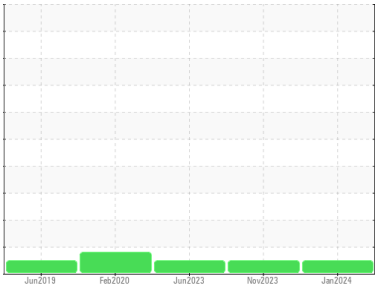
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
**7112**
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON SHP 15W40 (22 LTR)**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor.

**Wear**
All component wear rates are normal.

**Contamination**
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. 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 | | **GFL0107122** | WC0875100 | GFL0086477 |
| Sample Date | | Client Info | | **19 Jan 2024** | 27 Nov 2023 | 09 Jun 2023 |
| Machine Age | hrs | Client Info | | **12479** | 12336 | 0 |
| Oil Age | hrs | Client Info | | **0** | 220 | 0 |
| Oil Changed | | Client Info | | **Changed** | Changed | Changed |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >3.0 | **<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) | >75 | **40** | 45 | 39 |
| Chromium | ppm | ASTM D5185(m) | >5 | **1** | 2 | 2 |
| Nickel | ppm | ASTM D5185(m) | >4 | **<1** | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) | >2 | **0** | 0 | <1 |
| Silver | ppm | ASTM D5185(m) | >2 | **0** | <1 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >15 | **10** | 7 | 7 |
| Lead | ppm | ASTM D5185(m) | >25 | **<1** | <1 | <1 |
| Copper | ppm | ASTM D5185(m) | >100 | **<1** | 1 | 1 |
| Tin | ppm | ASTM D5185(m) | >4 | **0** | 0 | <1 |
| 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 | **16** | 4 | 10 |
| Barium | ppm | ASTM D5185(m) | 0 | **0** | <1 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 60 | **60** | 60 | 60 |
| Manganese | ppm | ASTM D5185(m) | 0 | **0** | 0 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 1010 | **925** | 962 | 925 |
| Calcium | ppm | ASTM D5185(m) | 1070 | **1059** | 1089 | 1248 |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | **1013** | 1003 | 1081 |
| Zinc | ppm | ASTM D5185(m) | 1270 | **1177** | 1234 | 1258 |
| Sulfur | ppm | ASTM D5185(m) | 2060 | **2648** | 2387 | 2556 |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >25 | **4** | 7 | 7 |
| Sodium | ppm | ASTM D5185(m) | | **5** | 5 | 8 |
| Potassium | ppm | ASTM D5185(m) | >20 | **13** | 9 | 10 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | ASTM D7844* | >6 | **0.6** | 1 | 0.7 |
| Nitration | Abs/cm | ASTM D7624* | >20 | **9.6** | 11.0 | 11.4 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | **21.1** | 23.2 | 23.1 |

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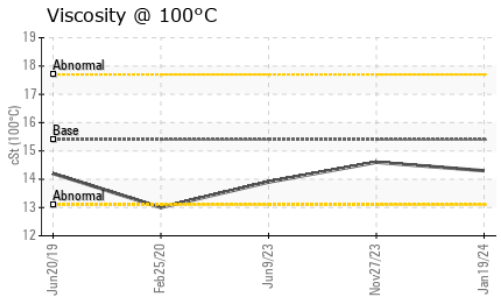
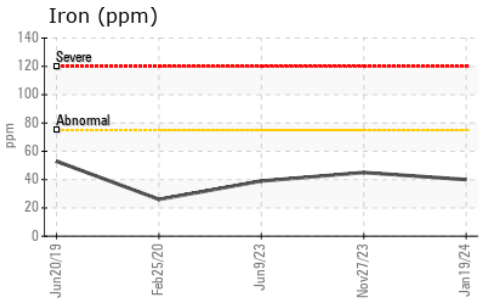


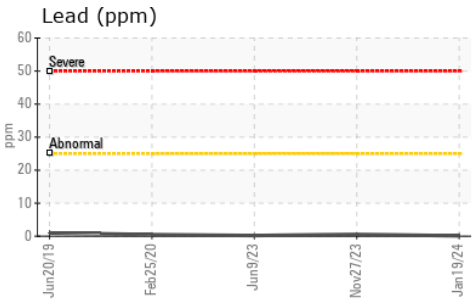

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | **16.6** | 19.7 | 20.2 |

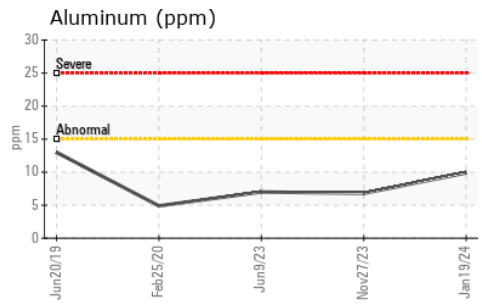
| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Emulsified Water | scalar | Visual* | >0.2 | **NEG** | NEG | NEG |
| Free Water | scalar | Visual* | | **NEG** | NEG | NEG |

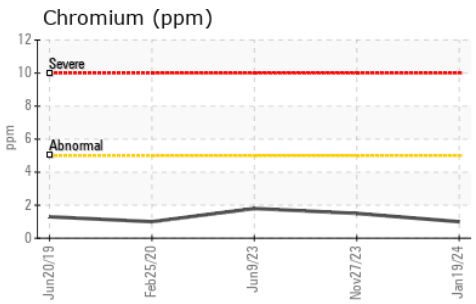
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D7279(m) | 15.4 | **14.3** | 14.6 | 13.9 |

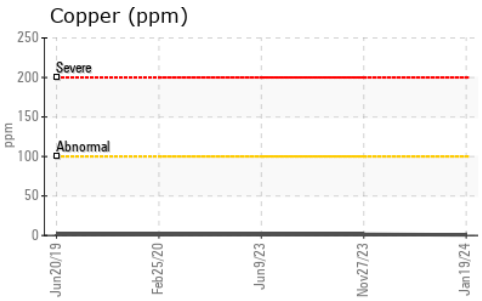
## GRAPHS

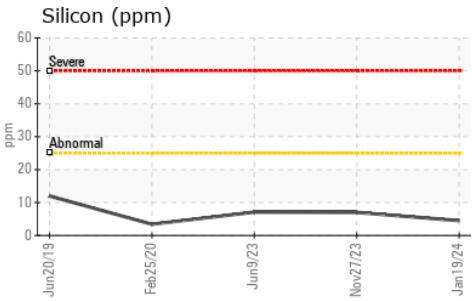


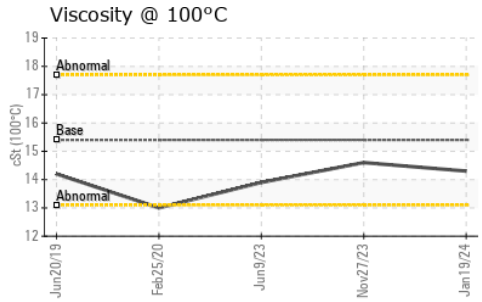



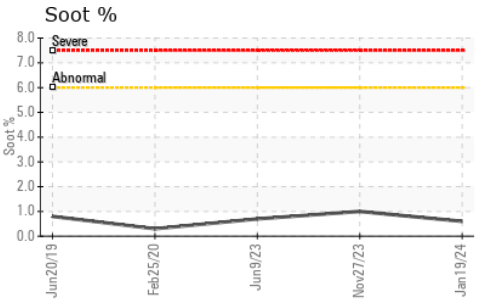




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : GFL0107122
**Lab Number** : 02610500
**Unique Number** : 5711586
**Test Package** : MOB 1

**Recieved** : 23 Jan 2024
**Diagnosed** : 23 Jan 2024
**Diagnostician** : 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.*

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