

7030 Ryburn Dr. Millington, TN

Phone: (901) 873-5300

Fax: (901) 873-5301

www.gohispeed.com

August 30, 2024

Steve Benesch Valero West Memphis Terminal West Memphis, AR

Steve,

The following is a summary of findings from the August 2024 quarterly vibration survey at your facility.

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.

**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.

# **Defect Summary**

# 31-15-042 Short Horn Lateral Pump

Motor/Pump was not in service during this survey.

### #1 Barge Loading Pump

Motor/Pump appeared to be operating at acceptable vibration levels during this survey.

### #2 Barge Loading Pump

Motor/Pump appeared to be operating at acceptable vibration levels during this survey.

## #3 Barge Loading Pump

The outboard or top end of the motor has elevated 1 x rpm vibration. Peak amplitude is .5 ips-pk. This increase in vibration may be caused by process flow depending on how pump was lined up during testing. We will monitor this closely. Rated as a **CLASS I** defect.

### #4 Barge Loading Pump

Motor/Pump appeared to be operating at acceptable vibration levels during this survey.

## #8 LX Truck Loading Pump

Motor/Pump appeared to be operating at acceptable vibration levels during this survey.

## #12 LX Truck Loading Pump

Motor/Pump appeared to be operating at acceptable vibration levels during this survey.

### #13 XX Truck Loading Pump

Motor/Pump appeared to be operating at acceptable vibration levels during this survey.

### #14 XX Truck Loading Pump

Motor/Pump appeared to be operating at acceptable vibration levels during this survey.

# #17 LS Truck Loading Pump

Motor/Pump was not in service during this survey.

### #15NL Truck Loading Pump

Pump data is still showing some signs of bearing defects/wear in the pump. Not much change to note at this time. We will monitor this issue closely. Rated as a **CLASS I** defect.

### #18 NL Truck Loading Pump

Motor/Pump appeared to be operating at acceptable vibration levels during this survey.

### #6 Transfer Pump

Motor/Pump was not in service during this survey.

### #5 Truck Loading Pump

Motor/Pump appeared to be operating at acceptable vibration levels during this survey.

# #7 Truck Loading Pump

Motor/Pump appeared to be operating at acceptable vibration levels during this survey.

### #43 Bio-Diesel Pump North

Motor/Pump appeared to be operating at acceptable vibration levels during this survey.

#### #44 Bio-Diesel Pump Middle

Motor data indicates severe defects in the motor bearings. Motor needs to be replaced soon. Ensure couplings and alignment are good. Rated as a **CLASS III** defect.

#### #45 Bio-Diesel Pump South

The new pump also has the highest vibration on record at the ODE of the pump (Overall amplitude is .937 ips-pk at the pump outboard vertical). Vibration is dominant at 1 and 2 x rpm. Ensure couplings are in good shape and alignment is within spec. Inspect shafts for run out and check all base and foot fasteners. Ensure pump does not have piping strain or soft foot. Rated as a **CLASS III** defect.

We recommend changing the coupling type of the Bio-Diesel Pumps. The type of coupling that we recommend is the Rexnord Omega Coupling. TB Woods couplings tend to cause high vibration in high speed pumps when couplings begin to wear.

See link below for coupling information. Omega Elastomeric Couplings Elastomeric Couplings - Couplings | Rexnord

| Abbreviated | Last | Measurement | Summary |
|-------------|------|-------------|---------|
| *********   | **** | *********** | ******* |

Database: west memphis.rbm Station: WEST MEMPHIS TERMINAL

| MEASUREMENT POINT | (            | OVERALL LEVEL | hfd / Vhfd  |
|-------------------|--------------|---------------|-------------|
|                   |              |               |             |
| #1 BARGE - #1 B   | ARGE LOADING | PUMP          | (15-Aug-24) |
|                   |              | OVERALL LEVEL | 1 - 20 KHz  |
| MOH               |              | .088 In/Sec   | .537 G-s    |
| MOV               |              | .056 In/Sec   | .184 G-s    |
| MIH               |              | .081 In/Sec   | .575 G-s    |
| MIV               |              | .136 In/Sec   | .106 G-s    |
| MIA               |              | .045 In/Sec   | .198 G-s    |
| #2 BARGE - #2 B   | ARGE LOADING | PUMP          | (15-Aug-24) |
|                   |              | OVERALL LEVEL | 1 - 20 KHz  |
| MOH               |              | .055 In/Sec   | .347 G-s    |
| MOV               |              | .073 In/Sec   | .165 G-s    |
| MIH               |              | .042 In/Sec   | .602 G-s    |
| MIV               |              | .048 In/Sec   | .093 G-s    |
| MIA               |              | .038 In/Sec   | .087 G-s    |
| #3 BARGE - #3 B   | ARGE LOADING | PUMP          | (15-Aug-24) |
|                   |              | OVERALL LEVEL | 1 - 20 KHz  |
| MOH               |              | .171 In/Sec   | .351 G-s    |
| MOV               |              | .517 In/Sec   | .144 G-s    |
| MIH               |              | .146 In/Sec   | .292 G-s    |
| MIV               |              | .278 In/Sec   | .060 G-s    |

