



# OIL ANALYSIS REPORT

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

Machine Id  
**INTERNATIONAL 1457**  
Component  
**Gasoline Engine**  
Fluid  
**MOBIL 1 5W30 (--- QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>WC0827712</b>   | WC0827831   | WC0691249   |
| Sample Date    |     | Client Info |           | <b>23 May 2024</b> | 03 Feb 2024 | 16 May 2023 |
| Machine Age    | mls | Client Info |           | <b>95379</b>       | 54975       | 35313       |
| Oil Age        | mls | Client Info |           | <b>6384</b>        | 0           | 0           |
| Filter Age     | mls | Client Info |           | <b>6384</b>        | 0           | 0           |
| 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 | >150 | <b>29</b>    | 59   | 38   |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>1</b>     | 2    | 1    |
| Nickel       | ppm    | ASTM D5185m | >5   | <b>0</b>     | 1    | <1   |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | <1   | 0    |
| Silver       | ppm    | ASTM D5185m | >2   | <b>&lt;1</b> | <1   | 0    |
| Aluminum     | ppm    | ASTM D5185m | >40  | <b>3</b>     | 5    | 3    |
| Lead         | ppm    | ASTM D5185m | >50  | <b>1</b>     | 1    | 0    |
| Copper       | ppm    | ASTM D5185m | >155 | <b>29</b>    | 47   | 34   |
| Tin          | ppm    | ASTM D5185m | >10  | <b>&lt;1</b> | <1   | 0    |
| Vanadium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | <1   | 0    |
| 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.

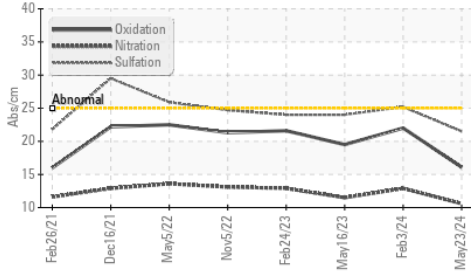
|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >30   | <b>10</b>      | 11    | 9     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>2</b>       | 2     | 2     |
| Fuel             |          | WC Method   | >4.0  | <b>&lt;1.0</b> | <1.0  | <1.0  |
| Water            |          | WC Method   | >0.2  | <b>NEG</b>     | NEG   | NEG   |
| Glycol           |          | WC Method   |       | <b>NEG</b>     | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 |       | <b>0.1</b>     | 0.2   | 0.1   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>10.6</b>    | 12.9  | 11.5  |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>21.5</b>    | 25.2  | 24.0  |
| 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     | >0.2  | <b>NEG</b>     | NEG   | NEG   |

## FLUID CONDITION

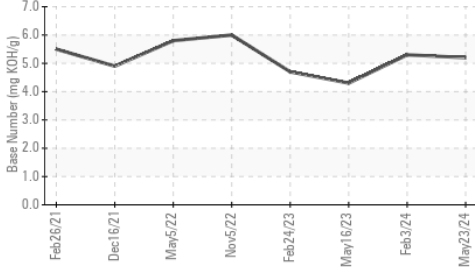
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

|                  |          |             |      |             |      |      |
|------------------|----------|-------------|------|-------------|------|------|
| Sodium           | ppm      | ASTM D5185m | >400 | <b>5</b>    | 4    | 4    |
| Boron            | ppm      | ASTM D5185m | 94   | <b>59</b>   | 28   | 32   |
| Barium           | ppm      | ASTM D5185m | 0.0  | <b>0</b>    | 0    | 0    |
| Molybdenum       | ppm      | ASTM D5185m | 0.0  | <b>72</b>   | 75   | 87   |
| Manganese        | ppm      | ASTM D5185m |      | <b>1</b>    | 2    | 1    |
| Magnesium        | ppm      | ASTM D5185m | 1388 | <b>507</b>  | 519  | 608  |
| Calcium          | ppm      | ASTM D5185m | 820  | <b>1184</b> | 1023 | 878  |
| Phosphorus       | ppm      | ASTM D5185m | 720  | <b>679</b>  | 597  | 673  |
| Zinc             | ppm      | ASTM D5185m | 780  | <b>776</b>  | 740  | 801  |
| Sulfur           | ppm      | ASTM D5185m | 2240 | <b>2897</b> | 2611 | 2579 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>16.1</b> | 22.0 | 19.5 |
| Base Number (BN) | mg KOH/g | ASTM D2896  |      | <b>5.2</b>  | 5.3  | 4.3  |
| Visc @ 100°C     | cSt      | ASTM D445   | 11.3 | <b>9.9</b>  | 10.7 | 10.4 |

