21	.094 In/Sec	.649 G-s	
22	.176 In/Sec	.435 G-s	
23	.059 In/Sec	.779 G-s	

SK2 RO4 - SKID 2 - RO PUMP #4 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.073 In/Sec	.206 G-s	3515.0 RPM
12	.123 In/Sec	.153 G-s	
21	.065 In/Sec	.133 G-s	
22	.072 In/Sec	.153 G-s	
23	.093 In/Sec	.121 G-s	

SK2 RO3 - SKID 2 - RO PUMP #3 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.188 In/Sec	1.743 G-s	3550.0 RPM
12	.298 In/Sec	.885 G-s	
21	.160 In/Sec	.341 G-s	
22	.314 In/Sec	.760 G-s	
23	.154 In/Sec	.390 G-s	
71	.160 In/Sec	.690 G-s	
72	.275 In/Sec	.562 G-s	
73	.397 In/Sec	.265 G-s	
81	.168 In/Sec	.593 G-s	
82	.147 In/Sec	.487 G-s	

SK2 RO2 - SKID 2 - RO PUMP #2 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.057 In/Sec	.425 G-s	3570.0 RPM
12	.040 In/Sec	.308 G-s	
21	.053 In/Sec	.705 G-s	
22	.035 In/Sec	.511 G-s	
23	.028 In/Sec	.627 G-s	
71	.062 In/Sec	.163 G-s	
72	.043 In/Sec	.211 G-s	
73	.130 In/Sec	.115 G-s	
81	.072 In/Sec	.372 G-s	
82	.110 In/Sec	.452 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: 09-Feb-21 13:53

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED

HVAC COLD - HVAC COLD GLYCOL CIRC PUMP (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.072 In/Sec	1.065 G-s	3600.0 RPM
12	.081 In/Sec	.342 G-s	
21	.064 In/Sec	.263 G-s	
22	.056 In/Sec	.273 G-s	
23	.099 In/Sec	.151 G-s	
71	.062 In/Sec	.219 G-s	
72	.093 In/Sec	.298 G-s	
73	.043 In/Sec	.435 G-s	
81	.050 In/Sec	.333 G-s	
82	.089 In/Sec	.206 G-s	

HVAC HOT - HVAC HOT WATER CIRC PUMP (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.198 In/Sec	.160 G-s	3600.0 RPM
12	.202 In/Sec	.375 G-s	

21	.178 In/Sec	.523 G-s
22	.512 In/Sec	.613 G-s
23	.433 In/Sec	.291 G-s
71	.258 In/Sec	.674 G-s
72	.469 In/Sec	.487 G-s
73	.234 In/Sec	.885 G-s
81	.209 In/Sec	.256 G-s
82	.193 In/Sec	.343 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: FILTER CELLAR
Report Date: 09-Feb-21 13:53

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
CHILL 1 - CHILL WATER CIRC PUMP #1 (08-Feb-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.235 In/Sec	.467 G-s	3600.0 RPM
12	.183 In/Sec	.386 G-s	
21	.229 In/Sec	.614 G-s	
22	.165 In/Sec	.630 G-s	
23	.225 In/Sec	.789 G-s	
71	.138 In/Sec	.830 G-s	
72	.113 In/Sec	.617 G-s	
73	.122 In/Sec	1.025 G-s	
81	.085 In/Sec	.976 G-s	
82	.073 In/Sec	.442 G-s	
W COOL A - CHILL WATER WORT COOL SIDE A (08-Feb-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.853 In/Sec	1.109 G-s	3600.0 RPM
12	.948 In/Sec	1.141 G-s	
21	1.087 In/Sec	1.150 G-s	
22	1.045 In/Sec	.778 G-s	
23	1.027 In/Sec	.738 G-s	
71	.090 In/Sec	.232 G-s	
72	.092 In/Sec	.481 G-s	
73	.083 In/Sec	.376 G-s	
81	.070 In/Sec	.405 G-s	
82	.050 In/Sec	.149 G-s	
WARM GLY 1 - WARM GLYCOL PUMP #1 (08-Feb-21)			
	OVERALL LEVEL	1-20 KHZ	
11	.046 In/Sec	.477 G-s	3600.0 RPM
12	.044 In/Sec	.335 G-s	
21	.081 In/Sec	.376 G-s	
22	.097 In/Sec	.212 G-s	
23	.102 In/Sec	.187 G-s	
71	.260 In/Sec	.209 G-s	

72	.162 In/Sec	.150 G-s
73	.130 In/Sec	.260 G-s
81	.126 In/Sec	.231 G-s
82	.104 In/Sec	.376 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: 09-Feb-21 13:53

