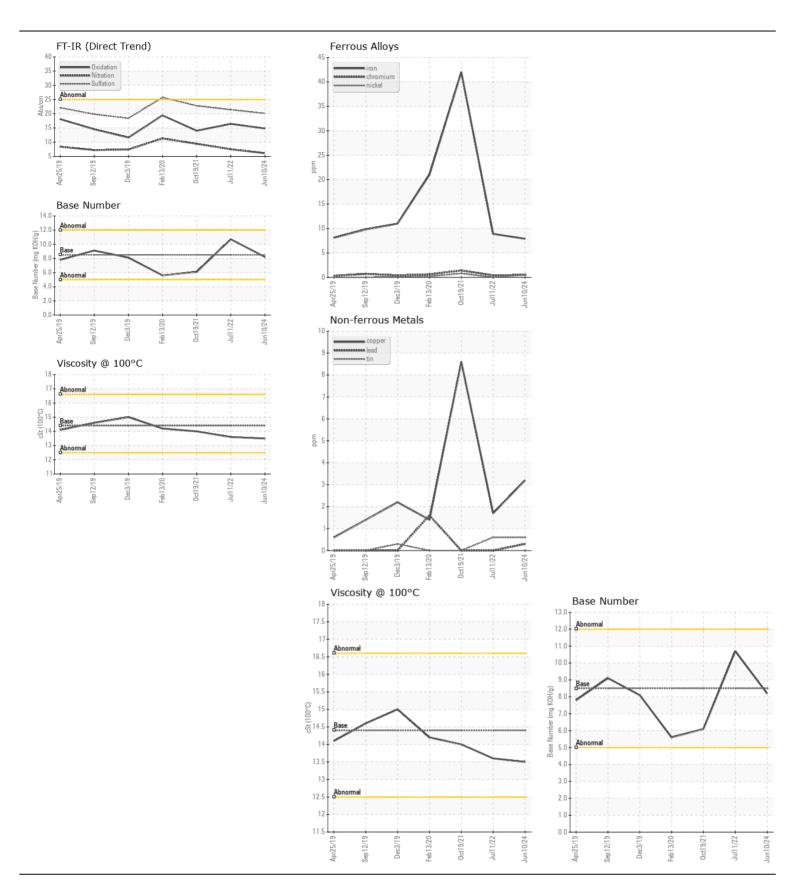
**WEAR** CONTAMINATION **FLUID CONDITION** 