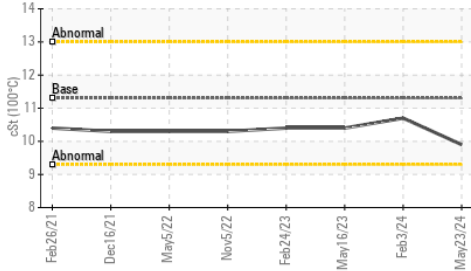
**FT-IR (Direct Trend)**



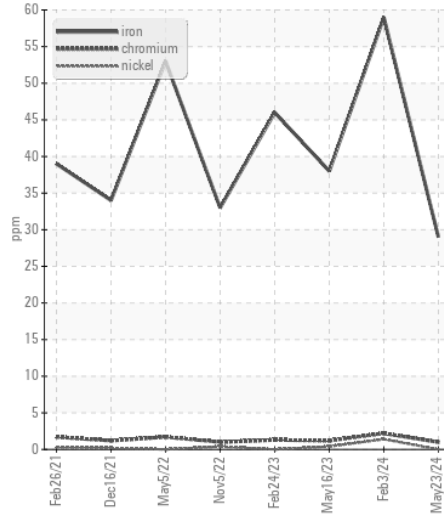
**Base Number**



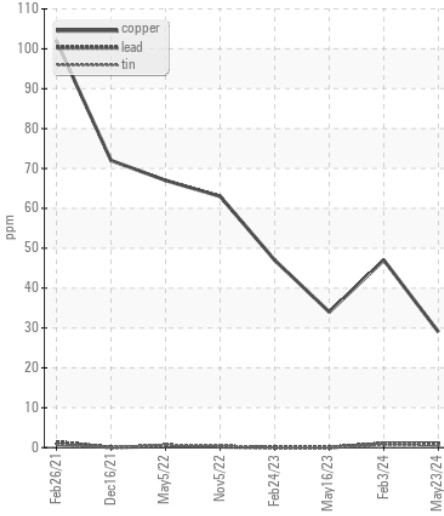
**Viscosity @ 100°C**



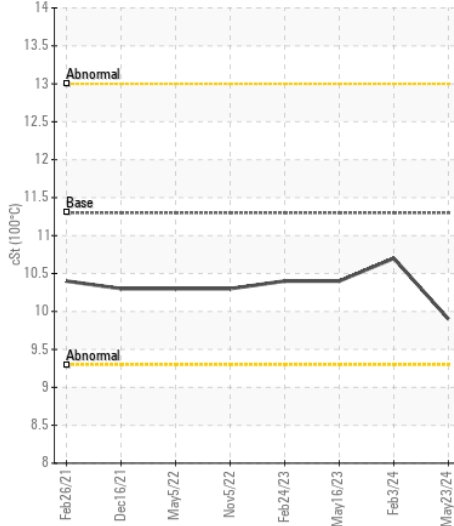
**Ferrous Alloys**



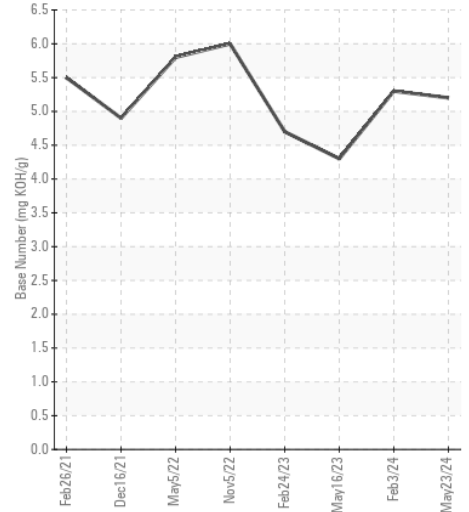
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0827712  
**Lab Number** : 06194871  
**Unique Number** : 11056994  
**Test Package** : FLEET  
**Received** : 29 May 2024  
**Tested** : 30 May 2024  
**Diagnosed** : 30 May 2024 - Wes Davis

**CARCO TRANSPORTATION**  
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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)