

### Machine Id 14377 Componen **Diesel Engine** DIESEL ENGINE OIL SAE 15W40 (--- QTS)

## RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

### **WEAR**

Metal levels are typical for a new component breaking in.

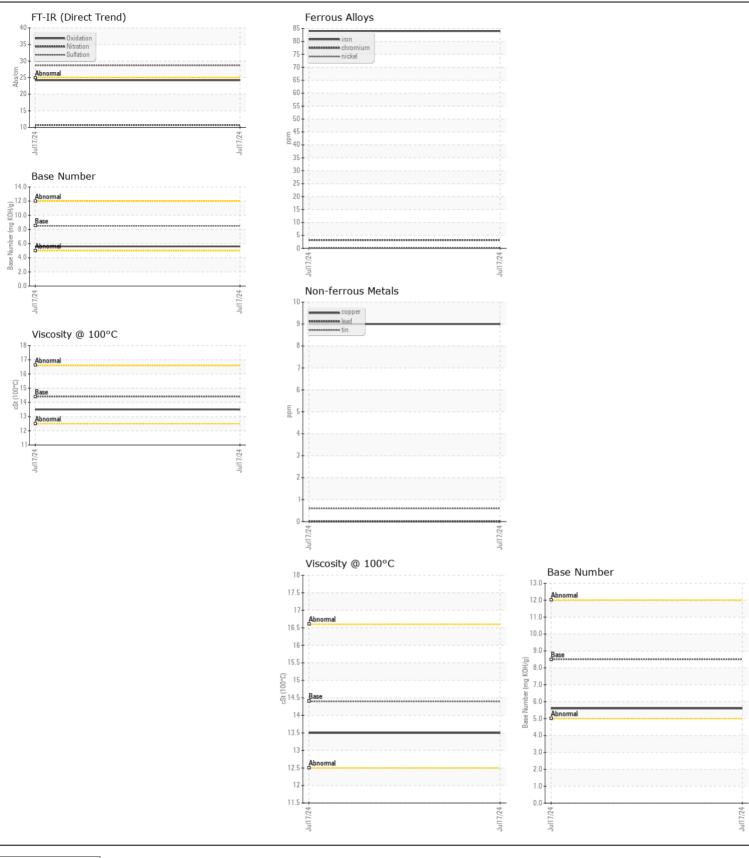
# CONTAMINATION

Elevated aluminum (AI) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

| Test             | UOM      | Method      | Limit/Abn | Current     | History1 | History2 |
|------------------|----------|-------------|-----------|-------------|----------|----------|
| Sample Number    |          | Client Info |           | WC0936767   |          |          |
| Sample Date      |          | Client Info |           | 17 Jul 2024 |          |          |
| Machine Age      | mls      | Client Info |           | 27609       |          |          |
| Oil Age          | mls      | Client Info |           | 13517       |          |          |
| Filter Age       | mls      | Client Info |           | 13517       |          |          |
| Oil Changed      |          | Client Info |           | Changed     |          |          |
| Filter Changed   |          | Client Info |           | Changed     |          |          |
| Sample Status    |          |             |           | NORMAL      |          |          |
|                  |          |             |           |             |          |          |
| Iron             | ppm      | ASTM D5185m | >100      | 84          |          |          |
| Chromium         | ppm      | ASTM D5185m | >20       | 3           |          |          |
| Nickel           | ppm      | ASTM D5185m | >4        | <1          |          |          |
| Titanium         | ppm      | ASTM D5185m |           | 0           |          |          |
| Silver           | ppm      | ASTM D5185m | >3        | 0           |          |          |
| Aluminum         | ppm      | ASTM D5185m | >20       | 9           |          |          |
| Lead             | ppm      | ASTM D5185m | >40       | 0           |          |          |
| Copper           | ppm      | ASTM D5185m | >330      | 9           |          |          |
| Tin              | ppm      | ASTM D5185m | >15       | <1          |          |          |
| Vanadium         | ppm      | ASTM D5185m |           | 0           |          |          |
| White Metal      | scalar   | *Visual     | NONE      | NONE        |          |          |
| Yellow Metal     | scalar   | *Visual     | NONE      | NONE        |          |          |
|                  |          |             |           |             |          |          |
| Silicon          | ppm      | ASTM D5185m | >25       | 12          |          |          |
| Potassium        | ppm      | ASTM D5185m | >20       | 19          |          |          |
| Fuel             |          | WC Method   | >5        | <1.0        |          |          |
| Water            |          | WC Method   | >0.2      | NEG         |          |          |
| Glycol           |          | WC Method   |           | NEG         |          |          |
| Soot %           | %        | *ASTM D7844 | >3        | 1.2         |          |          |
| Nitration        | Abs/cm   | *ASTM D7624 | >20       | 10.7        |          |          |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30       | 28.7        |          |          |
| Silt             | scalar   | *Visual     | NONE      | NONE        |          |          |
| Debris           | scalar   | *Visual     | NONE      | NONE        |          |          |
| Sand/Dirt        | scalar   | *Visual     | NONE      | NONE        |          |          |
| Appearance       | scalar   | *Visual     | NORML     | NORML       |          |          |
| Odor             | scalar   | *Visual     | NORML     | NORML       |          |          |
| Emulsified Water | scalar   | *Visual     | >0.2      | NEG         |          |          |
| o "              |          |             | 1 5 0     | •           |          |          |
| Sodium           | ppm      | ASTM D5185m | >158      | 3           |          |          |
| Boron            | ppm      | ASTM D5185m |           | 147         |          |          |
| Barium           | ppm      | ASTM D5185m | 10        | 0           |          |          |
| Molybdenum       | ppm      | ASTM D5185m | 100       | 74          |          |          |
| Manganese        | ppm      | ASTM D5185m | 450       | 1           |          |          |
| Magnesium        | ppm      | ASTM D5185m | 450       | 381         |          |          |
| Calcium          | ppm      | ASTM D5185m | 3000      | 1357        |          |          |
| Phosphorus       | ppm      | ASTM D5185m | 1150      | 983         |          |          |
| Zinc             | ppm      | ASTM D5185m | 1350      | 1217        |          |          |
| Sulfur           | ppm      | ASTM D5185m | 4250      | 3347        |          |          |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25       | 24.2        |          |          |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 8.5       | 5.6         |          |          |
| Visc @ 100°C     | cSt      | ASTM D445   | 14.4      | 13.5        |          |          |

#### **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.



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 SALEM NATIONALEASE CORPORATION Sample No. Received 198 PARK PLAZA DRIVE : WC0936767 : 17 Jul 2024 Lab Number : 06239668 Tested WINSTON SALEM, NC : 18 Jul 2024 Diagnosed Unique Number : 11128502 : 18 Jul 2024 - Wes Davis US 27105 Test Package : FLEET **Contact: Audrey Hopkins** Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. Audrey.Hopkins@salemcorp.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (336)767-9642 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: x:

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Contact/Location: Audrey Hopkins - SALWIN Page 2 of 2