**NORMAL NORMAL NORMAL** 

Machine Id

FSP133179
Component
Diesel Engine

| DIESEL ENGINE OIL SAE 15W40 ( QTS)   |                  |          |             |             |             |             |             |
|--|------------------|----------|-------------|-------------|-------------|-------------|-------------|
| RECOMMENDATION   | Test             | UOM      | Method      | Limit/Abn   | Current     | History1    | History2    |
| 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. | Sample Number    | OOW      | Client Info | LIIIIU/ADII | WC0875928   | ,           | WC0612116   |
|  | Sample Date      |          | Client Info |             | 10 Jun 2024 | 11 Jul 2022 | 19 Oct 2021 |
|  | Machine Age      | mls      | Client Info |             | 334146      | 317769      | 303763      |
|  | Oil Age          | mls      | Client Info |             | 20000       | 0           | 0           |
|  | Filter Age       | mls      | Client Info |             | 20000       | 0           | 0           |
|  | Oil Changed      |          | Client Info |             | Changed     | Changed     | Changed     |
|  | Filter Changed   |          | Client Info |             | Changed     | Changed     | Changed     |
|  | Sample Status    |          |             |             | NORMAL      | NORMAL      | NORMAL      |
| WEAR   | Iron             | ppm      | ASTM D5185m | >100        | 8           | 9           | 42          |
| All component wear rates are normal.   | Chromium         | ppm      | ASTM D5185m | >20         | <1          | <1          | 1           |
|  | Nickel           | ppm      | ASTM D5185m | >4          | <1          | 0           | <1          |
|  | Titanium         | ppm      | ASTM D5185m |             | <1          | 0           | <1          |
|  | Silver           | ppm      | ASTM D5185m | >3          | <1          | <1          | <1          |
|  | Aluminum         | ppm      | ASTM D5185m | >20         | 4           | 4           | 17          |
|  | Lead             | ppm      | ASTM D5185m | >40         | <1          | 0           | 0           |
|  | Copper           | ppm      | ASTM D5185m | >330        | 3           | 2           | 9           |
|  | Tin              | ppm      | ASTM D5185m | >15         | <1          | <1          | 0           |
|  | Vanadium         | ppm      | ASTM D5185m |             | <1          | 0           | 0           |
|  | White Metal      | scalar   | *Visual     | NONE        | NONE        | NONE        | NONE        |
|  | Yellow Metal     | scalar   | *Visual     | NONE        | NONE        | NONE        | NONE        |
| CONTAMINATION  | Silicon          | ppm      | ASTM D5185m | >25         | 5           | 4           | 5           |
|  | Potassium        | ppm      | ASTM D5185m | >20         | 2           | <1          | 8           |
| There is no indication of any contamination in the oil.  | Fuel             |          | WC Method   | >5          | <1.0        | <1.0        | <1.0        |
|  | Water            |          | WC Method   | >0.2        | NEG         | NEG         | NEG         |
|  | Glycol           |          | WC Method   |             | NEG         | NEG         | NEG         |
|  | Soot %           | %        | *ASTM D7844 | >3          | 0.2         | 0.4         | 0.8         |
|  | Nitration        | Abs/cm   | *ASTM D7624 | >20         | 6.1         | 7.5         | 9.4         |
|  | Sulfation        | Abs/.1mm | *ASTM D7415 | >30         | 20.1        | 21.4        | 22.8        |
|  | Silt             | scalar   | *Visual     | NONE        | NONE        | NONE        | NONE        |
|  | Debris           | scalar   | *Visual     | NONE        | NONE        | NONE        | NONE        |
|  | Sand/Dirt        | scalar   | *Visual     | NONE        | NONE        | NONE        | NONE        |
|  | Appearance       | scalar   | *Visual     | NORML       | NORML       | NORML       | NORML       |
|  | Odor             | scalar   | *Visual     | NORML       | NORML       | NORML       | NORML       |
|  | Emulsified Water | scalar   | *Visual     | >0.2        | NEG         | NEG         | NEG         |
| FLUID CONDITION  | Sodium           | ppm      | ASTM D5185m | >158        | 1           | <1          | 2           |
| The BN result indicates that there is suitable alkalinity remaining in the   | Boron            | ppm      | ASTM D5185m | 250         | 266         | 13          | 15          |
| oil. The condition of the oil is suitable for further service.   | Barium           | ppm      | ASTM D5185m | 10          | <1          | 0           | 0           |
|  | Molybdenum       | ppm      | ASTM D5185m | 100         | 78          | 51          | 11          |
|  | Manganese        | ppm      | ASTM D5185m |             | <1          | <1          | <1          |
|  | Magnesium        | ppm      | ASTM D5185m |             | 489         | 829         | 81          |
|  | Calcium          | ppm      | ASTM D5185m |             | 1335        | 1164        | 2470        |
|  | Phosphorus       | ppm      | ASTM D5185m |             | 975         | 889         | 836         |
|  | Zinc             | ppm      | ASTM D5185m |             | 1077        | 1144        | 1023        |
|  | Sulfur           | ppm      | ASTM D5185m |             | 3257        | 3367        | 4446        |
|  | Oxidation        | Abs/.1mm | *ASTM D7414 |             | 14.8        | 16.4        | 14          |
|  | Base Number (BN) |          |             |             | 8.2         | 10.7        | 6.1         |
|  | Visc @ 100°C     | cSt      | ASTM D445   | 14.4        | 13.5        | 13.6        | 14.0        |







Certificate L2367

Laboratory

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No.

: WC0875928 Lab Number : 06213011 Unique Number: 11085875

Test Package : FLEET

Received **Tested** Diagnosed

: 19 Jun 2024

: 17 Jun 2024

: 19 Jun 2024 - Wes Davis

8801 EXCHANGE DRVIE ORLANDO, FL US 32809 Contact: CRAIG EVANS

evans\_craig@sbcglobal.net T:

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:

**FRESHPOINT**