



# OIL ANALYSIS REPORT

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

Area  
**Mobile Fleet**  
 Machine Id  
**6460 6460**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 10W30 (8 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>WC0947748</b>   | WC0939363   | WC0918991   |
| Sample Date    |     | Client Info |           | <b>19 Jun 2024</b> | 07 May 2024 | 14 Mar 2024 |
| Machine Age    | hrs | Client Info |           | <b>3643</b>        | 3372        | 3055        |
| Oil Age        | hrs | Client Info |           | <b>263</b>         | 318         | 630         |
| Filter Age     | hrs | Client Info |           | <b>263</b>         | 318         | 630         |
| Oil Changed    |     | Client Info |           | <b>Not Changd</b>  | Changed     | N/A         |
| Filter Changed |     | Client Info |           | <b>Not Changd</b>  | Changed     | N/A         |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | ATTENTION   |

## WEAR

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >100 | <b>4</b>     | 7    | 16   |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>0</b>     | <1   | 2    |
| Nickel       | ppm    | ASTM D5185m | >4   | <b>&lt;1</b> | 0    | <1   |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | 0    | 0    |
| Silver       | ppm    | ASTM D5185m | >3   | <b>&lt;1</b> | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >20  | <b>5</b>     | 4    | 10   |
| Lead         | ppm    | ASTM D5185m | >40  | <b>0</b>     | <1   | 0    |
| Copper       | ppm    | ASTM D5185m | >330 | <b>7</b>     | 25   | 119  |
| Tin          | ppm    | ASTM D5185m | >15  | <b>&lt;1</b> | <1   | <1   |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | 0    |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |

## CONTAMINATION

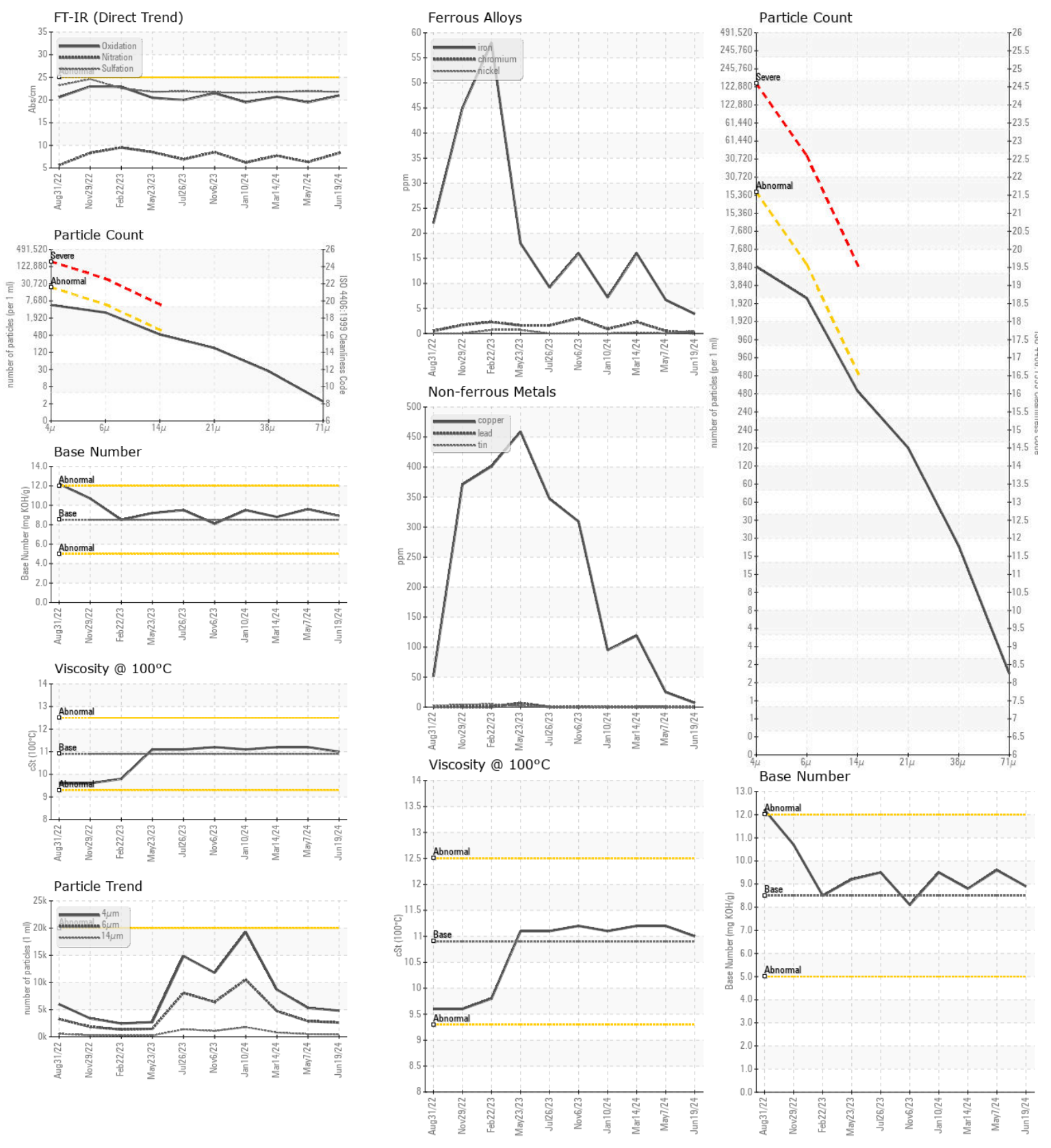
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

