



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

Machine Id  
**8114764**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 10W30 (--- GAL)**

### RECOMMENDATION

The oil is near the end of it's useful service life, recommend schedule an oil change. Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>IL0035787</b>   | IL0031056   | IL0034898   |
| Sample Date    |     | Client Info |           | <b>20 Jun 2024</b> | 28 Mar 2024 | 09 Jan 2024 |
| Machine Age    | mls | Client Info |           | <b>107777</b>      | 102674      | 97586       |
| Oil Age        | mls | Client Info |           | <b>8555</b>        | 0           | 0           |
| Filter Age     | mls | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Changed    |     | Client Info |           | <b>N/A</b>         | N/A         | N/A         |
| Filter Changed |     | Client Info |           | <b>N/A</b>         | N/A         | N/A         |
| Sample Status  |     |             |           | <b>ABNORMAL</b>    | ABNORMAL    | NORMAL      |

### WEAR

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >100 | <b>78</b>    | 37   | 23   |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>3</b>     | 1    | <1   |
| Nickel       | ppm    | ASTM D5185m | >4   | <b>0</b>     | 0    | 0    |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | 0    | 0    |
| Silver       | ppm    | ASTM D5185m | >3   | <b>&lt;1</b> | 0    | <1   |
| Aluminum     | ppm    | ASTM D5185m | >20  | <b>10</b>    | 7    | 6    |
| Lead         | ppm    | ASTM D5185m | >40  | <b>9</b>     | 5    | 4    |
| Copper       | ppm    | ASTM D5185m | >330 | <b>3</b>     | 2    | <1   |
| Tin          | ppm    | ASTM D5185m | >15  | <b>&lt;1</b> | 0    | 1    |
| 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

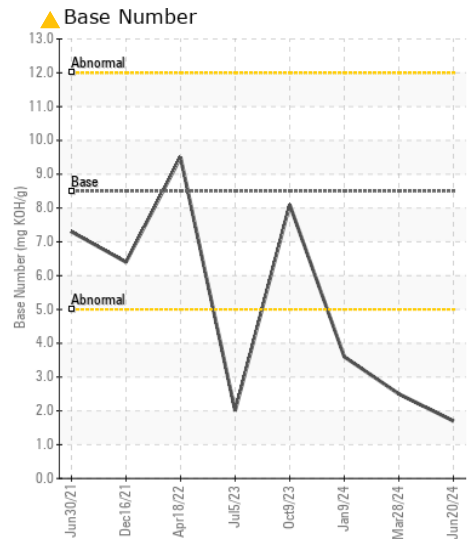
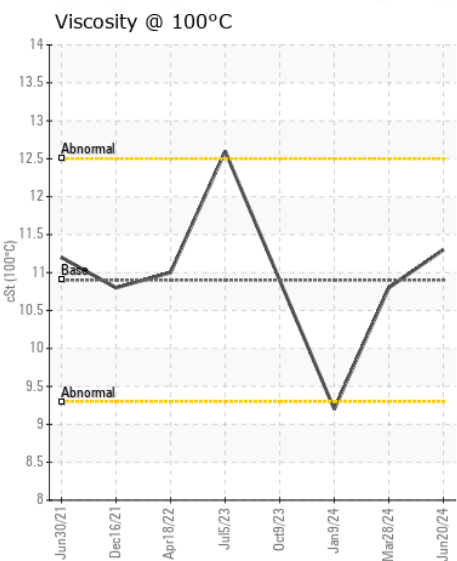
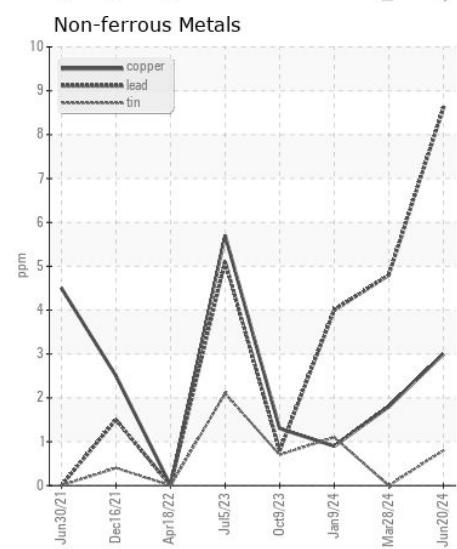
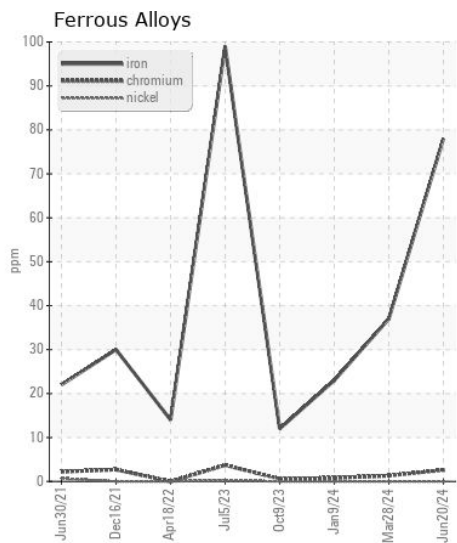
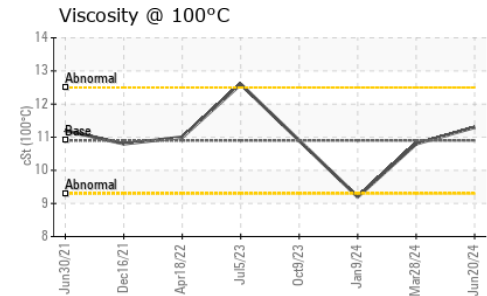
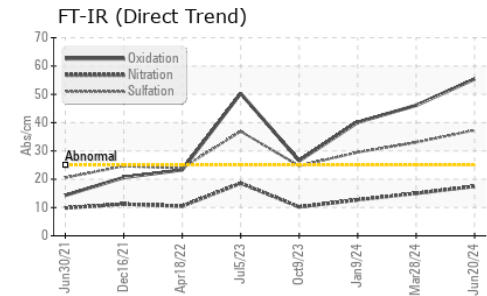
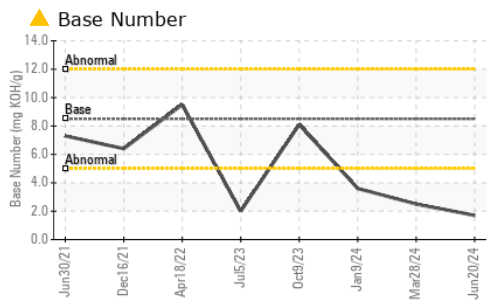
There is no indication of any contamination in the oil.

