



QualiTest® Diagnostics

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The following is a summary of findings from the July 2020 quarterly vibration survey at your facility. Please let us know if there are any questions or comments.

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.

Defects

DC Fan

Vibration is above average for this unit. Motor has a high 1 x rpm vibration in the motor horizontal and axial directions. Vibration data of the fan bearings indicate mechanical looseness especially in the fan end bearing. This may be causing some of the motor vibration. Coupling may also have some wear and misalignment. Fan bearing clearances should be checked along with an inspection of the coupling assembly. Inspect unit soon. Rated as a **CLASS II** defect.

High Pressure Boiler Fan

Data shows a dominant 1 x rpm vibration which is usually indicative of imbalance. Wheel needs to be inspected for build-up and ensure all fasteners are tight. If all checks good, then a trim balance will be necessary. Rated a **CLASS II** defect.

Bailing Room Main Filter Fan

Overall vibration in the motor and fan is much lower since repairs were made to the unit. Fan vibration data still shows higher than normal 1 x fan rpm vibration. This is likely due to imbalance of the fan wheel. A field balance should be performed as time allows. Rated as a **CLASS II** defect for now.

Huller Room Drum Filter Scalping Fan

Extremely high amplitudes of acceleration along with non-synchronous peaks in the spectra indicate motor bearings are defective especially the outboard end bearing. Motor needs attention **SOON**. Rated as a **CLASS III** defect.

8-10/17-19 Gin Fan

Outboard fan bearing indicates bearing issue beginning to take place. Fan bearings should be inspected as scheduling allows. Ensure bearings have adequate lubrication. Rated as a **CLASS II** defect.

#2 Drum Filter Fan

Fan bearing data shows signs of mechanical looseness. Bearing clearances should be checked as soon as time allows. Rated as a **CLASS II** defect.

1st Cut Shale Fan

Vibration data of the motor and fan shows signs of sheave/belt issue. Sheaves should be checked for misalignment and face run-out as time allows. Ensure belts are good. Rated as a **CLASS II** defect.

Inclined Beater Fan (OVERS)

Fan unit has been replaced since the last survey; however, vibration levels are still high especially in the motor. Data suggests structural issues, fan imbalance. For now, inspect structure for cracks, base for soft foot, and ensure all fasteners are tight. Fan wheel is likely out of balance and needs a trim balance. Rated as a **CLASS III** defect.

Boil Reel Rotex Asp. Fan (On mezzanine w/ Seed Cleaner Fans)

Motor data shows bearings issues taking place with fan bearings starting to show issues as well. Motor has more distinct bearing frequencies in the spectrum. Fan bearing data shows impacting and noise and may just be a lubrication issue. Motor will need attention in the near future. Ensure fan bearings have adequate grease and change out motor as scheduling allows. Rated as a **CLASS II** defect.

#1 Seed Cleaner Fan

Vibration data indicates sheave/belt issue. Inspect sheaves/belts for wear and sheaves for misalignment. Rated as a **CLASS II** defect.

#3 Drum Filter Fan

Motor has dominant vibration at 1 x motor rpm. This may be due to sheave wear/misalignment, loose or flexible motor base, soft foot, loose fasteners. Inspect for these issues soon. There also appears to be evidence of a rotor issue such as loose or broken rotor bars. We will monitor that issue closely. Also, ensure fan bearings have adequate lubrication. Rated as a **CLASS II** defect.

#3 Drum Filter Scalping Fan

Data suggests fan has imbalance. Inspect fan for build-up as soon as scheduling allows. Rated as a **CLASS II** defect.

1-7 Gin Fan

There is quite a bit of lint build up covering this unit. This could cause a fire if left unattended. Fan bearings still have significant defects/wear especially the fan end bearing. **Bearings should be replaced SOON.** Ensure fan wheel is clean. A trim balance may be needed after bearing replacement. Rated as a **CLASS III** defect.

South Pellet Cooler Fan

Data of the fan indicates defects within the fan bearings and fan imbalance Bearings should be replaced **SOON.** Ensure fan wheel is clean. A trim balance may be needed after bearing replacement. Rated as a **CLASS III** defect.

North Pellet Cooler Fan

Vibration data shows a possible belt or sheave alignment issue. Ensure belts are in good order and tightened properly and sheaves are properly aligned. Rated as a **CLASS II** defect.

North Grinder Mill

Back end of the mill has a high 1 x rpm vibration. This appears to be cause by some imbalance. For now, ensure hammers aren't unevenly worn and replace if need be. Rated as a **CLASS II** defect.

East Pellet Mill

There appears to be a significant 1 x rpm vibration in the motor and the jack shaft unit. It is recommended to loosen the belts perform a lift check of the jack shaft and inspect coupling for signs of wear or misalignment. Ensure all fasteners are tight. Inspect **SOON.** Rated as a **CLASS III** defect.

South Pellet Mill

Mill bearings have significant amounts of bearing race defect vibrations, especially in the drive end bearing. Bearings should be replaced ASAP. Rated as a **CLASS IV** defect.

Abbreviated Last Measurement Summary

Database: cotton oil.rbm
Station: SOUTHERN COTTON OIL

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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DCFAN - DC FAN	(10-Jul-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.327 In/Sec	.208 G-s
MIH	.316 In/Sec	.222 G-s
MIA	.213 In/Sec	.141 G-s
EIH	.180 In/Sec	.975 G-s
EOH	.259 In/Sec	.402 G-s
BOILFAN - BOILER FAN	(10-Jul-20)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.042 In/Sec	.197 G-s
MIH	.043 In/Sec	.054 G-s
MIA	.060 In/Sec	.263 G-s

HPBOILFAN - HIGH PRESSURE BOILER FAN		(10-Jul-20)
	OVERALL LEVEL	1 - 20 KHz
MOH	.316 In/Sec	.365 G-s
MIH	.369 In/Sec	.421 G-s
MIA	.281 In/Sec	.182 G-s
BRDFMNFAN - BAILNG ROOM DRUM FLTR M FAN		(10-Jul-20)
	OVERALL LEVEL	1 - 20 KHz
MOH	.180 In/Sec	.148 G-s
MIH	.339 In/Sec	.351 G-s
MIA	.144 In/Sec	.138 G-s
EIH	.591 In/Sec	.795 G-s
EIA	.576 In/Sec	.368 G-s
EOH	.338 In/Sec	.292 G-s
BRDFSFAN - BR DRUM FILTER SCALPING FAN		(10-Jul-20)
	OVERALL LEVEL	1 - 20 KHz
MOH	.069 In/Sec	.268 G-s
MIH	.069 In/Sec	.213 G-s
HRDMFAN - HULLER ROOM DRUM MAIN FAN		(10-Jul-20)
	OVERALL LEVEL	1-20 KHz
MOH	.113 In/Sec	.511 G-s
MIH	.093 In/Sec	1.147 G-s
MA	.156 In/Sec	.553 G-s
FA	.261 In/Sec	1.864 G-s
FIH	.151 In/Sec	1.397 G-s
FIV	.120 In/Sec	1.991 G-s
FOV	.141 In/Sec	1.635 G-s
FOH	.187 In/Sec	1.749 G-s
MAF - MEAL ASPIRATION FAN		(10-Jul-20)
	OVERALL LEVEL	1 - 20 KHz
MOH	.131 In/Sec	.047 G-s
MIH	.171 In/Sec	.205 G-s
MIA	.246 In/Sec	.219 G-s
EIH	.236 In/Sec	.439 G-s
EIA	.444 In/Sec	.699 G-s
EOH	.231 In/Sec	.465 G-s
HRDFSFAN - HR DRUM FILTER SCALPING FAN		(10-Jul-20)
	OVERALL LEVEL	1 - 20 KHz
MOH	.357 In/Sec	6.096 G-s
MIH	.232 In/Sec	3.454 G-s
1DMFLTRFAN - #1 DRUM FILTER MAIN FAN		(10-Jul-20)
	OVERALL LEVEL	1 - 20 KHz
MOH	.159 In/Sec	.095 G-s
MIH	.193 In/Sec	.345 G-s
MIA	.155 In/Sec	.171 G-s
EIH	.335 In/Sec	.263 G-s
EIA	.358 In/Sec	.159 G-s
EOH	.247 In/Sec	.315 G-s
1DRMFSFAN - #1 DRUM FILTER SCALPING FAN		(10-Jul-20)
	OVERALL LEVEL	1 - 20 KHz
MOH	.120 In/Sec	.512 G-s
MIH	.105 In/Sec	.227 G-s
8-10/17-19 - 8-10/17-19 GIN FAN		(10-Jul-20)
	OVERALL LEVEL	1 - 20 KHz
MOH	.112 In/Sec	.165 G-s
MIH	.113 In/Sec	.396 G-s
MIA	.096 In/Sec	.172 G-s
EIH	.160 In/Sec	.943 G-s
EIA	.184 In/Sec	.284 G-s
EOH	.193 In/Sec	1.226 G-s
11-16 FAN - 11-16 GIN FAN		(10-Jul-20)
	OVERALL LEVEL	1 - 20 KHz

MOH	.117 In/Sec	.182 G-s
MIH	.123 In/Sec	.520 G-s
MIA	.092 In/Sec	.183 G-s
EIH	.171 In/Sec	.728 G-s
EIA	.149 In/Sec	.193 G-s
EOH	.245 In/Sec	.939 G-s
2DRMFLTRFN - #2 DRUM FILTER MAIN FAN (10-Jul-20)		
	OVERALL LEVEL	1 - 20 KHz
MOH	.151 In/Sec	.388 G-s
MIH	.154 In/Sec	.351 G-s
MIA	.129 In/Sec	.053 G-s
EIH	.209 In/Sec	.538 G-s
EIA	.297 In/Sec	.302 G-s
EOH	.217 In/Sec	.571 G-s
2DFSFAN - #2 DRUM FILTER SCALPING FAN (10-Jul-20)		
	OVERALL LEVEL	1 - 20 KHz
MOH	.203 In/Sec	.614 G-s
MIH	.157 In/Sec	.744 G-s
MIA	.138 In/Sec	.497 G-s
1STCUTFAN - 1ST CUT SHALE FAN (10-Jul-20)		
	OVERALL LEVEL	1 - 20 KHz
MOH	.311 In/Sec	.269 G-s
MIH	.435 In/Sec	.232 G-s
MIA	.468 In/Sec	.120 G-s
EIH	.361 In/Sec	.385 G-s
EIA	.303 In/Sec	.278 G-s
EOH	.228 In/Sec	.584 G-s
BBASPFAN - BURR BELT ASPIRATION FAN (10-Jul-20)		
	OVERALL LEVEL	1 - 20 KHz
MOH	.194 In/Sec	.346 G-s
MIH	.224 In/Sec	.154 G-s
MIA	.135 In/Sec	.161 G-s
EIH	.349 In/Sec	.689 G-s
EOH	.292 In/Sec	.744 G-s
INCLBTRFAN - INCLINED BEATER FAN (10-Jul-20)		
	OVERALL LEVEL	1 - 20 KHz
MOH	.525 In/Sec	.261 G-s
MIH	.744 In/Sec	.251 G-s
MIA	.225 In/Sec	.186 G-s
EIH	.742 In/Sec	1.054 G-s
EIA	.597 In/Sec	.253 G-s
EOH	.438 In/Sec	.709 G-s
MOTESFAN - MOTES FAN (10-Jul-20)		
	OVERALL LEVEL	1 - 20 KHz
MOH	.276 In/Sec	.298 G-s
MIH	.282 In/Sec	.433 G-s
MIA	.140 In/Sec	.093 G-s
EIH	.311 In/Sec	.686 G-s
EOH	.173 In/Sec	.625 G-s
#1SEEDCLNF - #1 SEED CLEANER FAN (10-Jul-20)		
	OVERALL LEVEL	1 - 20 KHz
MOH	.203 In/Sec	.116 G-s
MIH	.166 In/Sec	.127 G-s
MIA	.416 In/Sec	.193 G-s
EIH	.157 In/Sec	.509 G-s
EIA	.341 In/Sec	.275 G-s
EOH	.154 In/Sec	.638 G-s
#2SEEDCLNF - #2 SEED CLEANER FAN (10-Jul-20)		
	OVERALL LEVEL	1 - 20 KHz
MOH	.228 In/Sec	.224 G-s
MIH	.210 In/Sec	.215 G-s
MIA	.153 In/Sec	.064 G-s