|                  |          |              |           |                 |          |          |
|------------------|----------|--------------|-----------|-----------------|----------|----------|
| Silicon          | ppm      | ASTM D5185m  | >25       | <b>7</b>        | 4        | 6        |
| Potassium        | ppm      | ASTM D5185m  | >20       | <b>7</b>        | 5        | 20       |
| Fuel             |          | WC Method    | >5        | <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  | >3        | <b>0.3</b>      | 0.2      | 0.3      |
| Nitration        | Abs/cm   | *ASTM D7624  | >20       | <b>8.3</b>      | 6.3      | 7.7      |
| Sulfation        | Abs/.1mm | *ASTM D7415  | >30       | <b>21.8</b>     | 21.9     | 21.8     |
| Particles >4µm   |          | ASTM D7647   | >20000    | <b>4811</b>     | 5316     | 8691     |
| Particles >6µm   |          | ASTM D7647   | >5000     | <b>2621</b>     | 2896     | 4734     |
| Particles >14µm  |          | ASTM D7647   | >640      | <b>446</b>      | 493      | 806      |
| Particles >21µm  |          | ASTM D7647   | >160      | <b>150</b>      | 166      | 271      |
| Particles >38µm  |          | ASTM D7647   | >40       | <b>23</b>       | 26       | 42       |
| Particles >71µm  |          | ASTM D7647   | >10       | <b>2</b>        | 3        | 4        |
| Oil Cleanliness  |          | ISO 4406 (c) | >21/19/16 | <b>19/19/16</b> | 20/19/16 | 20/19/17 |
| 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 |      | <b>3</b>     | 2    | 3    |
| Boron            | ppm      | ASTM D5185m | 250  | <b>47</b>    | 50   | 41   |
| Barium           | ppm      | ASTM D5185m | 10   | <b>0</b>     | 0    | 0    |
| Molybdenum       | ppm      | ASTM D5185m | 100  | <b>46</b>    | 49   | 52   |
| Manganese        | ppm      | ASTM D5185m |      | <b>&lt;1</b> | <1   | <1   |
| Magnesium        | ppm      | ASTM D5185m | 450  | <b>542</b>   | 506  | 525  |
| Calcium          | ppm      | ASTM D5185m | 3000 | <b>1693</b>  | 1738 | 1712 |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | <b>783</b>   | 784  | 769  |
| Zinc             | ppm      | ASTM D5185m | 1350 | <b>955</b>   | 910  | 945  |
| Sulfur           | ppm      | ASTM D5185m | 4250 | <b>2992</b>  | 2900 | 2648 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>21.0</b>  | 19.5 | 20.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 8.5  | <b>8.9</b>   | 9.6  | 8.8  |
| Visc @ 100°C     | cSt      | ASTM D445   | 10.9 | <b>11.0</b>  | 11.2 | 11.2 |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0947748  
**Lab Number** : 06216743  
**Unique Number** : 11089607  
**Test Package** : CONST ( Additional Tests: PrtCount, TBN )

**Received** : 21 Jun 2024  
**Tested** : 24 Jun 2024  
**Diagnosed** : 24 Jun 2024 - Don Baldrige

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)

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