

### **OIL ANALYSIS REPORT**

Sample Rating Trend

NORMAL

# Machine Id 8811170

Component Diesel Engine Fluid DIESEL ENGINE OIL SAE 10W30 (--- GAL)

#### DIAGNOSIS

#### Recommendation

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

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

#### 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.

|                     |          |                 | 11 1.0     |                  | 1.1         |             |
|---------------------|----------|-----------------|------------|------------------|-------------|-------------|
| SAMPLE INFORM       | IATION   | method          | limit/base | current          | history1    | history2    |
| Sample Number       |          | Client Info     |            | IL06073779       | IL05687752  | IL05537986  |
| Sample Date         |          | Client Info     |            | 29 Jan 2024      | 31 Oct 2022 | 21 Apr 2022 |
| Machine Age         | mls      | Client Info     |            | 0                | 456336      | 0           |
| Oil Age             | mls      | Client Info     |            | 0                | 0           | 0           |
| Oil Changed         |          | Client Info     |            | N/A              | N/A         | N/A         |
| Sample Status       |          |                 |            | NORMAL           | NORMAL      | NORMAL      |
| CONTAMINATION       | J        | method          | limit/base | current          | history1    | history2    |
| Fuel                |          | WC Method       | >5         | <1.0             | <1.0        | <1.0        |
| Water               |          | WC Method       | >0.2       | NEG              | NEG         | NEG         |
| Glycol              |          | WC Method       |            | NEG              | NEG         | NEG         |
| WEAR METALS         |          | method          | limit/hase | current          | history1    | history2    |
|                     |          |                 | 100        |                  | 10          | 15          |
| Iron<br>Obre misure | ppm      |                 | >100       | 17               | 19          | 15          |
| Chromium            | ppm      | ASTM D5185m     | >20        | <1               |             | <           |
| Titonium            | ppm      | ASTM DE105      | >4         | <1               | < 1         | 0           |
| Silver              | ppm      | ASTM D5185m     | . 0        | <1               | 0           | 0           |
| Aluminum            | ppm      | ASTM DE105m     | >3         | 0                | 0           | < 1         |
| Aluminum            | ppm      | ASTM DE105m     | >20        | 3                | 4           | 5           |
| Leau                | ppm      | ASTM DE105m     | >40        | 4                | 0           | 3           |
| Tip                 | ppm      | ASTM DE105m     | >330       | .4               | -1          | <1          |
| Antimony            | ppm      | ASTM DE105m     | >10        | <1               | < 1         | < 1         |
| Vanadium            | ppill    | ASTM D5105III   |            |                  |             |             |
| Codmium             | ppm      | ASTM DE105m     |            | 0                | 0           | 0           |
| Caumum              | ррп      | ASTIVI DOTODIII |            | 0                | 0           | 0           |
| ADDITIVES           |          | method          | limit/base | current          | history1    | history2    |
| Boron               | ppm      | ASTM D5185m     | 250        | 24               | 20          | 38          |
| Barium              | ppm      | ASTM D5185m     | 10         | 0                | 0           | 0           |
| Molybdenum          | ppm      | ASTM D5185m     | 100        | 50               | 44          | 40          |
| Manganese           | ppm      | ASTM D5185m     |            | <1               | <1          | <1          |
| Magnesium           | ppm      | ASTM D5185m     | 450        | 454              | 519         | 599         |
| Calcium             | ppm      | ASTM D5185m     | 3000       | 1588             | 1586        | 1724        |
| Phosphorus          | ppm      | ASTM D5185m     | 1150       | 661              | 675         | 758         |
| Zinc                | ppm      | ASTM D5185m     | 1350       | 909              | 892         | 891         |
| Sulfur              | ppm      | ASTM D5185m     | 4250       | 2364             | 2333        | 2166        |
| CONTAMINANTS        |          | method          | limit/base | current          | history1    | history2    |
| Silicon             | ppm      | ASTM D5185m     | >25        | 9                | 9           | 6           |
| Sodium              | ppm      | ASTM D5185m     |            | 0                | 2           | 3           |
| Potassium           | ppm      | ASTM D5185m     | >20        | 7                | 5           | 4           |
| INFRA-RED           |          | method          | limit/base | current          | history1    | history2    |
| Soot %              | %        | *ASTM D7844     | >3         | 0.5              | 0.5         | 0.4         |
| Nitration           | Abs/cm   | *ASTM D7624     | >20        | 10.9             | 12.4        | 11.0        |
| Sulfation           | Abs/.1mm | *ASTM D7415     | >30        | 23.0             | 25.8        | 24.2        |
| FLUID DEGRADA       | TION     | method          | limit/base | current          | history1    | history2    |
| Oxidation           | Abs/.1mm | *ASTM D7414     | >25        | 23.4             | 26.4        | 23.4        |
| Base Number (BN)    | ma KOH/a | ASTM D2896      | 8.5        | 7.3              | 7.9         | 8.4         |
|                     |          |                 |            | <b>A A A H A</b> |             |             |

Contact/Location: RICK MARKS - IDENORGA



Abi

Sep26/18

Mar22/20

## **OIL ANALYSIS REPORT**



Dec10/20

| VISUAL           |        | method    |            |         |          | history2 |
|------------------|--------|-----------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| 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      |
| Free Water       | scalar | *Visual   |            | NEG     | NEG      | NEG      |
| FLUID PROPERT    | IES    | method    | limit/base | current | history1 | history2 |
| Visc @ 100°C     | cSt    | ASTM D445 | 10.9       | 11.0    | 11.3     | 11.4     |
| GRAPHS           |        |           |            |         |          |          |

Ferrous Alloys



Certificate L2367

Si

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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