**WEAR** CONTAMINATION **FLUID CONDITION** 

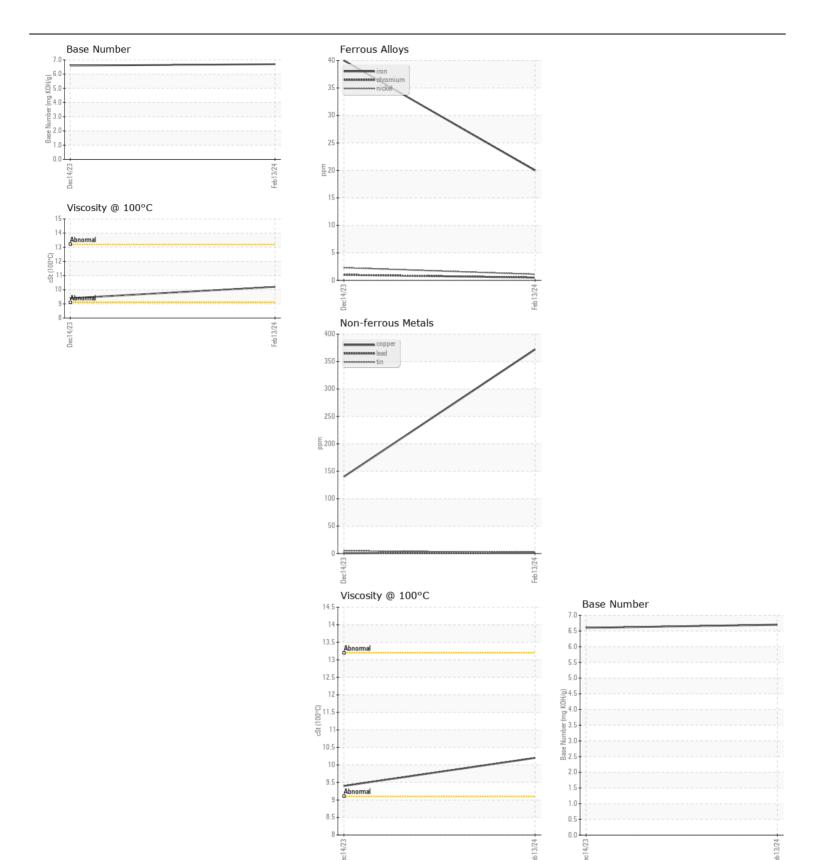
**NORMAL NORMAL NORMAL** 

Area **FLEET** 

## VOLVO TRACTOR 2227077

Component Main Diesel Engine

| ECOMMENDATION   | Test             | UOM      | Method      | Limit/Abn | Current     | History1    | History |
|---|------------------|----------|-------------|-----------|-------------|-------------|---------|
| Resample at the next service interval to monitor.   | Sample Number    |          | Client Info |           | PCA0116252  | PCA0112315  |         |
|   | Sample Date      |          | Client Info |           | 13 Feb 2024 | 14 Dec 2023 |         |
|   | Machine Age      | mls      | Client Info |           | 27514       | 27514       |         |
|   | Oil Age          | mls      | Client Info |           | 27514       | 27514       |         |
|   | Filter Age       | mls      | Client Info |           | 0           | 27514       |         |
|   | Oil Changed      |          | Client Info |           | N/A         | Changed     |         |
|   | Filter Changed   |          | Client Info |           | N/A         | Changed     |         |
|   | Sample Status    |          |             |           | NORMAL      | NORMAL      |         |
| /EAR  | Iron             | ppm      | ASTM D5185m | >100      | 20          | 40          |         |
| Metal levels are typical for a new component breaking in.   | Chromium         | ppm      | ASTM D5185m |           | <1          | 1           |         |
|   | Nickel           | ppm      | ASTM D5185m |           | 1           | 2           |         |
|   | Titanium         | ppm      | ASTM D5185m | 72        | 0           | <1          |         |
|   | Silver           | ppm      | ASTM D5185m | ~2        | 3           | 12          |         |
|   | Aluminum         | ppm      | ASTM D5185m |           | 10          | 33          |         |
|   | Lead             | ppm      | ASTM D5185m |           | 2           | <1          |         |
|   | Copper           | ppm      | ASTM D5185m |           | 372         | 140         |         |
|   | Tin              | ppm      | ASTM D5185m |           | 2           | 5           |         |
|   | Vanadium         | ppm      | ASTM D5185m | 713       | 0           | <1          |         |
|   | White Metal      | scalar   | *Visual     | NONE      | NONE        | NONE        |         |
|   | Yellow Metal     | scalar   | *Visual     | NONE      | NONE        | NONE        |         |
|   |                  |          |             |           |             |             |         |
| CONTAMINATION   | Silicon          | ppm      | ASTM D5185m |           | 13          | 61          |         |
| 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. | Potassium        | ppm      | ASTM D5185m |           | 22          | 87          |         |
