

## **OIL ANALYSIS REPORT**

Sample Rating Trend

FUEL

### Machine Id MACLEAN SL3 SL07

Diesel Engine Fluid DIESEL ENGINE OIL SAE 15W40 (--- GAL)

#### DIAGNOSIS

#### Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

#### Wear

All component wear rates are normal.

#### Contamination

Light fuel dilution occurring. No other contaminants were detected in the oil.

#### Fluid Condition

The condition of the oil is acceptable for the time in service.

|               |          | Mar2022            | Sep2022 Dec2022 | Jan2023 Jun2023 May2024 | Jul2024     |             |
|---------------|----------|--------------------|-----------------|-------------------------|-------------|-------------|
|               |          |                    |                 |                         |             |             |
| SAMPLE INFORM | IATION   | method             | limit/base      | current                 | history1    | history2    |
| Sample Number |          | Client Info        |                 | WC0960971               | WC0940460   | WC0780961   |
| Sample Date   |          | Client Info        |                 | 11 Jul 2024             | 28 May 2024 | 06 Jun 2023 |
| Machine Age   | hrs      | Client Info        |                 | 2418                    | 2465        | 1886        |
| Oil Age       | hrs      | Client Info        |                 | 300                     | 0           | 0           |
| Oil Changed   |          | Client Info        |                 | Changed                 | Changed     | N/A         |
| Sample Status |          |                    |                 | MARGINAL                | ABNORMAL    | SEVERE      |
| CONTAMINATION | N        | method             | limit/base      | current                 | history1    | history2    |
| Water         |          | WC Method          | >0.2            | NEG                     | NEG         | NEG         |
| Glycol        |          | WC Method          |                 | NEG                     | NEG         | NEG         |
| WEAR METALS   |          | method             | limit/base      | current                 | historv1    | history2    |
|               |          |                    | 100             | 0                       | 0           | 4           |
| Iron          | ppm      | ASTM D5185(m)      | >100            | 3                       | 3           | 4           |
| Niekol        | ррпп     | ASTIVI DO 100(III) | >20             | 0                       | 0           | 0           |
| Titereium     | ррп      | ASTIVI DO 100(III) | >4              | 0                       | 0           | <           |
| Ciluar        | ppm      |                    | 0               | 0                       | 0           | < 1         |
| Sliver        | ppm      | ASTM D5185(m)      | >3              | U                       | U           | 0           |
| Aluminum      | ppm      | ASTM D5185(m)      | >20             | <1                      | <           | 4           |
| Lead          | ppm      | ASTM D5185(m)      | >40             | U                       | 0           | <           |
| Copper        | ppm      | ASTM D5185(m)      | >330            | <1                      | <1          | 11          |
| l in          | ppm      | ASTM D5185(m)      | >15             | 0                       | 0           | <1          |
| Antimony      | ppm      | ASTM D5185(m)      |                 | 0                       | 0           | <           |
| Vanadium      | ppm      | ASTM D5185(m)      |                 | 0                       | 0           | 0           |
| Beryllium     | ppm      | ASTM D5185(m)      |                 | 0                       | 0           | 0           |
| Cadmium       | ppm      | ASTM D5185(m)      |                 | U                       | 0           | 0           |
| ADDITIVES     |          | method             | limit/base      | current                 | history1    | history2    |
| Boron         | ppm      | ASTM D5185(m)      | 250             | 58                      | 60          | 87          |
| Barium        | ppm      | ASTM D5185(m)      | 10              | 0                       | 0           | 0           |
| Molybdenum    | ppm      | ASTM D5185(m)      | 100             | 36                      | 36          | 24          |
| Manganese     | ppm      | ASTM D5185(m)      |                 | <1                      | 0           | <1          |
| Magnesium     | ppm      | ASTM D5185(m)      | 450             | 455                     | 474         | 232         |
| Calcium       | ppm      | ASTM D5185(m)      | 3000            | 1515                    | 1596        | 1887        |
| Phosphorus    | ppm      | ASTM D5185(m)      | 1150            | 734                     | 710         | 917         |
| Zinc          | ppm      | ASTM D5185(m)      | 1350            | 801                     | 799         | 1011        |
| Sulfur        | ppm      | ASTM D5185(m)      | 4250            | 2013                    | 2008        | 2613        |
| Lithium       | ppm      | ASTM D5185(m)      |                 | <1                      | <1          | <1          |
| CONTAMINANTS  |          | method             | limit/base      | current                 | history1    | history2    |
| Silicon       | ppm      | ASTM D5185(m)      | >25             | 6                       | 6           | 3           |
| Sodium        | ppm      | ASTM D5185(m)      | >158            | 2                       | 2           | 2           |
| Potassium     | ppm      | ASTM D5185(m)      | >20             | <1                      | 0           | 2           |
| Fuel          | %        | ASTM D7593*        | >5              | <b>A</b> 3.1            | ▲ 5.5       | ▲ 8.3       |
| INFRA-RED     |          | method             | limit/base      | current                 | history1    | history2    |
| Soot %        | %        | ASTM D7844*        | >3              | 0                       | 0           | 0           |
| Nitration     | Abs/cm   | ASTM D7624*        | >20             | 5.0                     | 5.2         | 6.3         |
| Sulfation     | Abs/.1mm | ASTM D7415*        | >30             | 21.5                    | 21.6        | 20.2        |



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