



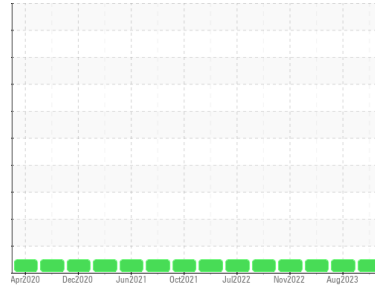
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
401150
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)



DIAGNOSIS

Recommendation

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

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

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | GFL0094399 | GFL0086764 | GFL0063913 |
| Sample Date | Client Info | | 13 Oct 2023 | 15 Aug 2023 | 09 Feb 2023 |
| Machine Age | hrs | Client Info | 8629 | 8629 | 8629 |
| Oil Age | hrs | Client Info | 8629 | 8629 | 8629 |
| Oil Changed | Client Info | | N/A | N/A | Changed |
| Sample Status | | | NORMAL | NORMAL | NORMAL |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|--------|-----------|------------|----------------|----------|----------|
| Fuel | WC Method | >3.0 | <1.0 | <1.0 | <1.0 |
| Glycol | WC Method | | NEG | NEG | NEG |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|--------------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185(m) >120 | 9 | 15 | 9 |
| Chromium | ppm | ASTM D5185(m) >20 | 0 | <1 | 0 |
| Nickel | ppm | ASTM D5185(m) >15 | 0 | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) >2 | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185(m) >3 | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) >20 | 2 | 2 | 2 |
| Lead | ppm | ASTM D5185(m) >40 | 2 | 4 | <1 |
| Copper | ppm | ASTM D5185(m) >330 | 2 | 5 | 3 |
| Tin | ppm | ASTM D5185(m) >15 | 0 | <1 | <1 |
| Antimony | ppm | ASTM D5185(m) | 0 | 0 | <1 |
| 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 | history1 | history2 |
|------------|--------|--------------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185(m) 0 | 7 | 2 | 1 |
| Barium | ppm | ASTM D5185(m) 0 | <1 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) 60 | 61 | 59 | 61 |
| Manganese | ppm | ASTM D5185(m) 0 | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185(m) 1010 | 945 | 970 | 987 |
| Calcium | ppm | ASTM D5185(m) 1070 | 1083 | 1052 | 1124 |
| Phosphorus | ppm | ASTM D5185(m) 1150 | 976 | 973 | 1069 |
| Zinc | ppm | ASTM D5185(m) 1270 | 1154 | 1169 | 1212 |
| Sulfur | ppm | ASTM D5185(m) 2060 | 2386 | 2236 | 2540 |
| Lithium | ppm | ASTM D5185(m) | <1 | <1 | <1 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|-------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185(m) >25 | 4 | 4 | 4 |
| Sodium | ppm | ASTM D5185(m) | 2 | 3 | 2 |
| Potassium | ppm | ASTM D5185(m) >20 | <1 | 2 | 2 |

INFRA-RED

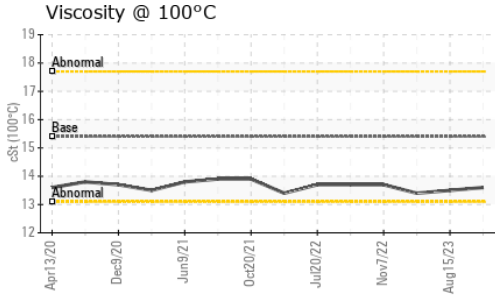
| | method | limit/base | current | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot % | % | ASTM D7844* >4 | 0.2 | 0.4 | 0.1 |
| Nitration | Abs/cm | ASTM D7624* >20 | 7.9 | 10.1 | 9.8 |
| Sulfation | Abs/.1mm | ASTM D7415* >30 | 19.7 | 22.6 | 21.7 |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Oxidation | Abs/.1mm | ASTM D7414* >25 | 14.9 | 17.8 | 16.6 |



