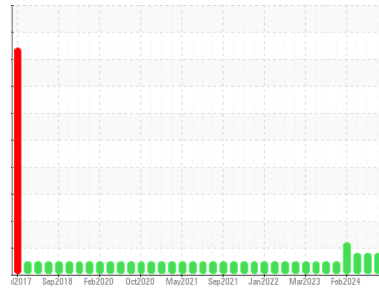




OIL ANALYSIS REPORT

Sample Rating Trend



Area
(YA134217)

Machine Id
10753C

Component
Natural Gas Engine

Fluid
PETRO CANADA DURON GEO LD 15W40 (28 QTS)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other 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.

SAMPLE INFORMATION

| method | limit/base | current | history1 | history2 |
|---------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | GFL0125714 | GFL0118400 | GFL0112917 |
| Sample Date | Client Info | 16 Jul 2024 | 30 May 2024 | 07 May 2024 |
| Machine Age | hrs | 6764 | 6764 | 6764 |
| Oil Age | hrs | 290 | 172 | 579 |
| Oil Changed | Client Info | N/A | N/A | N/A |
| Sample Status | | ABNORMAL | ABNORMAL | ABNORMAL |

CONTAMINATION

| method | limit/base | current | history1 | history2 |
|--------|----------------|------------|----------|----------|
| Water | WC Method >0.1 | NEG | NEG | NEG |

WEAR METALS

| method | limit/base | current | history1 | history2 |
|----------|---------------------|--------------|----------|----------|
| Iron | ppm ASTM D5185m >50 | 8 | 9 | 9 |
| Chromium | ppm ASTM D5185m >4 | 1 | 1 | 1 |
| Nickel | ppm ASTM D5185m >2 | <1 | 0 | 0 |
| Titanium | ppm ASTM D5185m | <1 | <1 | 0 |
| Silver | ppm ASTM D5185m >3 | 0 | <1 | 0 |
| Aluminum | ppm ASTM D5185m >9 | 2 | 2 | 1 |
| Lead | ppm ASTM D5185m >30 | 0 | 2 | 1 |
| Copper | ppm ASTM D5185m >35 | ▲ 79 | ▲ 68 | ▲ 82 |
| Tin | ppm ASTM D5185m >4 | 0 | <1 | 0 |
| Vanadium | ppm ASTM D5185m | 0 | <1 | 0 |
| Cadmium | ppm ASTM D5185m | 0 | <1 | 0 |

ADDITIVES

| method | limit/base | current | history1 | history2 |
|------------|----------------------|-------------|----------|----------|
| Boron | ppm ASTM D5185m 50 | 15 | 23 | 4 |
| Barium | ppm ASTM D5185m 5 | 0 | 0 | 0 |
| Molybdenum | ppm ASTM D5185m 50 | 49 | 52 | 48 |
| Manganese | ppm ASTM D5185m 0 | 2 | <1 | <1 |
| Magnesium | ppm ASTM D5185m 560 | 572 | 630 | 532 |
| Calcium | ppm ASTM D5185m 1510 | 1478 | 1737 | 1596 |
| Phosphorus | ppm ASTM D5185m 780 | 754 | 922 | 694 |
| Zinc | ppm ASTM D5185m 870 | 938 | 1045 | 939 |
| Sulfur | ppm ASTM D5185m 2040 | 2660 | 3029 | 2766 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 |
|-----------|-----------------------|----------|----------|----------|
| Silicon | ppm ASTM D5185m >+100 | 4 | 4 | 3 |
| Sodium | ppm ASTM D5185m | 8 | 4 | 8 |
| Potassium | ppm ASTM D5185m >20 | 3 | 5 | 22 |