| MIA   |      |              | .077   | In/Sec   | .065   | G-s   |
|---|------|--------------|--|--|--|---|
| #4 BADCE  | # 4  | BADCE TOA    | DING DIMD  |  | (15 3  | 、   |
| #4 DARGE  | - #4 | BARGE LOA    | OVERAL   |  | (15-Aug-24)  | )<br>האחי (   |
| MOH   |      |              | .177   | In/Sec   | .124   | G-s   |
| MOV   |      |              | .318   | In/Sec   | .022   | G-s   |
| MIH   |      |              | .110   | In/Sec   | . 331  | G-s   |
| MIV   |      |              | .195   | In/Sec   | . 092  | G-s   |
| MIA   |      |              | .072   | In/Sec   | .024   | G-s   |
| #8LX PUMP   | - #8 | LX TRUCK     | LOADING PUN  | 4P   | (15-Aug-24   | )   |
|   |      |              | OVERAL   | LL LEVEL   | 1 - 2  | 0 KHz   |
| MOH   |      |              | .053   | In/Sec   | .807   | G-s   |
| MOV   |      |              | .064   | In/Sec   | . 222  | G-s   |
| MIH   |      |              | .034   | In/Sec   | . 653  | G-s   |
| MIV   |      |              | .062   | In/Sec   | .131   | G-s   |
| MIA   |      |              | .041   | In/Sec   | .134   | G-S   |
| #12LX PUMP  | - #1 | 2 LX TRUCK   | LOADING PU   | JMP  | (15-Aug-24   | )   |
| MOH   |      |              | OVERAL   | цг гелет<br>Тр/бос   | 1 – 2<br>175   | C-C   |
| MON   |      |              | .220   | In/Sec   | .175   | G-s<br>G-s  |
| мтн   |      |              | .140   | In/Sec   | . 191  | G-s   |
| MIV   |      |              | .079   | In/Sec   | .042   | G-s   |
| MIA   |      |              | .057   | In/Sec   | .039   | G-s   |
| #13XX PUMP  | - #1 | 3 XX TRUCK   | LOADING PU   | ТМР  | (15-Aug-24   | )   |
|   |      |              | OVERA  | LL LEVEL   | 1 - 2  | ,<br>O KHz  |
| MOH   |      |              | .068   | In/Sec   | . 339  | G-s   |
| MOV   |      |              | .076   | In/Sec   | .109   | G-s   |
| MIH   |      |              | .045   | In/Sec   | . 482  | G-s   |
| MIV   |      |              | .069   | In/Sec   | .106   | G-s   |
| MIA   |      |              | .056   | In/Sec   | .092   | G-s   |
| #14XX PUMP  | - #1 | 4 XX TRUCK   | LOADING PU   | JMP  | (15-Aug-24   | )   |
|   |      |              | OVERAL   | LL LEVEL   | 1 - 2  | 0 KHz   |
| MOH   |      |              | .083   | In/Sec   | .537   | G-s   |
| MOV   |      |              | .084   | In/Sec   | .113   | G-s<br>C-s  |
| MIN   |      |              | 071  | In/Sec   | 090  | G-s<br>G-s  |
| MIA   |      |              | .065   | In/Sec   | .117   | G-s   |
| #15NT DIIMD   | _ #1 |              | TOADTNG D  | TMD  | (15-3)10-24  | 、   |
| #ISNL FOMP  | - #1 | 5 NL IROCK   | OVERAL   | JMP<br>I.I. I.EVEI.  | (15 - Aug - 24)  | )<br>0 KHz  |
| MOH   |      |              | .049   | In/Sec   | .135   | G-s   |
| MOV   |      |              | 050  | •  |  | _   |
| MIH   |      |              | .050   | In/Sec   | .052   | G-s   |
| MIV   |      |              | .054   | In/Sec<br>In/Sec   | .052<br>.205   | G-s<br>G-s  |
|   |      |              | .050<br>.054<br>.043   | In/Sec<br>In/Sec<br>In/Sec   | .052<br>.205<br>.045   | G-s<br>G-s<br>G-s   |
| MIA   |      |              | .050<br>.054<br>.043<br>.045   | In/Sec<br>In/Sec<br>In/Sec   | .052<br>.205<br>.045<br>.042   | G-s<br>G-s<br>G-s<br>G-s  |
| MIA<br>EIH  |      |              | .030<br>.054<br>.043<br>.045<br>.147   | In/Sec<br>In/Sec<br>In/Sec<br>In/Sec   | .052<br>.205<br>.045<br>.042<br>1.021  | G-s<br>G-s<br>G-s<br>G-s<br>G-s   |
| MIA<br>EIH<br>EIV   |      |              | .030<br>.054<br>.043<br>.045<br>.147<br>.182   | In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec   | .052<br>.205<br>.045<br>.042<br>1.021<br>.442  | G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s  |
