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

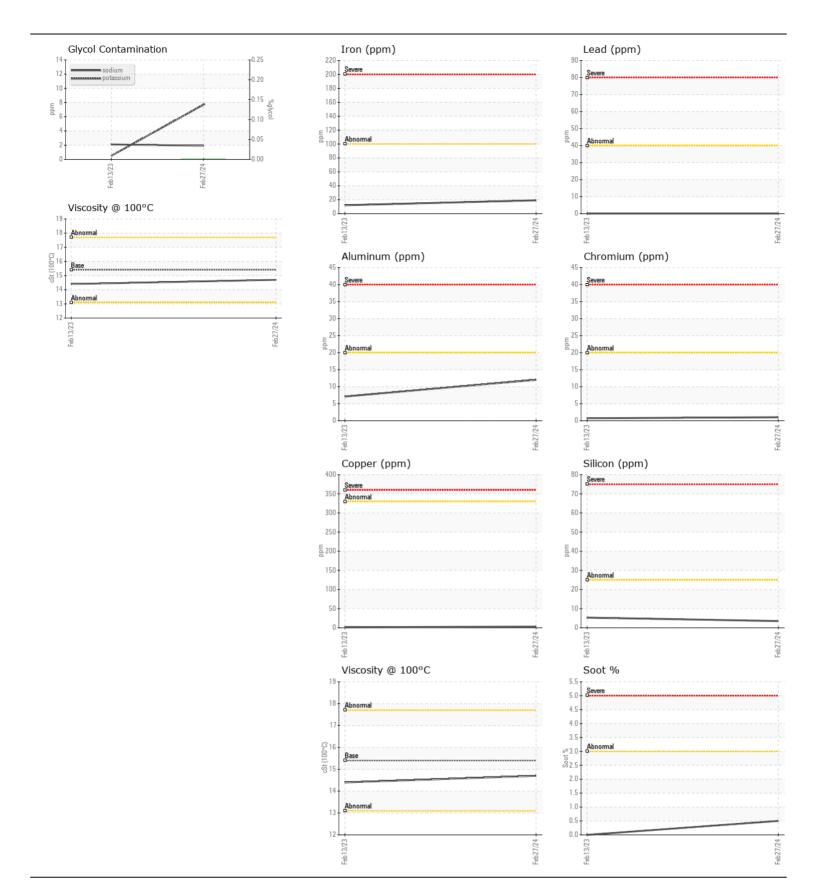
**NORMAL NORMAL NORMAL** 

Machine Id

4631

Diesel Engine

| RECOMMENDATION  | Test                       | UOM             | Method                    | Limit/Abn | Current     | History1    | History |
|---|----------------------------|-----------------|---------------------------|-----------|-------------|-------------|---------|
| Resample at the next service interval to monitor.               | Sample Number              |                 | Client Info               |           | GFL0059102  | GFL0059093  |         |
|   | Sample Date                |                 | Client Info               |           | 27 Feb 2024 | 13 Feb 2023 |         |
|   | Machine Age                | hrs             | Client Info               |           | 0           | 0           |         |
|   | Oil Age                    | hrs             | Client Info               |           | 600         | 600         |         |
|   | Filter Age                 | hrs             | Client Info               |           | 600         | 600         |         |
|   | Oil Changed                |                 | Client Info               |           | Changed     | Changed     |         |
|   | Filter Changed             |                 | Client Info               |           | Changed     | Changed     |         |
|   | Sample Status              |                 |                           |           | NORMAL      | NORMAL      |         |
| VEAR  | Iron                       | ppm             | ASTM D5185(m)             | >100      | 19          | 12          |         |
| All component wear rates are normal.                            | Chromium                   | ppm             | ASTM D5185(m)             | >20       | 1           | <1          |         |
|   | Nickel                     | ppm             | ASTM D5185(m)             | >4        | <1          | <1          |         |
|   | Titanium                   | ppm             | ASTM D5185(m)             |           | 0           | <1          |         |
|   | Silver                     | ppm             | ASTM D5185(m)             | >3        | 0           | 0           |         |
|   | Aluminum                   | ppm             | ASTM D5185(m)             | >20       | 12          | 7           |         |
|   | Lead                       | ppm             | ASTM D5185(m)             | >40       | 0           | 0           |         |
|   | Copper                     | ppm             | ASTM D5185(m)             | >330      | 3           | 1           |         |
|   | Tin                        | ppm             | ASTM D5185(m)             | >15       | <1          | 0           |         |
|   | Vanadium                   | ppm             | ASTM D5185(m)             |           | 0           | 0           |         |
| CONTAMINATION   | Silicon                    | ppm             | ASTM D5185(m)             | >25       | 4           | 5           |         |
| There is no indication of any contamination in the oil.         | Potassium                  | ppm             | ASTM D5185(m)             | >20       | 8           | <1          |         |
|   | Fuel                       |                 | WC Method                 | >5        | <1.0        | <1.0        |         |
|   | Water                      |                 | WC Method                 | >0.2      | NEG         | NEG         |         |
|   | Glycol                     | %               | ASTM D7922*               |           | 0.0         | NEG         |         |
|   | Soot %                     | %               | ASTM D7844*               | >3        | 0.5         | 0           |         |
|   | Nitration                  | Abs/cm          | ASTM D7624*               | >20       | 8.2         | 5.8         |         |
|   | Sulfation Emulsified Water | Abs/.1mm        | ASTM D7415*               |           | 19.9<br>NEO | 19.8<br>NEC |         |
|   | Emulsined Water            | scalar          | Visual*                   | >0.2      | NEG         | NEG         |         |
| LUID CONDITION  | Sodium                     | ppm             | ASTM D5185(m)             |           | 2           | 2           |         |
| The condition of the oil is acceptable for the time in service. | Boron                      | ppm             | ASTM D5185(m)             |           | 4           | 2           |         |
|   | Barium                     | ppm             | ASTM D5185(m)             |           | 0           | 0           |         |
|   | Molybdenum                 | ppm             | ASTM D5185(m)             |           | 59          | 56          |         |
|   | Manganese                  | ppm             | ASTM D5185(m)             |           | 0           | <1          |         |
|   | Magnesium                  | ppm             |                           | 1010      | 950         | 938         |         |
|   | Calcium                    | ppm             | . ,                       |           | 1050        | 1072        |         |
|   | Phosphorus                 | ppm             |                           | 1150      | 1005        | 1069        |         |
|   | Zinc                       | ppm             |                           | 1270      | 1159        | 1164        |         |
|   | Sulfur<br>Oxidation        | ppm<br>Abo/ 1mm | ASTM D5185(m)             | 2060      | 2604        | 2627        |         |
|   | Visc @ 100°C               | Abs/.1mm        | ASTM D7414* ASTM D7279(m) |           | 15.8        | 13.7        |         |





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No.

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

Lab Number : 02619461 Unique Number : 5736571

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

Received : GFL0059102 **Tested** Test Package : MOB 1 ( Additional Tests: Glycol )

Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.

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

: 04 Mar 2024 : 04 Mar 2024 Diagnosed

: 04 Mar 2024 - Wes Davis

3000 Highway 61, Slate River, ON CA P7J 0G8 Contact: Cindy Wall cwall@gflenv.com T: (807)577-0411