INFRA-RED

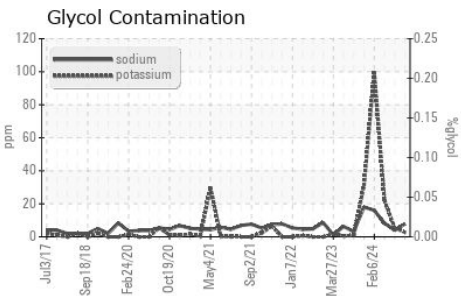
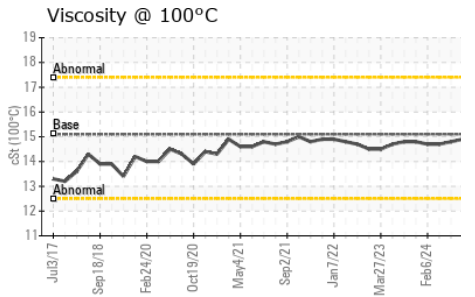
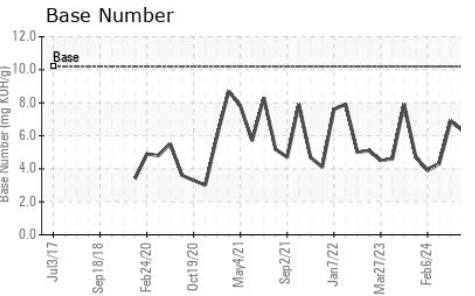
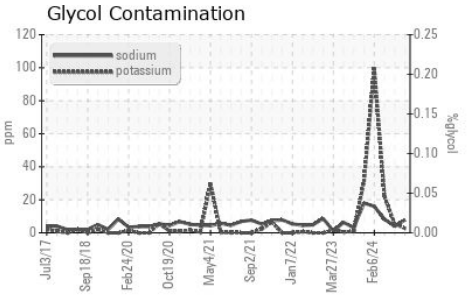
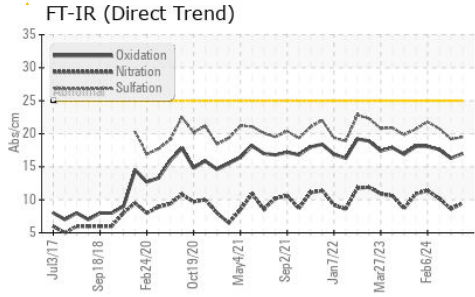
| method | limit/base | current | history1 | history2 |
|-----------|--------------------------|-------------|----------|----------|
| Soot % | % *ASTM D7844 | 0 | 0 | 0 |
| Nitration | Abs/cm *ASTM D7624 >20 | 9.5 | 8.6 | 10.2 |
| Sulfation | Abs/.1mm *ASTM D7415 >30 | 19.5 | 19.2 | 20.8 |

FLUID DEGRADATION

| method | limit/base | current | history1 | history2 |
|------------------|--------------------------|-------------|----------|----------|
| Oxidation | Abs/.1mm *ASTM D7414 >25 | 17.0 | 16.3 | 17.6 |
| Base Number (BN) | mg KOH/g ASTM D2896 10.2 | 6.3 | 6.9 | 4.3 |



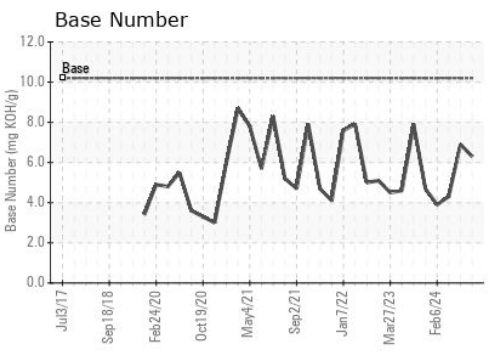
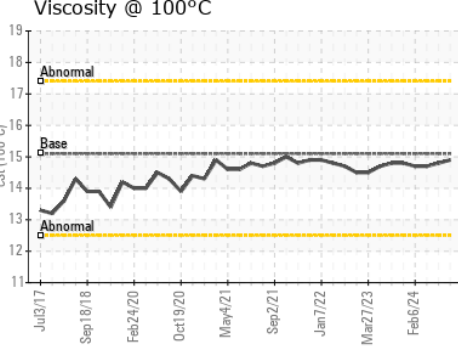
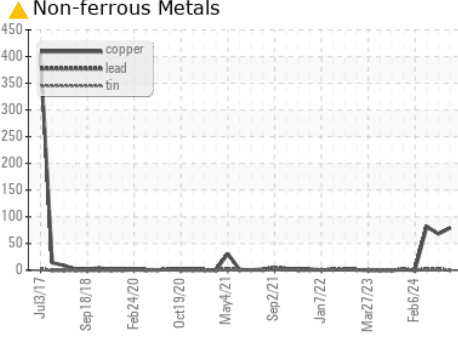
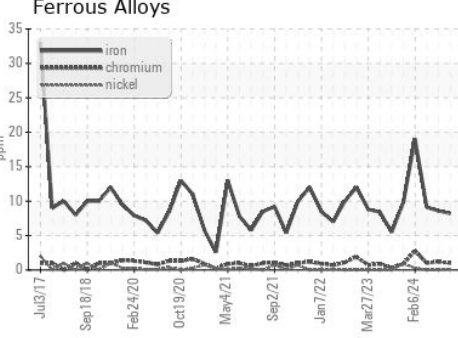
OIL ANALYSIS REPORT



| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.1 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 15.1 | 14.9 | 14.8 |

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0125714
Lab Number : 06238777
Unique Number : 11127611
Test Package : FLEET (Additional Tests: Glycol)

Received : 17 Jul 2024
Tested : 18 Jul 2024
Diagnosed : 18 Jul 2024 - Sean Felton

GFL Environmental - 017 - Durham
 148 Stone Park Court
 Durham, NC
 US 27703
 Contact:
 bill.waring@wearcheck.com
 T: (919)596-1363
 F: (919)598-1852

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