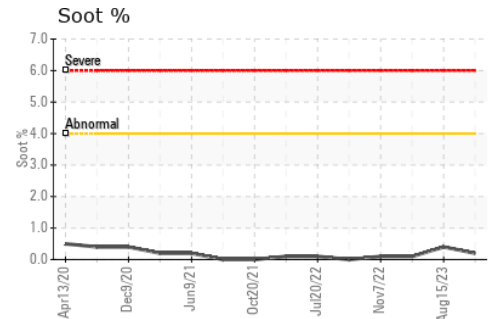
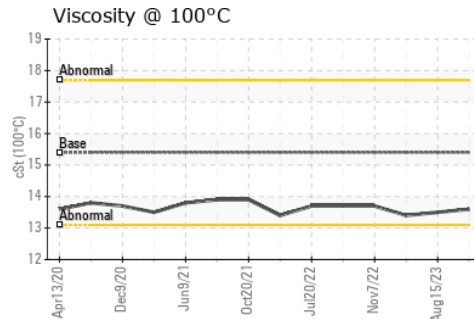
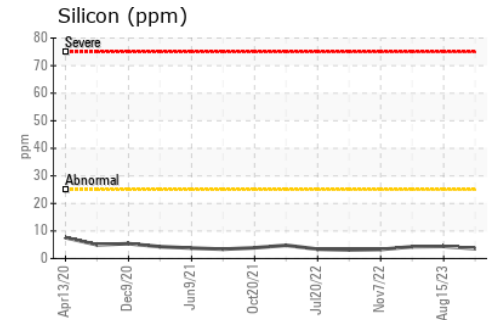
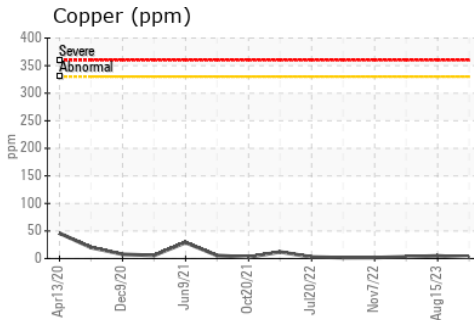
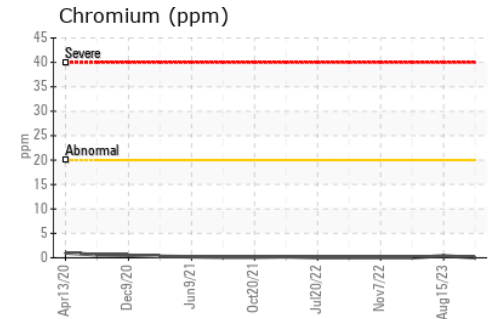
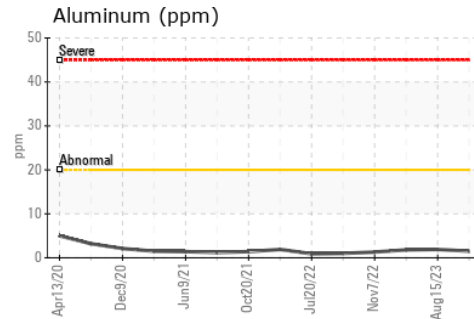
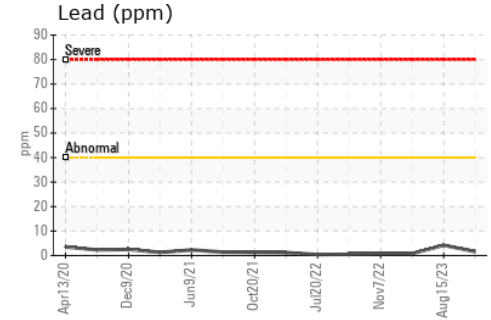
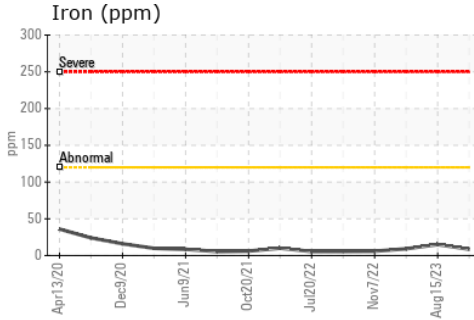
OIL ANALYSIS REPORT



| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Emulsified Water | scalar | Visual* | >0.2 | NEG | NEG |
| Free Water | scalar | Visual* | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|---------------|---------|-------------|----------|
| Visc @ 100°C | cSt | ASTM D7279(m) | 15.4 | 13.6 | 13.5 |

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0094399
Lab Number : **02589184**
Unique Number : 5658250
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.