| MIA<br>EIH<br>EIV<br>EIA  |      |              | .030<br>.054<br>.043<br>.045<br>.147<br>.182<br>.135   | In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec   | .052<br>.205<br>.045<br>.042<br>1.021<br>.442<br>.371  | G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s   |
| MIA<br>EIH<br>EIV<br>EIA<br>EOH<br>EOY  |      |              | .030<br>.054<br>.043<br>.045<br>.147<br>.182<br>.135<br>.108   | In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec   | .052<br>.205<br>.045<br>.042<br>1.021<br>.442<br>.371<br>.410<br>.410  | G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s                                      |
| MIA<br>EIH<br>EIV<br>EIA<br>EOH<br>EOV<br>EOA   |      |              | .030<br>.054<br>.043<br>.045<br>.147<br>.182<br>.135<br>.108<br>.134<br>.135   | In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec   | .052<br>.205<br>.045<br>.042<br>1.021<br>.442<br>.371<br>.410<br>.147<br>.152  | G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s                        |
| MIA<br>EIH<br>EIV<br>EIA<br>EOH<br>EOV<br>EOA   | _ #1 | 8 NT 1101104 | .030<br>.054<br>.043<br>.045<br>.147<br>.182<br>.135<br>.108<br>.134<br>.135   | In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec   | .052<br>.205<br>.045<br>.042<br>1.021<br>.442<br>.371<br>.410<br>.147<br>.152  | G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s                               |
| MIA<br>EIH<br>EIV<br>EIA<br>EOH<br>EOV<br>EOA<br>#18NL PUMP   | - #1 | 8 NL TRUCK   | .030<br>.054<br>.043<br>.045<br>.147<br>.182<br>.135<br>.108<br>.134<br>.135<br>LOADING PU<br>OVERAN   | In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec   | .052<br>.205<br>.045<br>.042<br>1.021<br>.442<br>.371<br>.410<br>.147<br>.152<br>(15-Aug-24<br>1 - 2   | G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s                        |
| MIA<br>EIH<br>EIV<br>EIA<br>EOH<br>EOV<br>EOA<br>#18NL PUMP<br>MOH  | - #1 | 8 NL TRUCK   | .030<br>.054<br>.043<br>.045<br>.147<br>.182<br>.135<br>.108<br>.134<br>.135<br>LOADING PC<br>OVERAD<br>.057   | In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>JMP<br>LL LEVEL<br>In/Sec  | .052<br>.205<br>.045<br>.042<br>1.021<br>.442<br>.371<br>.410<br>.147<br>.152<br>(15-Aug-24<br>1 - 2<br>.179   | G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s                        |
| MIA<br>EIH<br>EIV<br>EIA<br>EOH<br>EOV<br>EOA<br>#18NL PUMP<br>MOH<br>MOV   | - #1 | 8 NL TRUCK   | .030<br>.054<br>.043<br>.045<br>.147<br>.182<br>.135<br>.108<br>.134<br>.135<br>LOADING PU<br>OVERAD<br>.057<br>.104   | In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec   | .052<br>.205<br>.045<br>.042<br>1.021<br>.442<br>.371<br>.410<br>.147<br>.152<br>(15-Aug-24<br>1 - 2<br>.179<br>.053   | G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>0 KHz<br>G-s<br>G-s        |
| MIA<br>EIH<br>EIV<br>EIA<br>EOH<br>EOV<br>EOA<br>#18NL PUMP<br>MOH<br>MOV<br>MIH  | - #1 | 8 NL TRUCK   | .030<br>.054<br>.043<br>.045<br>.147<br>.182<br>.135<br>.108<br>.134<br>.135<br>LOADING PU<br>OVERAJ<br>.057<br>.104<br>.048   | In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec   | .052<br>.205<br>.045<br>.042<br>1.021<br>.442<br>.371<br>.410<br>.147<br>.152<br>(15-Aug-24<br>1 - 2<br>.179<br>.053<br>.206   | G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>0 KHz<br>G-s<br>G-s<br>G-s |
