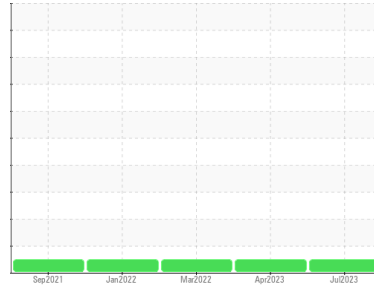




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
401175

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

| SAMPLE INFORMATION | | method | limit/base | current | history 1 | history 2 |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | | GFL0086762 | GFL0042866 | GFL0042882 |
| Sample Date | Client Info | | | 06 Jul 2023 | 17 Apr 2023 | 03 Mar 2022 |
| Machine Age | hrs | Client Info | | 7595 | 7595 | 7595 |
| Oil Age | hrs | Client Info | | 7595 | 0 | 7595 |
| Oil Changed | Client Info | | | Changed | N/A | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history 1 | history 2 |
|---------------|-----------|--------|------------|----------------|-----------|-----------|
| Fuel | WC Method | >3.0 | | <1.0 | <1.0 | <1.0 |
| Glycol | WC Method | | | NEG | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history 1 | history 2 |
|-------------|-----|---------------|------------|--------------|-----------|-----------|
| Iron | ppm | ASTM D5185(m) | >120 | 5 | 5 | 5 |
| Chromium | ppm | ASTM D5185(m) | >20 | <1 | 0 | <1 |
| Nickel | ppm | ASTM D5185(m) | >5 | 0 | <1 | 0 |
| Titanium | ppm | ASTM D5185(m) | >2 | <1 | <1 | 0 |
| Silver | ppm | ASTM D5185(m) | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >20 | 2 | 2 | 3 |
| Lead | ppm | ASTM D5185(m) | >40 | <1 | <1 | 0 |
| Copper | ppm | ASTM D5185(m) | >330 | <1 | <1 | 2 |
| Tin | ppm | ASTM D5185(m) | >15 | 0 | 0 | <1 |
| Antimony | ppm | ASTM D5185(m) | | 0 | <1 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history 1 | history 2 |
|------------|-----|---------------|------------|--------------|-----------|-----------|
| Boron | ppm | ASTM D5185(m) | 0 | 15 | 5 | 47 |
| Barium | ppm | ASTM D5185(m) | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 60 | 40 | 8 | 79 |
| Manganese | ppm | ASTM D5185(m) | 0 | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 1010 | 21 | 14 | 20 |
| Calcium | ppm | ASTM D5185(m) | 1070 | 2280 | 2396 | 2085 |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | 993 | 958 | 1004 |
| Zinc | ppm | ASTM D5185(m) | 1270 | 1114 | 1052 | 1138 |
| Sulfur | ppm | ASTM D5185(m) | 2060 | 3060 | 3114 | 3118 |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | 0 |

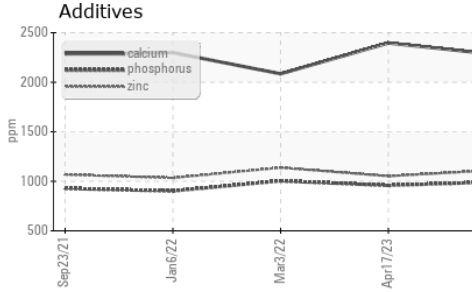
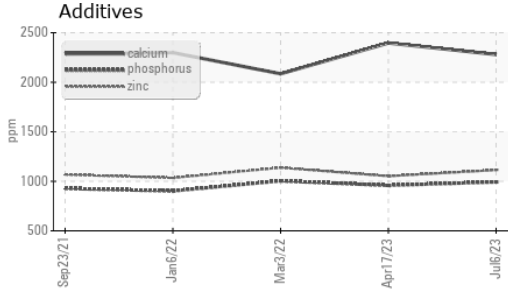
| CONTAMINANTS | | method | limit/base | current | history 1 | history 2 |
|--------------|-----|---------------|------------|----------|-----------|-----------|
| Silicon | ppm | ASTM D5185(m) | >25 | 3 | 3 | 3 |
| Sodium | ppm | ASTM D5185(m) | | 4 | 2 | 3 |
| Potassium | ppm | ASTM D5185(m) | >20 | 1 | 2 | 2 |

| INFRA-RED | | method | limit/base | current | history 1 | history 2 |
|-----------|----------|-------------|------------|-------------|-----------|-----------|
| Soot % | % | ASTM D7844* | >4 | 0.1 | 0.1 | 0 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 8.4 | 7.3 | 9.1 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 19.7 | 19.0 | 20.3 |

| FLUID DEGRADATION | | method | limit/base | current | history 1 | history 2 |
|-------------------|----------|-------------|------------|-------------|-----------|-----------|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 13.0 | 10.9 | 14.2 |



