

| WEAR            |        |
|-----------------|--------|
| CONTAMINATION   | NORMAL |
| FLUID CONDITION | NORMAL |

## Machine Id **56919** Component **Diesel Engine** Fluid **DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

| RECOMMENDATION   | Test                 | UOM      | Method             | Limit/Abn | Current        | History1    | History2    |
|--|----------------------|----------|--------------------|-----------|----------------|-------------|-------------|
| Descende static matter interval to marking Discourse if the                | Sample Number        |          | Client Info        |           | DC0036030      | DC0034864   | DC0032679   |
| Resample at the next service interval to monitor. Please specify the       | Sample Date          |          | Client Info        |           | 10 Apr 2024    | 30 Jan 2024 | 01 Nov 2023 |
| component make and model with your next sample.                            | Machine Age          | hrs      | Client Info        |           | 3109           | 2865        | 2410        |
|  | Oil Age              | hrs      | Client Info        |           | 150            | 400         | 300         |
|  | Filter Age           | hrs      | Client Info        |           | 150            | 400         | 300         |
|  | 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      | 3              | 4           | 2           |
| All component wear rates are normal.                                       | Chromium             | ppm      | ASTM D5185m        |           | <1             | <1          | <1          |
|  | Nickel               | ppm      | ASTM D5185m        |           | 0              | <1          | 0           |
|  | Titanium             | ppm      | ASTM D5185m        | - 1       | 0              | <1          | 0           |
|  | Silver               | ppm      | ASTM D5185m        | >3        | 0              | <1          | 0           |
|  | Aluminum             | ppm      | ASTM D5185m        |           | <1             | 1           | 1           |
|  | Lead                 | ppm      | ASTM D5185m        |           | 0              | <1          | 0           |
|  | Copper               | ppm      | ASTM D5185m        |           | <1             | <1          | <1          |
|  | Tin                  | ppm      | ASTM D5185m        |           | 0              | <1          | <1          |
|  | Vanadium             | ppm      | ASTM D5185m        |           | 0              | <1          | 0           |
|  | White Metal          | scalar   | *Visual            | NONE      | NONE           | NONE        | NONE        |
|  | Yellow Metal         | scalar   | *Visual            | NONE      | NONE           | NONE        | NONE        |
|  |                      |          |                    |           |                |             |             |
| CONTAMINATION  | Silicon              | ppm      | ASTM D5185m        |           | 5              | 4           | 4           |
| There is no indication of any contamination in the oil.                    | Potassium            | ppm      | ASTM D5185m        |           | 0              | 2           | <1          |
|  | Fuel                 |          | WC Method          |           | <1.0           | <1.0        | <1.0        |
|  | Water                |          | WC Method          | >0.2      | NEG            | NEG         | NEG         |
|  | Glycol               |          | WC Method          |           | NEG            | NEG         | NEG         |
|  | Soot %               | %        | *ASTM D7844        |           | 0.1            | 0.1         | 0.1         |
|  | Nitration            | Abs/cm   | *ASTM D7624        | >20       | 5.7            | 6.4         | 5.8         |
|  | Sulfation            | Abs/.1mm | *ASTM D7415        |           | 15.5           | 15.9        | 15.5        |
|  | Silt                 | scalar   | *Visual            | NONE      | NONE           | NONE        | NONE        |
|  | Debris               | scalar   | *Visual            | NONE      | NONE           | NONE        | NONE        |
|  | Sand/Dirt            | scalar   | *Visual            | NONE      | NONE           | NONE        | NONE        |
|  | Appearance<br>Odor   | scalar   | *Visual<br>*Visual | NORML     | NORML<br>NORML | NORML       | NORML       |
|  |                      | scalar   |                    | NORML     | -              | NORML       |             |
|  | Emulsified Water     | scalar   | *Visual            | >0.2      | NEG            | NEG         | NEG         |
| FLUID CONDITION  | Sodium               | ppm      | ASTM D5185m        | >158      | 0              | 0           | <1          |
|  | Boron                | ppm      | ASTM D5185m        | 250       | 4              | 4           | 2           |
| The BN result indicates that there is suitable alkalinity remaining in the | Barium               | ppm      | ASTM D5185m        |           | 0              | 0           | 0           |
| oil. The condition of the oil is suitable for further service.             | Molybdenum           | ppm      | ASTM D5185m        |           | 2              | 3           | 1           |
|  | Manganese            | ppm      | ASTM D5185m        |           | <1             | <1          | <1          |
|  | Magnesium            | ppm      | ASTM D5185m        | 450       | 61             | 45          | 47          |
|  | Calcium              | ppm      | ASTM D5185m        |           | 2318           | 2197        | 2292        |
|  | Phosphorus           | ppm      | ASTM D5185m        | 1150      | 897            | 907         | 918         |
|  | Zinc                 | ppm      | ASTM D5185m        | 1350      | 1048           | 1037        | 1079        |
|  | Sulfur               | ppm      | ASTM D5185m        | 4250      | 4115           | 4099        | 3738        |
|  | Oxidation            | Abs/.1mm | *ASTM D7414        |           | 9.6            | 9.8         | 9.4         |
|  | Deep North and (DNI) |          |                    | 0.5       | 7.0            | 74          | 7.0         |