| MIA<br>EIH<br>EIV<br>EIA<br>EOH<br>EOV<br>EOA<br>#18NL PUMP<br>MOH<br>MOV<br>MIH<br>MIY   | - #1 | 8 NL TRUCK   | .030<br>.054<br>.043<br>.045<br>.147<br>.182<br>.135<br>.108<br>.134<br>.135<br>LOADING PU<br>OVERAI<br>.057<br>.104<br>.048<br>.206   | In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec   | .052<br>.205<br>.045<br>.042<br>1.021<br>.442<br>.371<br>.410<br>.147<br>.152<br>(15-Aug-24<br>1 - 2<br>.179<br>.053<br>.206<br>.024   | G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s                        |
| MIA<br>EIH<br>EIV<br>EIA<br>EOH<br>EOV<br>EOA<br>#18NL PUMP<br>MOH<br>MOV<br>MIH<br>MIV<br>MIA                                    | - #1 | 8 NL TRUCK   | .030<br>.054<br>.043<br>.045<br>.147<br>.182<br>.135<br>.108<br>.134<br>.135<br>LOADING PU<br>OVERAI<br>.057<br>.104<br>.048<br>.206<br>.095   | In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec   | .052<br>.205<br>.045<br>.042<br>1.021<br>.442<br>.371<br>.410<br>.147<br>.152<br>(15-Aug-24<br>1 - 2<br>.179<br>.053<br>.206<br>.024<br>.038   | G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s                        |
| MIA<br>EIH<br>EIV<br>EIA<br>EOH<br>EOV<br>EOA<br>#18NL PUMP<br>MOH<br>MOV<br>MIH<br>MIV<br>MIA<br>EIH                             | - #1 | 8 NL TRUCK   | .030<br>.054<br>.043<br>.045<br>.147<br>.182<br>.135<br>.108<br>.134<br>.135<br>LOADING PU<br>OVERAI<br>.057<br>.104<br>.048<br>.206<br>.095<br>.177<br>.311                                 | In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec   | .052<br>.205<br>.045<br>.042<br>1.021<br>.442<br>.371<br>.410<br>.147<br>.152<br>(15-Aug-24<br>1 - 2<br>.179<br>.053<br>.206<br>.024<br>.038<br>.210                                 | G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s                        |
| MIA<br>EIH<br>EIV<br>EIA<br>EOH<br>EOV<br>EOA<br>#18NL PUMP<br>MOH<br>MOV<br>MIH<br>MIV<br>MIA<br>EIH<br>EIV<br>EJA               | - #1 | 8 NL TRUCK   | .030<br>.054<br>.043<br>.045<br>.147<br>.182<br>.135<br>.108<br>.134<br>.134<br>.135<br>LOADING PC<br>OVERAI<br>.057<br>.104<br>.048<br>.206<br>.095<br>.177<br>.311<br>.137                 | In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec                     | .052<br>.205<br>.045<br>.042<br>1.021<br>.442<br>.371<br>.410<br>.147<br>.152<br>(15-Aug-24<br>1 - 2<br>.179<br>.053<br>.206<br>.024<br>.038<br>.210<br>.164<br>.245                 | G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s                        |
| MIA<br>EIH<br>EIV<br>EIA<br>EOH<br>EOV<br>EOA<br>#18NL PUMP<br>MOH<br>MOV<br>MIH<br>MIV<br>MIA<br>EIH<br>EIV<br>EIA<br>EOH        | - #1 | 8 NL TRUCK   | .030<br>.054<br>.043<br>.045<br>.147<br>.182<br>.135<br>.108<br>.134<br>.135<br>LOADING PU<br>OVERAI<br>.057<br>.104<br>.057<br>.104<br>.048<br>.206<br>.095<br>.177<br>.311<br>.137<br>.071 | In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec                     | .052<br>.205<br>.045<br>.042<br>1.021<br>.442<br>.371<br>.410<br>.147<br>.152<br>(15-Aug-24<br>1 - 2<br>.179<br>.053<br>.206<br>.024<br>.038<br>.210<br>.164<br>.245<br>.395         | G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s                        |
| MIA<br>EIH<br>EIV<br>EIA<br>EOH<br>EOV<br>EOA<br>#18NL PUMP<br>MOH<br>MOV<br>MIH<br>MIV<br>MIA<br>EIH<br>EIV<br>EIA<br>EOH<br>EOV | - #1 | 8 NL TRUCK   | .030<br>.054<br>.043<br>.045<br>.147<br>.182<br>.135<br>.108<br>.134<br>.135<br>LOADING PC<br>OVERAD<br>.057<br>.104<br>.048<br>.206<br>.095<br>.177<br>.311<br>.137<br>.071<br>.194         | In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec<br>In/Sec | .052<br>.205<br>.045<br>.042<br>1.021<br>.442<br>.371<br>.410<br>.147<br>.152<br>(15-Aug-24<br>1 - 2<br>.179<br>.053<br>.206<br>.024<br>.038<br>.210<br>.164<br>.245<br>.395<br>.138 | G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s<br>G-s                        |

