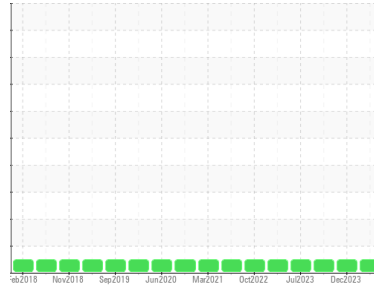




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
701031
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (25 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 | | GFL0111748 | GFL0107154 | GFL0094221 |
| Sample Date | Client Info | | 27 Feb 2024 | 15 Dec 2023 | 08 Sep 2023 |
| Machine Age | kms | Client Info | 152254 | 9830 | 152254 |
| Oil Age | kms | Client Info | 0 | 0 | 0 |
| Oil Changed | Client Info | | N/A | Changed | Changed |
| Sample Status | | | NORMAL | NORMAL | NORMAL |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|--------|-----------|------------|----------------|----------|----------|
| Fuel | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | WC Method | | NEG | NEG | NEG |

WEAR METALS

| | method | limit/base | current | history1 | history2 | |
|-----------|--------|---------------|---------|--------------|----------|----|
| Iron | ppm | ASTM D5185(m) | >80 | 10 | 17 | 10 |
| Chromium | ppm | ASTM D5185(m) | >5 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185(m) | >2 | <1 | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >30 | 3 | 4 | 2 |
| Lead | ppm | ASTM D5185(m) | >30 | <1 | <1 | 0 |
| Copper | ppm | ASTM D5185(m) | >150 | <1 | 1 | 1 |
| Tin | ppm | ASTM D5185(m) | >5 | 0 | 0 | 0 |
| Antimony | ppm | ASTM D5185(m) | | 0 | 0 | 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 | history1 | history2 | |
|------------|--------|---------------|---------|--------------|----------|------|
| Boron | ppm | ASTM D5185(m) | 0 | 13 | 2 | 5 |
| Barium | ppm | ASTM D5185(m) | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 60 | 58 | 58 | 58 |
| Manganese | ppm | ASTM D5185(m) | 0 | 0 | 0 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 1010 | 914 | 935 | 930 |
| Calcium | ppm | ASTM D5185(m) | 1070 | 1023 | 1071 | 1028 |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | 981 | 978 | 1022 |
| Zinc | ppm | ASTM D5185(m) | 1270 | 1147 | 1175 | 1153 |
| Sulfur | ppm | ASTM D5185(m) | 2060 | 2585 | 2526 | 2467 |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | <1 |

CONTAMINANTS

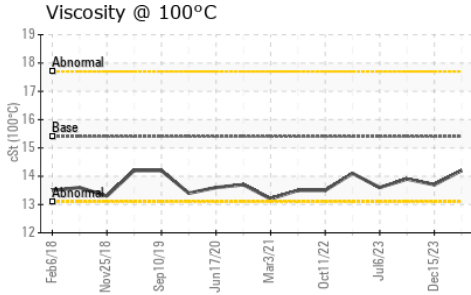
| | method | limit/base | current | history1 | history2 | |
|-----------|--------|---------------|---------|----------|----------|---|
| Silicon | ppm | ASTM D5185(m) | >20 | 5 | 7 | 5 |
| Sodium | ppm | ASTM D5185(m) | | 5 | 6 | 6 |
| Potassium | ppm | ASTM D5185(m) | >20 | 2 | 0 | 1 |

INFRA-RED

| | method | limit/base | current | history1 | history2 | |
|-----------|----------|-------------|---------|-------------|----------|------|
| Soot % | % | ASTM D7844* | >3 | 0.2 | 0.3 | 0.2 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 8.1 | 9.2 | 8.2 |
| Sulfation | Abs./1mm | ASTM D7415* | >30 | 19.3 | 19.5 | 18.8 |



OIL ANALYSIS REPORT



FLUID DEGRADATION

| method | limit/base | current | history1 | history2 | |
|-----------|----------------------|---------|----------|----------|------|
| Oxidation | Abs./1mm ASTM D7414* | >25 | 15.7 | 16.4 | 14.9 |