|   | Fuel             |          | WC Method   |           | <1.0        | <1.0        |         |
|   | Water            |          | WC Method   | >0.2      | NEG         | NEG         |         |
|   | Glycol           |          | WC Method   |           | NEG         | NEG         |         |
|   | Soot %           | %        | *ASTM D7844 | >3        | 0.2         | 0.3         |         |
|   | Nitration        | Abs/cm   | *ASTM D7624 | >20       | 9.4         | 11.2        |         |
|   | Sulfation        | Abs/.1mm | *ASTM D7415 | >30       | 19.9        | 24.2        |         |
|   | Silt             | scalar   | *Visual     | NONE      | NONE        | NONE        |         |
|   | Debris           | scalar   | *Visual     | NONE      | NONE        | NONE        |         |
|   | Sand/Dirt        | scalar   | *Visual     | NONE      | NONE        | NONE        |         |
|   | Appearance       | scalar   | *Visual     | NORML     | NORML       | NORML       |         |
|   | Odor             | scalar   | *Visual     | NORML     | NORML       | NORML       |         |
|   | Emulsified Water | scalar   | *Visual     | >0.2      | NEG         | NEG         |         |
| 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 |           | 2           | 1           |         |
|   | Boron            | ppm      | ASTM D5185m |           | 10          | 103         |         |
|   | Barium           | ppm      | ASTM D5185m |           | 0           | 0           |         |
|   | Molybdenum       | ppm      | ASTM D5185m |           | 67          | 112         |         |
|   | Manganese        | ppm      | ASTM D5185m |           | 1           | 4           |         |
|   | Magnesium        | ppm      | ASTM D5185m |           | 880         | 678         |         |
|   | Calcium          | ppm      | ASTM D5185m |           | 1219        | 1344        |         |
|   | Phosphorus       | ppm      | ASTM D5185m |           | 963         | 628         |         |
|   | Zinc             | ppm      | ASTM D5185m |           | 1108        | 780         |         |
|   | Sulfur           | ppm      | ASTM D5185m |           | 2477        | 2083        |         |
|   | Oxidation        | Abs/.1mm | *ASTM D7414 | >25       | 17.1        | 24.7        |         |
|   | Base Number (BN) |          |             | -         | 6.7         | 6.6         |         |
|   | Visc @ 100°C     | cSt      | ASTM D445   |           | 10.2        | 9.4         |         |







Certificate L2367

Laboratory Sample No.

: PCA0116252 Lab Number : 06101368

Unique Number: 10899598 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 27 Feb 2024 **Tested** 

Diagnosed

: 28 Feb 2024 : 28 Feb 2024 - Wes Davis

Contact: KEVIN HOOKS kevin.hooks@perdue.com T: (843)841-8069

**PERDUE FARMS - DILLON** 

2047 HWY 9 WEST

DILLON, SC

US 29536

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)

F: (843)841-8070