| #5TRCKLOAD     | - : | <b>#</b> 5 ! | TRUCK | LOADING  | G PUMP  |                   | (15-Aug-24)               |
|----------------|-----|--------------|-------|----------|---------|-------------------|---------------------------|
|                |     |              |       |          | OVERA   | LL LEVEI          | 1 - 20 KHz                |
| MOH            |     |              |       |          | .121    | In/Sec            | .293 G-s                  |
| MOV            |     |              |       |          | .164    | In/Sec            | .076 G-s                  |
| MIH            |     |              |       |          | .146    | In/Sec            | .443 G-s                  |
| MIV            |     |              |       |          | .198    | In/Sec            | .095 G-s                  |
| MIA            |     |              |       |          | .160    | In/Sec            | .106 G-s                  |
| EIH            |     |              |       |          | .148    | In/Sec            | .558 G-s                  |
| EIV            |     |              |       |          | .213    | In/Sec            | .202 G-s                  |
| EIA            |     |              |       |          | .141    | In/Sec            | .294 G-s                  |
| EOH            |     |              |       |          | .120    | In/Sec            | .292 G-S                  |
| EOV            |     |              |       |          | .1/2    | In/Sec            | .1/8 G-S                  |
| EOA            |     |              |       |          | .195    | In/Sec            | .141 G-S                  |
| #7TRCKLOAD     | _ : | #7 '         | TRICK |          |         |                   | $(15 - \lambda u - 24)$   |
| # / III0112012 |     |              |       | 2012210  | OVERA   | LL LEVEI          | 1 - 20  KHz               |
| MOH            |     |              |       |          | .087    | In/Sec            | .130 G-s                  |
| MOV            |     |              |       |          | .095    | In/Sec            | .039 G-s                  |
| MIH            |     |              |       |          | .068    | In/Sec            | .173 G-s                  |
| MIV            |     |              |       |          | .103    | In/Sec            | .037 G-s                  |
| MIA            |     |              |       |          | .098    | In/Sec            | .050 G-s                  |
| EIH            |     |              |       |          | .097    | In/Sec            | .248 G-s                  |
| EIV            |     |              |       |          | .239    | In/Sec            | .228 G-s                  |
| EIA            |     |              |       |          | .130    | In/Sec            | .202 G-s                  |
| EOH            |     |              |       |          | .141    | In/Sec            | .212 G-s                  |
| EOV            |     |              |       |          | .161    | In/Sec            | .143 G-s                  |
| EOA            |     |              |       |          | .168    | In/Sec            | .125 G-s                  |
|                |     |              |       |          |         |                   |                           |
| #43BOIDSLP     | - : | #43          | BIO-I | DIESEL I | UMP NO  | RTH               | (15-Aug-24)               |
|                |     |              |       |          | OVERA   | LL LEVEI          | 1 - 20 KHz                |
| MOH            |     |              |       |          | .073    | In/Sec            | .421 G-s                  |
| MOV            |     |              |       |          | .138    | In/Sec            | .209 G-s                  |
| MIH            |     |              |       |          | .064    | In/Sec            | .690 G-s                  |
| MIV            |     |              |       |          | .101    | In/Sec            | .244 G-s                  |
| MIA            |     |              |       |          | .060    | In/Sec            | .247 G-s                  |
| EIH            |     |              |       |          | .116    | In/Sec            | .415 G-s                  |
| EIV            |     |              |       |          | .215    | In/Sec            | .130 G-s                  |