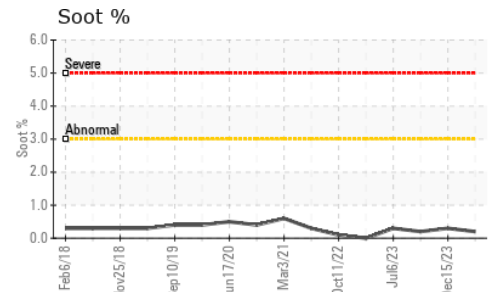
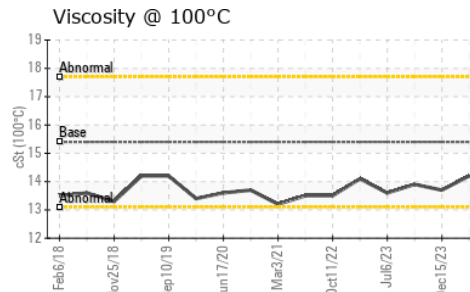
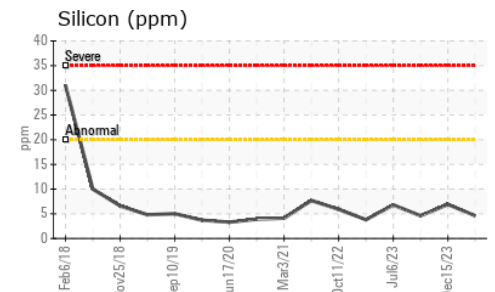
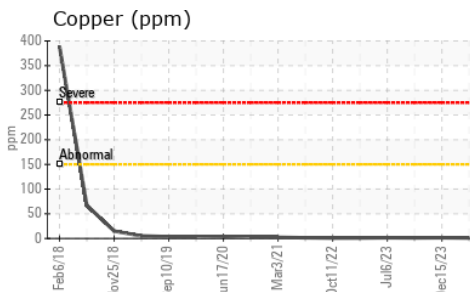
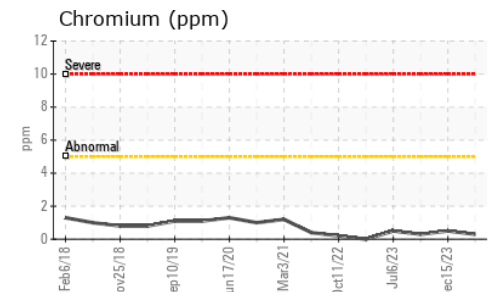
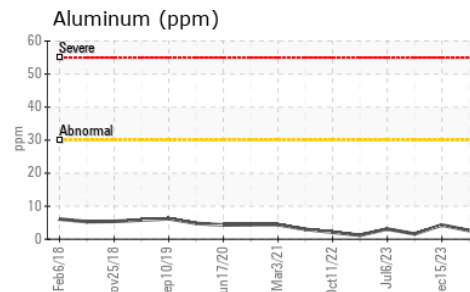
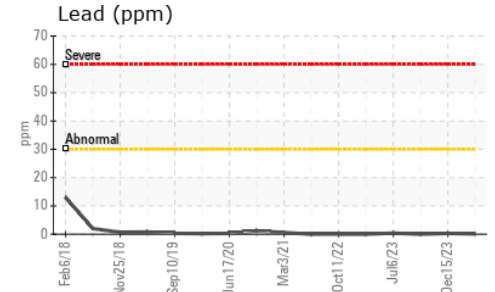
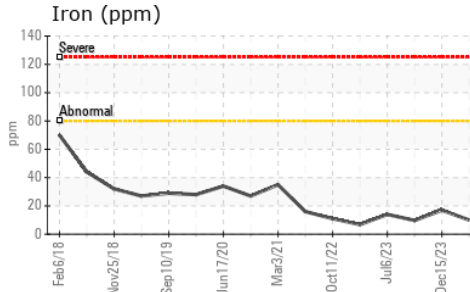
VISUAL

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

FLUID PROPERTIES

| method | limit/base | current | history1 | history2 | |
|--------------|-------------------|---------|-------------|----------|------|
| Visc @ 100°C | cSt ASTM D7279(m) | 15.4 | 14.2 | 13.7 | 13.9 |

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0111748
Lab Number : 02618850
Unique Number : 5735960
Test Package : MOB 1

GFL Environmental - 217 - Aurora
 14131 BAYVIEW AVE, AURORA YARD
 AURORA, ON
 CA L4G 0K6
 Contact: Mike Havens
 MHavens@gflenv.com

Received : 29 Feb 2024
 Tested : 01 Mar 2024
 Diagnosed : 01 Mar 2024 - Wes Davis

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.

T:
 F: (905)713-2445