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED
COLD GLY 3 - COLD GLYCOL PUMP #3	(08-Feb-21)		
	OVERALL LEVEL	1-20 KHZ	
11	.051 In/Sec	.196 G-s	3600.0 RPM
12	.029 In/Sec	.487 G-s	
21	.045 In/Sec	.191 G-s	
22	.054 In/Sec	.242 G-s	
23	.040 In/Sec	.060 G-s	
71	.108 In/Sec	.130 G-s	
72	.094 In/Sec	.236 G-s	
73	.104 In/Sec	.022 G-s	
81	.104 In/Sec	.169 G-s	
82	.086 In/Sec	.165 G-s	
COLD GLY 4 - COLD GLYCOL PUMP #4	(08-Feb-21)		
	OVERALL LEVEL	1-20 KHZ	
11	.107 In/Sec	.252 G-s	3600.0 RPM
12	.041 In/Sec	.548 G-s	
21	.113 In/Sec	.643 G-s	
22	.071 In/Sec	.635 G-s	
23	.091 In/Sec	.200 G-s	
71	.073 In/Sec	.586 G-s	
72	.037 In/Sec	.675 G-s	
73	.035 In/Sec	.376 G-s	
81	.035 In/Sec	.202 G-s	
82	.030 In/Sec	.355 G-s	
COLD GLY 5 - COLD GLYCOL PUMP #5	(08-Feb-21)		
	OVERALL LEVEL	1-20 KHZ	
11	.072 In/Sec	.185 G-s	3600.0 RPM
12	.039 In/Sec	.151 G-s	
21	.085 In/Sec	.213 G-s	
22	.060 In/Sec	.237 G-s	
23	.062 In/Sec	.071 G-s	
71	.027 In/Sec	.091 G-s	
72	.021 In/Sec	.090 G-s	
73	.041 In/Sec	.056 G-s	
81	.029 In/Sec	.023 G-s	
82	.021 In/Sec	.120 G-s	

COLD GLY 6 - COLD GLYCOL PUMP #6 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.048 In/Sec	.295 G-s	3600.0 RPM
12	.040 In/Sec	.518 G-s	
21	.094 In/Sec	.361 G-s	
22	.054 In/Sec	.534 G-s	
23	.062 In/Sec	.432 G-s	
71	.046 In/Sec	.094 G-s	
72	.038 In/Sec	.053 G-s	
73	.036 In/Sec	.074 G-s	
81	.034 In/Sec	.074 G-s	
82	.024 In/Sec	.093 G-s	

PACK GLY 2 - PACKAGING COLD GLYCOL PUMP 2 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.017 In/Sec	.874 G-s	3600.0 RPM
12	.022 In/Sec	.622 G-s	
21	.026 In/Sec	1.438 G-s	
22	.020 In/Sec	.767 G-s	
23	.015 In/Sec	1.582 G-s	
71	.026 In/Sec	.422 G-s	
72	.012 In/Sec	.320 G-s	
73	.030 In/Sec	.222 G-s	
81	.017 In/Sec	.376 G-s	
82	.020 In/Sec	.212 G-s	

NANO 126 - NANO SKID PUMP 126 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.152 In/Sec	.210 G-s	3570.0 RPM
12	.087 In/Sec	.774 G-s	
21	.138 In/Sec	.689 G-s	
22	.110 In/Sec	.635 G-s	
23	.224 In/Sec	.288 G-s	
71	.208 In/Sec	.563 G-s	
72	.118 In/Sec	.399 G-s	
73	.145 In/Sec	.139 G-s	
81	.257 In/Sec	.320 G-s	
82	.101 In/Sec	.297 G-s	

NANO 127 - NANO SKID PUMP 127 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.107 In/Sec	.250 G-s	3570.0 RPM
12	.128 In/Sec	.896 G-s	
21	.117 In/Sec	.547 G-s	
22	.250 In/Sec	.453 G-s	
23	.173 In/Sec	.443 G-s	
71	.096 In/Sec	.463 G-s	
72	.207 In/Sec	.355 G-s	
73	.172 In/Sec	.284 G-s	
81	.118 In/Sec	.266 G-s	
82	.223 In/Sec	.296 G-s	

NANO 128 - NANO SKID PUMP 128 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.849 In/Sec	.176 G-s	3570.0 RPM
12	.693 In/Sec	.762 G-s	

21	.758 In/Sec	.502 G-s
22	.214 In/Sec	.581 G-s
23	.519 In/Sec	.328 G-s
71	.183 In/Sec	.323 G-s
72	.489 In/Sec	.476 G-s
73	.714 In/Sec	.295 G-s
81	.180 In/Sec	.373 G-s
82	.356 In/Sec	.420 G-s

NANO 129 - NANO SKID PUMP 129 (08-Feb-21)

	OVERALL LEVEL	1-20 KHZ	
11	.085 In/Sec	.381 G-s	3570.0 RPM
12	.147 In/Sec	2.162 G-s	
21	.178 In/Sec	1.106 G-s	
22	.185 In/Sec	1.838 G-s	
23	.177 In/Sec	.770 G-s	
71	.105 In/Sec	.566 G-s	
72	.096 In/Sec	.502 G-s	
73	.135 In/Sec	.383 G-s	
81	.063 In/Sec	.414 G-s	
82	.165 In/Sec	.546 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: 09-Feb-21 13:53

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD	MACHINE SPEED

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