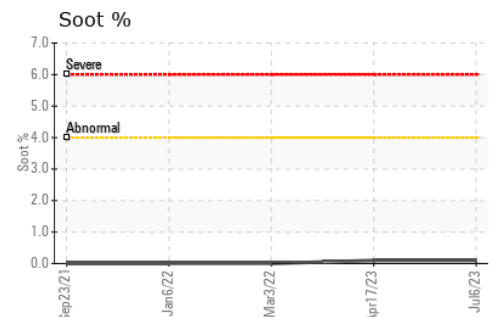
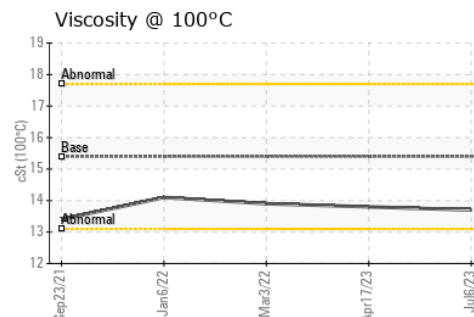
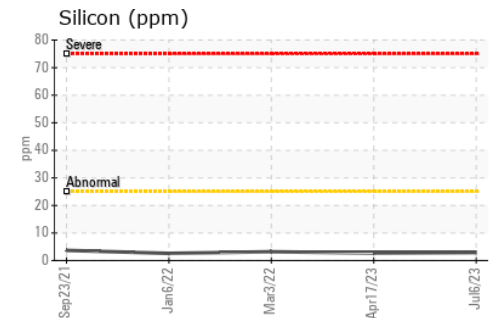
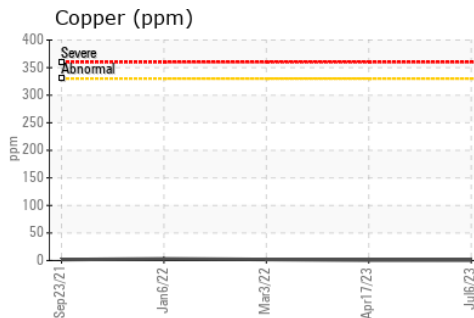
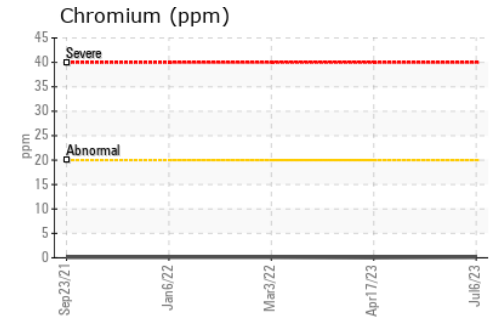
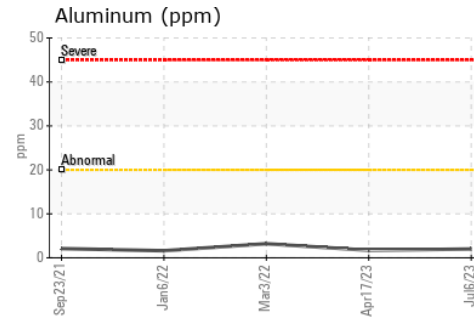
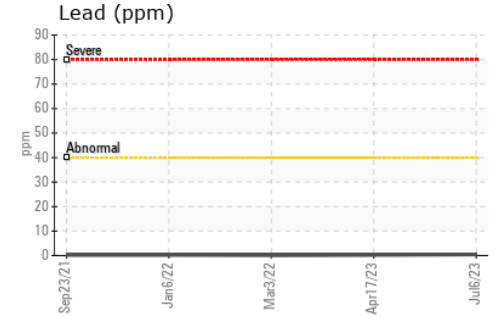
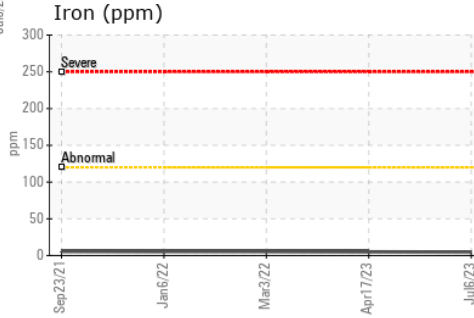
OIL ANALYSIS REPORT



| VISUAL | method | limit/base | current | history 1 | history 2 |
|------------------|--------|------------|---------|-----------|-----------|
| Emulsified Water | scalar | Visual* | >0.2 | NEG | NEG |
| Free Water | scalar | Visual* | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history 1 | history 2 |
|------------------|--------|---------------|---------|-----------|-----------|
| Visc @ 100°C | cSt | ASTM D7279(m) | 15.4 | 13.7 | 13.8 |

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
 Sample No. : GFL0086762
 Lab Number : 02568661
 Unique Number : 5605707
 Test Package : MOB 1

GFL Environmental - 222 - Sandhill
 SANDHILL DISPOSAL & RECYCLING DIVIS, 19 COMMERCE ROAD
 ORANGEVILLE, ON
 CA L9W 3X5
 Contact: GLENN COOK
 gcook@gflenv.com
 T: (519)940-4167
 F:

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