|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>25</b>      | 17    | 15    |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>21</b>      | 17    | 14    |
| 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>1</b>       | 0.8   | 0.7   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>17.5</b>    | 15.0  | 12.7  |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>37.3</b>    | 33.0  | 29.5  |
| 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 level is low. The condition of the oil is acceptable for the time in service.

|                  |          |             |      |              |       |      |
|------------------|----------|-------------|------|--------------|-------|------|
| Sodium           | ppm      | ASTM D5185m |      | <b>4</b>     | 4     | 2    |
| Boron            | ppm      | ASTM D5185m | 250  | <b>20</b>    | 21    | 21   |
| Barium           | ppm      | ASTM D5185m | 10   | <b>0</b>     | 0     | 0    |
| Molybdenum       | ppm      | ASTM D5185m | 100  | <b>47</b>    | 39    | 37   |
| Manganese        | ppm      | ASTM D5185m |      | <b>2</b>     | <1    | <1   |
| Magnesium        | ppm      | ASTM D5185m | 450  | <b>562</b>   | 438   | 454  |
| Calcium          | ppm      | ASTM D5185m | 3000 | <b>1879</b>  | 1504  | 1432 |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | <b>829</b>   | 654   | 700  |
| Zinc             | ppm      | ASTM D5185m | 1350 | <b>1010</b>  | 766   | 822  |
| Sulfur           | ppm      | ASTM D5185m | 4250 | <b>2933</b>  | 2339  | 2164 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>55.4</b>  | 46.1  | 40.1 |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 8.5  | <b>▲ 1.7</b> | ▲ 2.5 | 3.6  |
| Visc @ 100°C     | cSt      | ASTM D445   | 10.9 | <b>11.3</b>  | 10.8  | 9.2  |



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : IL0035787  
**Lab Number** : 06223233  
**Unique Number** : 11101430  
**Test Package** : FLEET  
**Received** : 28 Jun 2024  
**Tested** : 28 Jun 2024  
**Diagnosed** : 30 Jun 2024 - Don Baldrige

**IDEALRELEASE OF ATLANTA - FULTON**  
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Certificate L2367  
 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)