| EIA            |     |              |       |          | .076    | In/Sec            | .293 G-s                  |
| EOH            |     |              |       |          | .100    | In/Sec            | .443 G-s                  |
| EOV            |     |              |       |          | .298    | In/Sec            | .153 G-s                  |
| EOA            |     |              |       |          | .121    | In/Sec            | .170 G-s                  |
|                |     | # ^ ^        | BTO T | TROPT T  |         |                   | (15 3                     |
| #446010562     |     | #44          | вто-і | JIESEL 1 | OME MIT | ООЦЕ<br>ГТ ТЕХЛЕТ | (15-Aug-24)<br>1 - 20 KHz |
| мон            |     |              |       |          | 156     |                   | 1 - 20  MIZ               |
| MOV            |     |              |       |          | 501     | In/Sec            | 623 G-s                   |
| MTH            |     |              |       |          | 263     | In/Sec            | 2 710 G-s                 |
| MIV            |     |              |       |          | .206    | In/Sec            | . 693 G-s                 |
| MIA            |     |              |       |          | .769    | In/Sec            | .908 G-s                  |
| EIH            |     |              |       |          | .214    | In/Sec            | .593 G-s                  |
| EIV            |     |              |       |          | .266    | In/Sec            | .274 G-s                  |
| EIA            |     |              |       |          | .089    | In/Sec            | .246 G-s                  |
| EOH            |     |              |       |          | .135    | In/Sec            | .596 G-s                  |
| EOV            |     |              |       |          | .320    | In/Sec            | .180 G-s                  |
| EOA            |     |              |       |          | .225    | In/Sec            | .238 G-s                  |
|                |     |              |       |          |         |                   |                           |
| #45BOIDSLP     | - : | #45          | BIO-I | DIESEL I | UMP SO  | UTH               | (15-Aug-24)               |
|                |     |              |       |          | OVERA   | LL LEVEI          | 1 - 20 KHz                |
| MOH            |     |              |       |          | .297    | In/Sec            | .559 G-s                  |
| MOV            |     |              |       |          | .258    | In/Sec            | .332 G-s                  |
| MIH            |     |              |       |          | .345    | In/Sec            | .486 G-s                  |
| MIV            |     |              |       |          | .342    | In/Sec            | .346 G-s                  |
| MIA            |     |              |       |          | .358    | In/Sec            | .171 G-s                  |
| EIH            |     |              |       |          | .436    | In/Sec            | 1.225 G-s                 |
| EIV            |     |              |       |          | .842    | In/Sec            | .292 G-s                  |
| EIA            |     |              |       |          | .265    | In/Sec            | .828 G-s                  |
| EOH            |     |              |       |          | . 428   | in/Sec            | ./4/ G-s                  |
| EOV            |     |              |       |          | . 927   | In/Sec            | .451 G-S                  |
| EOA            |     |              |       |          | .93/    | III/Sec           | .354 G-S                  |

| <br>            |       |          |          |
|-----------------|-------|----------|----------|
| <br>Clarificati | on Of | Vibratio | n Units: |
| Acc             | >     | G-s      | RMS      |
| Vel             | >     | In/Sec   | PK       |
|                 |       |          |          |

As always, it has been a pleasure to serve the Valero West Memphis Truck Terminal. If there are any comments or questions, do not hesitate to contact us.

Sincerely,

Kevin W. Maxwell

ISO Certified Vibration Analyst, Category III



QualiTest Diagnostics Cell: 901-486-4565 Email: <u>kwilliam@gohispeed.com</u>