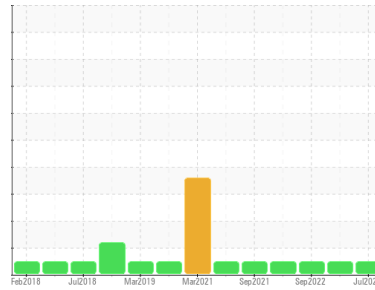




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
801068
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 10W30 (--- LTR)

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 | GFL0085801 | GFL0077984 | GFL0057742 |
| Sample Date | Client Info | 27 Jul 2023 | 18 May 2023 | 06 Sep 2022 |
| Machine Age | hrs | 12620 | 12370 | 0 |
| Oil Age | hrs | 0 | 0 | 0 |
| Oil Changed | Client Info | Changed | Changed | Changed |
| Sample Status | | NORMAL | NORMAL | NORMAL |

CONTAMINATION

| method | limit/base | current | history1 | history2 |
|--------|--------------|----------------|----------|----------|
| Fuel | WC Method >5 | <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) >80 | 31 | 39 | 25 |
| Chromium | ppm ASTM D5185(m) >5 | <1 | 1 | <1 |
| Nickel | ppm ASTM D5185(m) >2 | <1 | <1 | <1 |
| Titanium | ppm ASTM D5185(m) | 0 | <1 | <1 |
| Silver | ppm ASTM D5185(m) >3 | <1 | 0 | 0 |
| Aluminum | ppm ASTM D5185(m) >30 | 4 | 5 | 12 |
| Lead | ppm ASTM D5185(m) >30 | <1 | <1 | <1 |
| Copper | ppm ASTM D5185(m) >150 | 2 | 2 | 1 |
| Tin | ppm ASTM D5185(m) >5 | <1 | <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) 2 | 3 | 3 | 2 |
| Barium | ppm ASTM D5185(m) 0 | 0 | 0 | 0 |
| Molybdenum | ppm ASTM D5185(m) 50 | 60 | 60 | 56 |
| Manganese | ppm ASTM D5185(m) 0 | <1 | <1 | <1 |
| Magnesium | ppm ASTM D5185(m) 950 | 991 | 988 | 910 |
| Calcium | ppm ASTM D5185(m) 1050 | 1074 | 1173 | 1038 |
| Phosphorus | ppm ASTM D5185(m) 995 | 1054 | 1071 | 1054 |
| Zinc | ppm ASTM D5185(m) 1180 | 1207 | 1221 | 1143 |
| Sulfur | ppm ASTM D5185(m) 2600 | 2483 | 2490 | 2447 |
| Lithium | ppm ASTM D5185(m) | <1 | <1 | <1 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 |
|-----------|-----------------------|----------|----------|----------|
| Silicon | ppm ASTM D5185(m) >20 | 7 | 11 | 13 |
| Sodium | ppm ASTM D5185(m) | 9 | 8 | 2 |
| Potassium | ppm ASTM D5185(m) >20 | 2 | 2 | 17 |

INFRA-RED

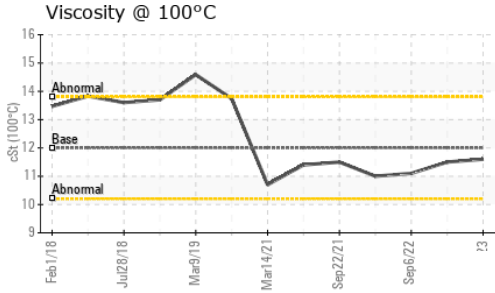
| method | limit/base | current | history1 | history2 |
|-----------|--------------------------|-------------|----------|----------|
| Soot % | % ASTM D7844* >3 | 0.5 | 0.6 | 0.6 |
| Nitration | Abs/cm ASTM D7624* >20 | 9.5 | 9.7 | 9.4 |
| Sulfation | Abs/.1mm ASTM D7415* >30 | 22.1 | 21.8 | 21.6 |

FLUID DEGRADATION

| method | limit/base | current | history1 | history2 |
|-----------|--------------------------|-------------|----------|----------|
| Oxidation | Abs/.1mm ASTM D7414* >25 | 18.3 | 18.6 | 18.8 |