EIH	.199 In/Sec	.902 G-s
EIA	.281 In/Sec	.151 G-s
EOH	.303 In/Sec	.401 G-s
#3SEEDCLNF - #3 SEED CLEANER FAN (10-Jul-20)		
OVERALL LEVEL	1 - 20 KHz	
MOH	.156 In/Sec	.320 G-s
MIH	.192 In/Sec	.156 G-s
MIA	.295 In/Sec	.089 G-s
EIH	.136 In/Sec	.295 G-s
EIA	.245 In/Sec	.168 G-s
EOH	.200 In/Sec	.452 G-s
#4SEEDCLNF - #4 SEED CLEANER FAN (10-Jul-20)		
OVERALL LEVEL	1 - 20 KHz	
MOH	.157 In/Sec	.177 G-s
MIH	.152 In/Sec	.185 G-s
MIA	.154 In/Sec	.106 G-s
EIH	.190 In/Sec	.825 G-s
EIA	.149 In/Sec	.352 G-s
EOH	.190 In/Sec	.636 G-s
BR&RTXSPF - BOIL REEL & ROTEX ASP. FAN (10-Jul-20)		
OVERALL LEVEL	1 - 20 KHz	
MOH	.166 In/Sec	.974 G-s
MIH	.139 In/Sec	1.114 G-s
MIA	.167 In/Sec	.347 G-s
EIH	.273 In/Sec	.680 G-s
EOH	.239 In/Sec	.533 G-s
#3DFLTMFAN - #3 DRUM FILTER MAIN FAN (10-Jul-20)		
OVERALL LEVEL	1 - 20 KHz	
MOH	.325 In/Sec	.259 G-s
MIH	.424 In/Sec	.540 G-s
MIA	.266 In/Sec	.360 G-s
EIH	.264 In/Sec	1.166 G-s
EIA	.292 In/Sec	.941 G-s
EOH	.265 In/Sec	1.080 G-s
#3DFLTSFAN - #3 DRUM FILTER SCALPING FAN (10-Jul-20)		
OVERALL LEVEL	1 - 20 KHz	
MOH	.251 In/Sec	.190 G-s
MIH	.385 In/Sec	.226 G-s
1-7GINFAN - 1-7 GIN FAN (10-Jul-20)		
OVERALL LEVEL	1 - 20 KHz	
MOH	.134 In/Sec	.101 G-s
MIH	.114 In/Sec	.126 G-s
MIA	.122 In/Sec	.060 G-s
EIH	.373 In/Sec	1.264 G-s
EOH	.486 In/Sec	5.882 G-s
20-26GNFN - 20-26 GIN FAN (10-Jul-20)		
OVERALL LEVEL	1 - 20 KHz	
MOH	.132 In/Sec	.311 G-s
MIH	.149 In/Sec	.358 G-s
MIA	.109 In/Sec	.253 G-s
EIH	.251 In/Sec	.359 G-s
EIA	.223 In/Sec	.383 G-s
EOH	.205 In/Sec	.321 G-s
SPCOOLFAN - SOUTH PELLET COOLER FAN (10-Jul-20)		
OVERALL LEVEL	1 - 20 KHz	
MOH	.269 In/Sec	.217 G-s
MIH	.301 In/Sec	.273 G-s
MIA	.273 In/Sec	.140 G-s
EIH	.422 In/Sec	2.647 G-s
EOH	.514 In/Sec	4.881 G-s
NPCOOLFAN - NORTH PELLET COOLER FAN (10-Jul-20)		

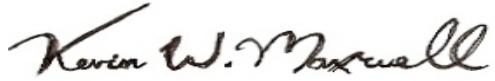
	OVERALL LEVEL	1 - 20 KHz
MOH	.092 In/Sec	.125 G-s
MIH	.223 In/Sec	.232 G-s
MIA	.240 In/Sec	.089 G-s
EIH	.242 In/Sec	.288 G-s
EOH	.181 In/Sec	.233 G-s
NGRNDMILL - NORTH GRINDER MILL (10-Jul-20)		
	OVERALL LEVEL	1 - 20 KHz
MOH	.488 In/Sec	.300 G-s
MIH	.461 In/Sec	.755 G-s
MIA	.089 In/Sec	.803 G-s
EIH	.539 In/Sec	1.741 G-s
EIA	.345 In/Sec	.696 G-s
EOH	.391 In/Sec	.660 G-s
SGRNDMILL - SOUTH GRINDER MILL (10-Jul-20)		
	OVERALL LEVEL	1 - 20 KHz
MOH	.107 In/Sec	.164 G-s
MIH	.087 In/Sec	.641 G-s
EPELETMILL - EAST PELLET MILL (10-Jul-20)		
	OVERALL LEVEL	1 - 20 KHz
MOH	.728 In/Sec	.359 G-s
MIH	.691 In/Sec	.969 G-s
MIA	.351 In/Sec	.954 G-s
EIH	.556 In/Sec	1.367 G-s
EIA	.301 In/Sec	1.421 G-s
EOH	.606 In/Sec	1.286 G-s
SPELETMILL - SOUTH PELLET MILL (10-Jul-20)		
	OVERALL LEVEL	1 - 20 KHz
MOH	.204 In/Sec	.927 G-s
MIH	.198 In/Sec	.802 G-s
MIA	.114 In/Sec	.656 G-s
EIH	1.032 In/Sec	12.43 G-s
EIA	.165 In/Sec	1.865 G-s
EOH	.435 In/Sec	4.792 G-s
MTSCONDDRV - MEATS CONDITIONER DRIVE (10-Jul-20)		
	OVERALL LEVEL	1 - 20 KHz
MOH	.093 In/Sec	.416 G-s
MIH	.088 In/Sec	.253 G-s
MIA	.073 In/Sec	.127 G-s
GIH	.094 In/Sec	.101 G-s
GIV	.086 In/Sec	.111 G-s
GIA	.125 In/Sec	.131 G-s
GOH	.118 In/Sec	.037 G-s
GOV	.169 In/Sec	.028 G-s
GOA	.185 In/Sec	.072 G-s

Clarification Of Vibration Units:

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

As always, it has been a pleasure to serve ADM Southern Cotton Oil. If there are any comments or questions, do not hesitate to contact us.

Sincerely,



ISO Certified Vibration Analyst, Category III



QualiTest® Diagnostics

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