

Machine Id 351019 Component Diesel Engine

| RECOMMENDATION  | Test             | UOM      | Method        | Limit/Abn | Current     | History1 | History2 |
|---|------------------|----------|---------------|-----------|-------------|----------|----------|
| Resample at the next service interval to monitor.               | Sample Number    |          | Client Info   |           | GFL0059106  |          |          |
|   | Sample Date      |          | Client Info   |           | 28 Jan 2024 |          |          |
|   | Machine Age      | hrs      | Client Info   |           | 600         |          |          |
|   | Oil Age          | hrs      | Client Info   |           | 600         |          |          |
|   | Filter Age       | hrs      | Client Info   |           | 600         |          |          |
|   | Oil Changed      |          | Client Info   |           | Changed     |          |          |
|   | Filter Changed   |          | Client Info   |           | Changed     |          |          |
|   | Sample Status    |          |               |           | NORMAL      |          |          |
| WEAR  | Iron             | ppm      | ASTM D5185(m) | >80       | 68          |          |          |
| Metal levels are typical for a components first oil change.     | Chromium         | ppm      | ASTM D5185(m) | >5        | 2           |          |          |
|   | Nickel           | ppm      | ASTM D5185(m) | >2        | <1          |          |          |
|   | Titanium         | ppm      | ASTM D5185(m) |           | 0           |          |          |
|   | Silver           | ppm      | ASTM D5185(m) | >3        | 0           |          |          |
|   | Aluminum         | ppm      | ASTM D5185(m) | >30       | 27          |          |          |
|   | Lead             | ppm      | ASTM D5185(m) | >30       | <1          |          |          |
|   | Copper           | ppm      | ASTM D5185(m) | >150      | 19          |          |          |
|   | Tin              | ppm      | ASTM D5185(m) | >5        | 0           |          |          |
|   | Vanadium         | ppm      | ASTM D5185(m) |           | 0           |          |          |
| CONTAMINATION   | Silicon          | ppm      | ASTM D5185(m) | >20       | 7           |          |          |
|   | Potassium        | ppm      | ASTM D5185(m) |           | 18          |          |          |
| There is no indication of any contamination in the oil.         | Fuel             | PP       | WC Method     | >5        | <1.0        |          |          |
|   | Water            |          | WC Method     |           | NEG         |          |          |
|   | Glycol           | %        | ASTM D7922*   |           | 0.0         |          |          |
|   | Soot %           | %        | ASTM D7844*   | >3        | 1.3         |          |          |
|   | Nitration        | Abs/cm   | ASTM D7624*   | >20       | 13.9        |          |          |
|   | Sulfation        | Abs/.1mm | ASTM D7415*   | >30       | 26.0        |          |          |
|   | Emulsified Water | scalar   | Visual*       | >0.2      | NEG         |          |          |
| FLUID CONDITION   | Sodium           | ppm      | ASTM D5185(m) |           | 2           |          |          |
| The condition of the oil is acceptable for the time in service. | Boron            | ppm      | ASTM D5185(m) | 0         | 3           |          |          |
|   | Barium           | ppm      | ASTM D5185(m) | 0         | 0           |          |          |
|   | Molybdenum       | ppm      | ASTM D5185(m) | 60        | 58          |          |          |
|   | Manganese        | ppm      | ASTM D5185(m) | 0         | <1          |          |          |
|   | Magnesium        | ppm      | ASTM D5185(m) | 1010      | 893         |          |          |
|   | Calcium          | ppm      | ASTM D5185(m) | 1070      | 1169        |          |          |
|   | Phosphorus       | ppm      | ASTM D5185(m) | 1150      | 904         |          |          |
|   | Zinc             | ppm      | ASTM D5185(m) | 1270      | 1159        |          |          |
|   | Sulfur           | ppm      | ASTM D5185(m) | 2060      | 2317        |          |          |
|   | Oxidation        | Abs/.1mm | ASTM D7414*   | >25       | 21.7        |          |          |
|   | Visc @ 100°C     | cSt      | ASTM D7279(m) | 15.4      | 13.3        |          |          |





CALA ISO 17025:2017 Accredited

Sample No.

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 570 - Thunder Bay

: GFL0059106 Lab Number : 02619495 Unique Number : 5736605

To discuss this sample report, contact Customer Service at 1-800-268-2131.

Validity of results and interpretation are based on the sample and information as supplied.

Received **Tested** Diagnosed Test Package : MOB 1 ( Additional Tests: Glycol )

: 04 Mar 2024 - Wes Davis

: 04 Mar 2024 3000 Highway 61, : 04 Mar 2024 Slate River, ON CA P7J 0G8 Contact: Cindy Wall cwall@gflenv.com Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: (807)577-0411

Report Id: GFL570 [WCAMIS] 02619495 (Generated: 03/04/2024 16:31:18) Rev: 1

Contact/Location: Cindy Wall - GFL570