Base Number (BN) mg KOH/g ASTM D2896 8.5

ASTM D445 14.4

Visc @ 100°C cSt

7.1

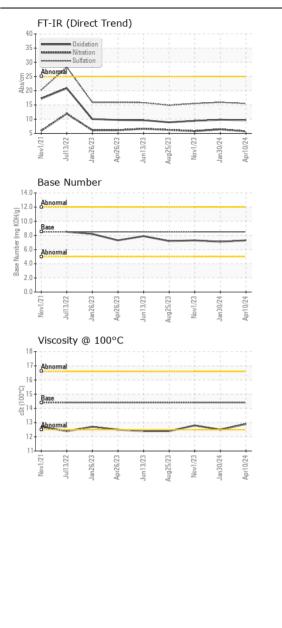
12.5

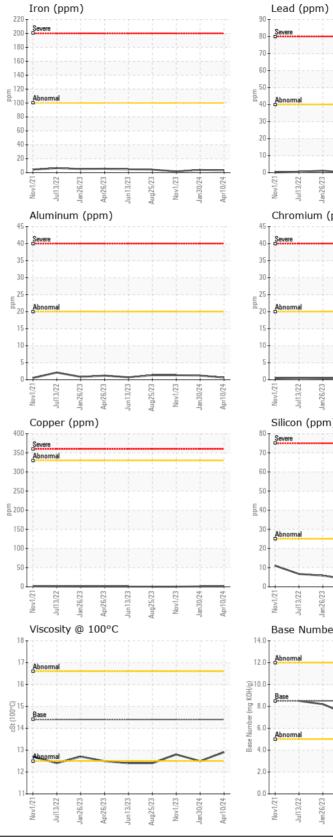
7.3

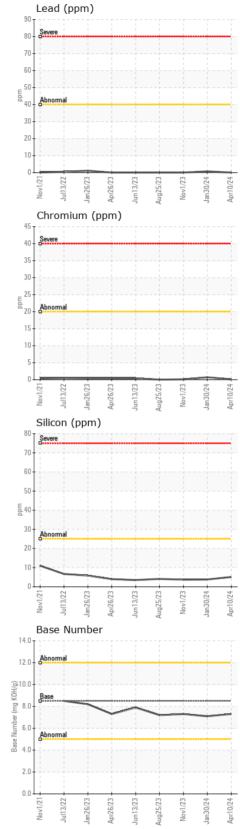
12.8

7.3

12.9







FRANCIS O DAY Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. : DC0036030 Received 14900 SOUTHLAWN LN : 23 Apr 2024 ROCKVILLE, MD Lab Number : 06158317 Tested : 24 Apr 2024 Unique Number : 10993740 Diagnosed : 24 Apr 2024 - Wes Davis US 20850 Test Package : MOB 1 (Additional Tests: TBN) Contact: JAMIE FORESTER 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. T: F: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: JAMIE FORESTER - FRAROCDC Page 2 of 2