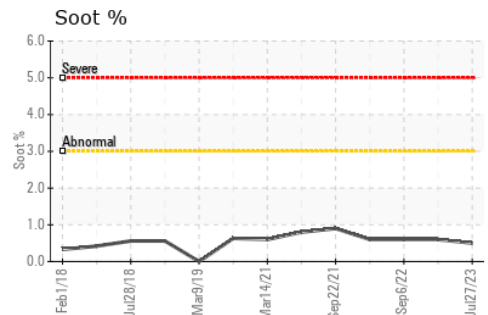
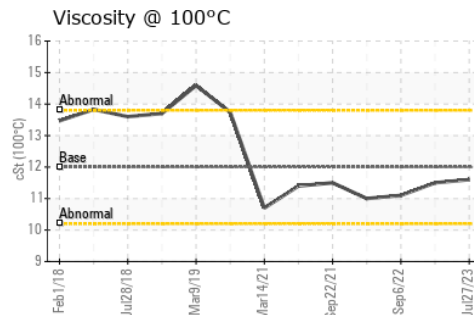
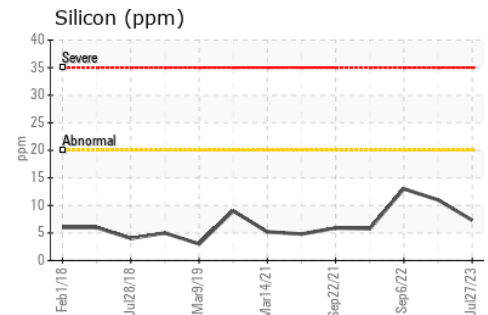
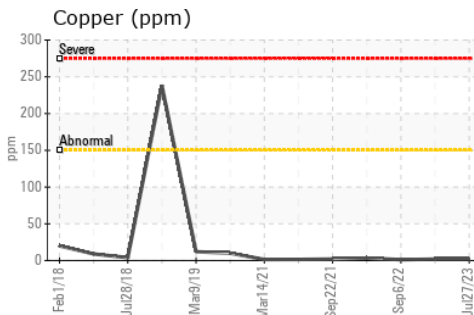
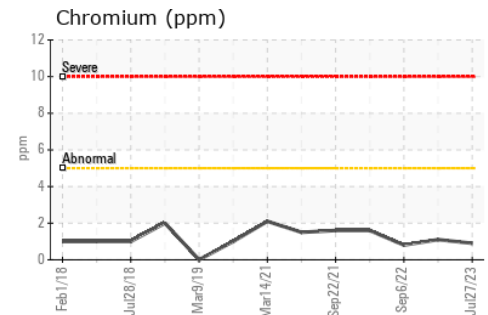
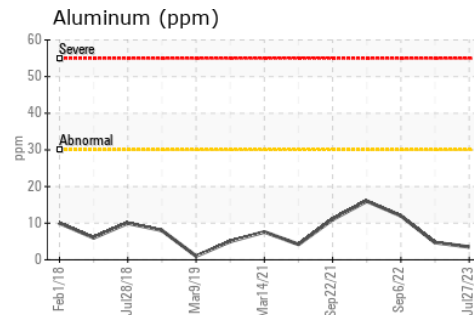
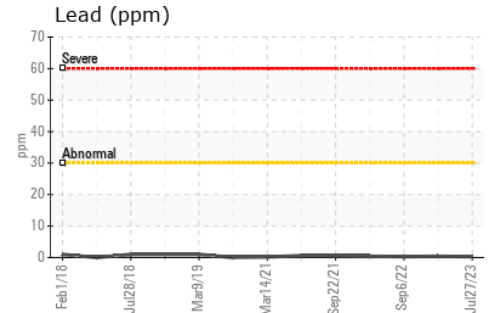
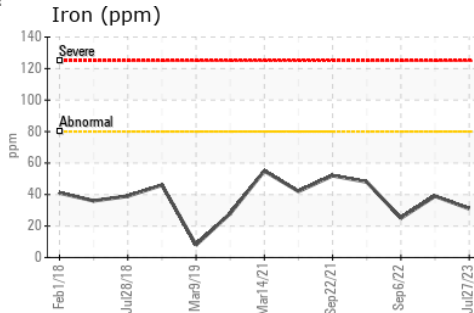
OIL ANALYSIS REPORT



| 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) | 12.00 | 11.6 | 11.5 |

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 554 - Edmonton SW
Sample No. : GFL0085801 **Received** : 21 Aug 2023
Lab Number : 02577003 **Diagnosed** : 21 Aug 2023
Unique Number : 5630063 **Diagnostician** : Wes Davis
Test Package : MOB 1

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.

Contact: Tim Greig
 tgreig@gflenv.com

T:
F: