



|                 |               |
|-----------------|---------------|
| WEAR            | <b>NORMAL</b> |
| CONTAMINATION   | <b>NORMAL</b> |
| FLUID CONDITION | <b>NORMAL</b> |

Machine Id  
**SUSAN DUFRIEND**

Component  
**Port Genset**

Fluid  
**CHEVRON DELO 400 MULTIGRADE 15W40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>MW0052151</b>   | MW0052147   | MW0042812   |
| Sample Date    |     | Client Info |           | <b>08 Apr 2024</b> | 30 Jan 2024 | 25 Nov 2023 |
| Machine Age    | hrs | Client Info |           | <b>33905</b>       | 33064       | 32273       |
| Oil Age        | hrs | Client Info |           | <b>841</b>         | 791         | 797         |
| Filter Age     | hrs | Client Info |           | <b>841</b>         | 791         | 797         |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | NORMAL      |

**WEAR**

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >50  | <b>7</b>     | 6    | 3    |
| Chromium     | ppm    | ASTM D5185m | >4   | <b>&lt;1</b> | <1   | 0    |
| Nickel       | ppm    | ASTM D5185m | >2   | <b>0</b>     | <1   | 0    |
| Titanium     | ppm    | ASTM D5185m |      | <b>12</b>    | 13   | 12   |
| Silver       | ppm    | ASTM D5185m | >5   | <b>0</b>     | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >12  | <b>1</b>     | 2    | 1    |
| Lead         | ppm    | ASTM D5185m | >17  | <b>4</b>     | 7    | 2    |
| Copper       | ppm    | ASTM D5185m | >70  | <b>2</b>     | 1    | 0    |
| Tin          | ppm    | ASTM D5185m | >15  | <b>0</b>     | <1   | 0    |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | <1   | <1   |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |

**CONTAMINATION**

There is no indication of any contamination in the oil.

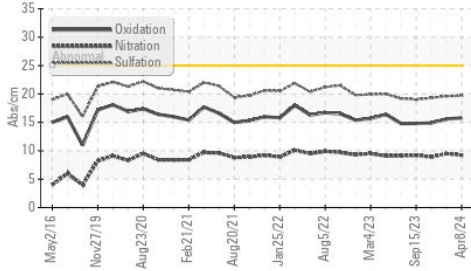
|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>3</b>       | 4     | 3     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>2</b>       | 4     | 2     |
| Fuel             |          | WC Method   | >4.0  | <b>&lt;1.0</b> | <1.0  | <1.0  |
| Water            |          | WC Method   | >0.1  | <b>NEG</b>     | NEG   | NEG   |
| Glycol           |          | WC Method   |       | <b>NEG</b>     | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 |       | <b>0.1</b>     | 0.1   | 0.1   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>9.2</b>     | 9.5   | 8.9   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>19.7</b>    | 19.6  | 19.3  |
| Silt             | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Debris           | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Sand/Dirt        | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Appearance       | scalar   | *Visual     | NORML | <b>NORML</b>   | NORML | NORML |
| Odor             | scalar   | *Visual     | NORML | <b>NORML</b>   | NORML | NORML |
| Emulsified Water | scalar   | *Visual     | >0.1  | <b>NEG</b>     | NEG   | NEG   |

**FLUID CONDITION**

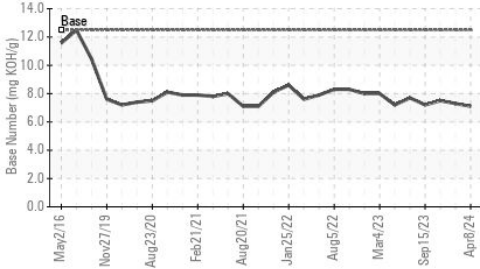
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

|                  |          |             |      |              |      |      |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium           | ppm      | ASTM D5185m |      | <b>4</b>     | 2    | 2    |
| Boron            | ppm      | ASTM D5185m | 151  | <b>96</b>    | 91   | 87   |
| Barium           | ppm      | ASTM D5185m | 0.4  | <b>0</b>     | 0    | 0    |
| Molybdenum       | ppm      | ASTM D5185m | 250  | <b>33</b>    | 40   | 36   |
| Manganese        | ppm      | ASTM D5185m |      | <b>&lt;1</b> | <1   | 0    |
| Magnesium        | ppm      | ASTM D5185m | 0    | <b>642</b>   | 639  | 623  |
| Calcium          | ppm      | ASTM D5185m | 2046 | <b>1736</b>  | 1697 | 1725 |
| Phosphorus       | ppm      | ASTM D5185m | 1043 | <b>779</b>   | 745  | 831  |
| Zinc             | ppm      | ASTM D5185m | 943  | <b>911</b>   | 924  | 944  |
| Sulfur           | ppm      | ASTM D5185m | 5012 | <b>3567</b>  | 3075 | 3207 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>15.8</b>  | 15.6 | 14.9 |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 12.5 | <b>7.1</b>   | 7.3  | 7.5  |
| Visc @ 100°C     | cSt      | ASTM D445   | 14.4 | <b>13.4</b>  | 13.5 | 13.5 |

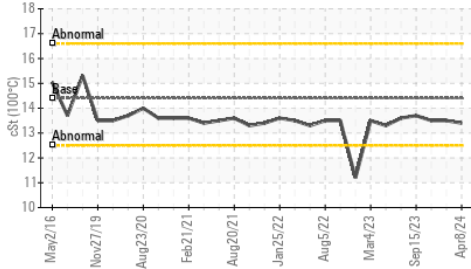
**FT-IR (Direct Trend)**



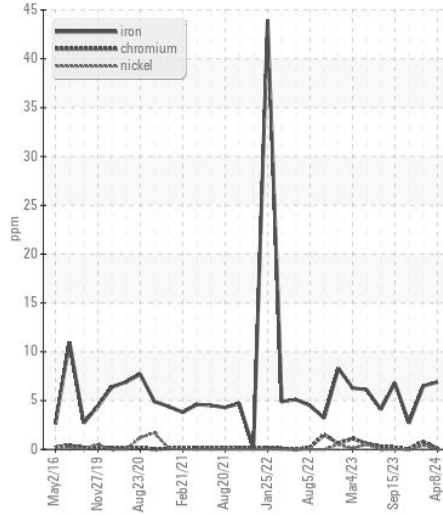
**Base Number**



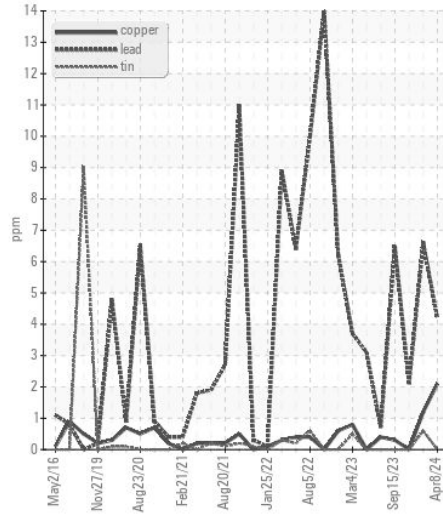
**Viscosity @ 100°C**



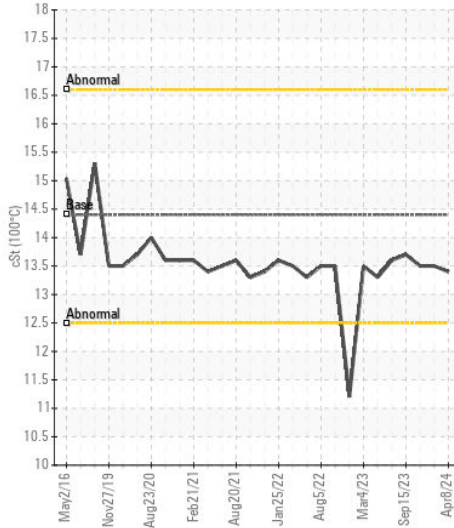
**Ferrous Alloys**



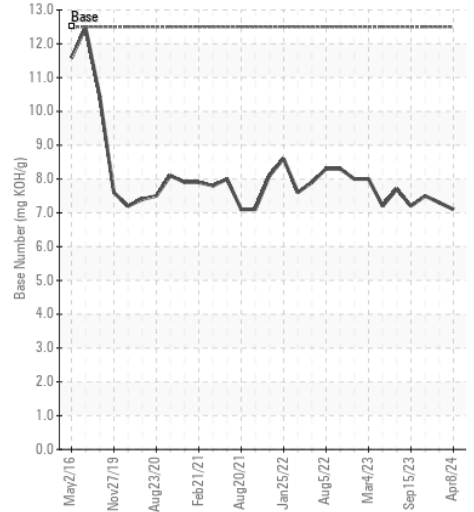
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0052151  
**Lab Number** : 06158323  
**Unique Number** : 10993746  
**Test Package** : MAR 2

**Received** : 23 Apr 2024  
**Tested** : 24 Apr 2024  
**Diagnosed** : 24 Apr 2024 - Wes Davis

**AMERICAN RIVER TRANSPORTATION CO**  
 8400 RIVER RD, PO BOX 656  
 WESTWEGO, LA  
 US 70094-2317  
 Contact: KEVIN CHIASSON  
 kevin.chiasson@adm.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

T:  
F: