



**QualiTest® Diagnostics**

7030 Ryburn Dr. Millington, TN

Phone: (901) 873-5300

Fax: (901) 873-5301

[www.gohispeed.com](http://www.gohispeed.com)

September 3, 2021

Southern Cotton Oil  
Memphis, TN

The following is a summary of findings from the motor/pump vibration survey on specific pumps in the Deodorizer area. 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

As always, it has been a pleasure to serve Viking Range-Greenville MS. Again, if there are any comments or questions, do not hesitate to contact us.

Sincerely,

ISO Certified Vibration Analyst, Category III



**QualiTest® Diagnostics**

Cell: 901-486-4565

Email: [kwilliam@gohispeed.com](mailto:kwilliam@gohispeed.com)

**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.

## **Summary**

### **P-4A D DA Pump**

Spectral data of the motor shows a high 1 x rpm vibration in the horizontal direction. Pump data shows a high 1 and 4 x rpm vibration. This may be indicative of coupling issue, misalignment, and/or loose flexible base. These pumps do have unique thermal growth and may have some misalignment. It is recommended to inspect base, fasteners, coupling and hubs for wear, and ensure a good hot alignment. Rated as a **CLASS II** defect.

### **P-4B D DA Pump**

Pump was not in service during the survey.

### **P-5D Deodorizer Pump**

Vibration data of the motor and pump indicates no significant issues were present in this unit during this survey.

### **P-3A D Deodorizer Surge Tank Pump**

Pump was not in service during the survey.

### **P-3B D Deodorizer Surge Tank Pump**

Data of this pump high 1 x rpm vibration in the motor. This could be a base/foundation issue. These pumps have historically had high rpm vibration. For now, we recommend inspecting the foundation/base for issues. Also, ensure coupling is in good shape and aligned properly. Rated as a **CLASS II** defect.

### **North Cooling Tower Pump (Deodorizer)**

Pump was not in service during the survey.

### **South Cooling Tower Pump (Deodorizer)**

Pump has significant vibration. Amplitude is over 1 ips-pk at the pump inboard horizontal. This is likely due to the pump base being cracked. During visual inspection, the frame under the pump is cracked. Base is also rusted out and should be replaced in the future. It is highly recommended to clean, repair base, inspect couplings for wear, and realign unit as soon as practical. Rated as a **CLASS III** defect.

### **Deodorizer Condenser Pump**

Vibration data of the motor and pump indicates no significant issues were present in this unit during this survey.

### **P-8B D Deodorizer Condenser Wash Pump**

Pump was not in service during the survey.

### **P-8A D Deodorizer Condenser Wash Pump**

Spectral data of the motor shows a high 1 x rpm vibration in the vertical direction. MOV is over 1 ips. Pump data shows a high 1 and 3 x rpm vibration. This is likely indicative of coupling issue, misalignment, and/or loose flexible base. It is recommended to inspect base, fasteners, coupling and hubs for wear, and ensure a good alignment SOON. Rated as a **CLASS III** defect.

### **Deodorizer Scrubber Pump**

Vibration data of the motor and pump indicates no significant issues were present in this unit during this survey.

## Abbreviated Last Measurement Summary

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Database: cotton oil.rbm  
 Station: SOUTHERN COTTON OIL  
 Route No. 2: DEODORIZER

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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348874 - P-4B D DA PUMP	(03-Sep-21)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.342 In/Sec	.434 G-s
MOV	.156 In/Sec	.068 G-s
MIH	.085 In/Sec	.649 G-s
MIV	.170 In/Sec	.184 G-s
MIA	.153 In/Sec	.254 G-s
EIH	.560 In/Sec	.636 G-s
EIV	.277 In/Sec	.294 G-s
EIA	.199 In/Sec	.393 G-s
EOH	.578 In/Sec	.286 G-s
EOV	.612 In/Sec	.013 G-s
348879 - P-5D DEODORIZER PUMP	(03-Sep-21)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.149 In/Sec	.173 G-s
MOV	.058 In/Sec	.102 G-s
MIH	.113 In/Sec	.351 G-s
MIV	.067 In/Sec	.141 G-s
MIA	.075 In/Sec	.120 G-s
EIH	.075 In/Sec	2.555 G-s
EIV	.123 In/Sec	.742 G-s
EIA	.055 In/Sec	.766 G-s
EOH	.069 In/Sec	1.585 G-s
EOV	.100 In/Sec	.378 G-s
348866 - P-3B D	(03-Sep-21)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.598 In/Sec	.228 G-s
MOV	.342 In/Sec	.103 G-s
MIH	.610 In/Sec	.322 G-s
MIV	.299 In/Sec	.068 G-s
MIA	.293 In/Sec	.074 G-s
EIH	.210 In/Sec	1.047 G-s
EIV	.222 In/Sec	.181 G-s
EIA	.100 In/Sec	.238 G-s
EOH	.271 In/Sec	.432 G-s
EOV	.210 In/Sec	.042 G-s
348837 - SOUTH COOLING TOWER PUMP	(03-Sep-21)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.079 In/Sec	.254 G-s
MOV	.076 In/Sec	.134 G-s
MIH	.091 In/Sec	.393 G-s
MIV	.233 In/Sec	.249 G-s
MIA	.209 In/Sec	.092 G-s
EIH	1.080 In/Sec	.801 G-s
EIV	.574 In/Sec	.124 G-s
EIA	.117 In/Sec	.490 G-s
EOH	.726 In/Sec	.508 G-s
EOV	.297 In/Sec	.302 G-s
348844 - DEODORIZER CONDENSER PUMP	(03-Sep-21)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.074 In/Sec	.110 G-s
MOV	.077 In/Sec	.094 G-s

MIH	.081 In/Sec	.120 G-s
MIV	.080 In/Sec	.125 G-s
MIA	.061 In/Sec	.142 G-s
EIH	.168 In/Sec	.110 G-s
EIV	.099 In/Sec	.087 G-s
EIA	.112 In/Sec	.034 G-s
EOH	.080 In/Sec	.157 G-s
EOV	.080 In/Sec	.064 G-s

348846      - P-8A D      (03-Sep-21)

	OVERALL LEVEL	1 - 20 KHz
MOH	.583 In/Sec	.231 G-s
MOV	1.271 In/Sec	.047 G-s
MIH	.699 In/Sec	.145 G-s
MIV	.491 In/Sec	.037 G-s
MIA	.712 In/Sec	.041 G-s
EIH	.334 In/Sec	.375 G-s
EIV	.537 In/Sec	.068 G-s
EIA	.246 In/Sec	.055 G-s
EOH	.302 In/Sec	.648 G-s
EOV	.371 In/Sec	.218 G-s

348851      - DEODORIZER SCRUBBER PUMP      (03-Sep-21)

	OVERALL LEVEL	1 - 20 KHz
MOH	.129 In/Sec	.283 G-s
MOV	.371 In/Sec	.077 G-s
MIH	.147 In/Sec	.352 G-s
MIV	.341 In/Sec	.083 G-s
MIA	.163 In/Sec	.079 G-s
EIH	.157 In/Sec	.180 G-s
EIV	.341 In/Sec	.086 G-s
EIA	.090 In/Sec	.084 G-s
EOH	.160 In/Sec	.102 G-s
EOV	.363 In/Sec	.030 G-s

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Clarification Of Vibration Units:

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