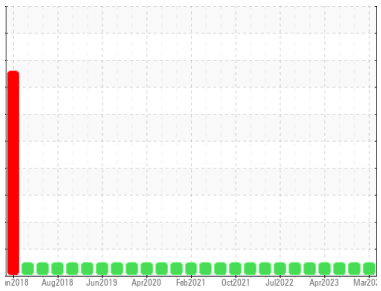
# OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
**401018**
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON SHP 15W40 (36 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 | | **GFL0094414** | GFL0094380 | GFL0077307 |
| Sample Date | | Client Info | | **13 Mar 2024** | 30 Nov 2023 | 13 Jul 2023 |
| Machine Age | hrs | Client Info | | **14962** | 14309 | 1589 |
| Oil Age | hrs | Client Info | | **14962** | 0 | 1589 |
| 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) | >120 | **14** | 10 | 8 |
| Chromium | ppm | ASTM D5185(m) | >20 | **0** | 0 | <1 |
| Nickel | ppm | ASTM D5185(m) | >5 | **<1** | <1 | 0 |
| Titanium | ppm | ASTM D5185(m) | >2 | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >2 | **<1** | <1 | <1 |
| Aluminum | ppm | ASTM D5185(m) | >20 | **2** | 2 | <1 |
| Lead | ppm | ASTM D5185(m) | >40 | **<1** | 1 | <1 |
| Copper | ppm | ASTM D5185(m) | >330 | **5** | 8 | 2 |
| Tin | ppm | ASTM D5185(m) | >15 | **<1** | 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 | **8** | 5 | 2 |
| Barium | ppm | ASTM D5185(m) | 0 | **0** | <1 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 60 | **59** | 56 | 57 |
| Manganese | ppm | ASTM D5185(m) | 0 | **0** | 0 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 1010 | **931** | 910 | 957 |
| Calcium | ppm | ASTM D5185(m) | 1070 | **1069** | 1046 | 1032 |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | **992** | 964 | 1032 |
| Zinc | ppm | ASTM D5185(m) | 1270 | **1142** | 1148 | 1174 |
| Sulfur | ppm | ASTM D5185(m) | 2060 | **2635** | 2480 | 2479 |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |

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

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | ASTM D7844* | >4 | **0.2** | 0.1 | 0.2 |
| Nitration | Abs/cm | ASTM D7624* | >20 | **7.8** | 6.6 | 7.4 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | **18.5** | 18.6 | 19.5 |

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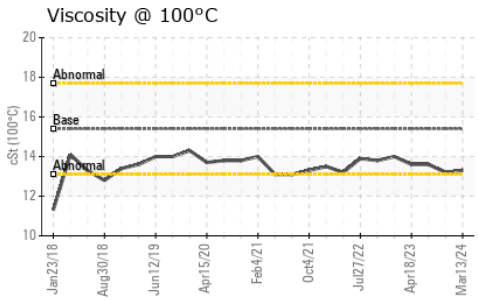
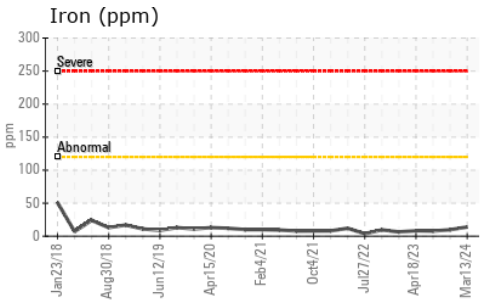


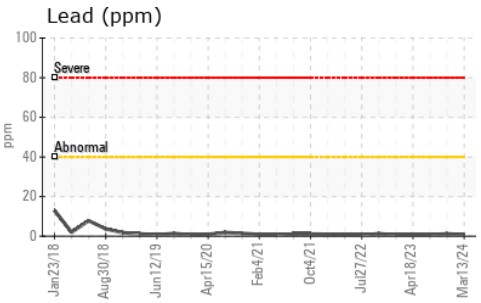

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | **14.2** | 14.5 | 14.9 |

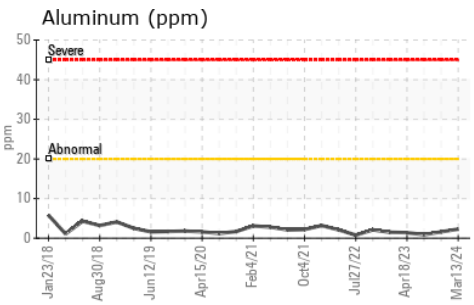
| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Emulsified Water | scalar | Visual* | >0.2 | **NEG** | NEG | NEG |
| Free Water | scalar | Visual* | | **NEG** | NEG | NEG |

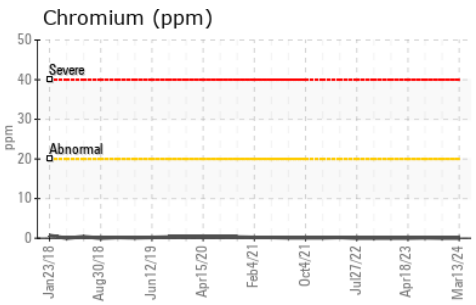
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D7279(m) | 15.4 | **13.3** | 13.2 | 13.6 |

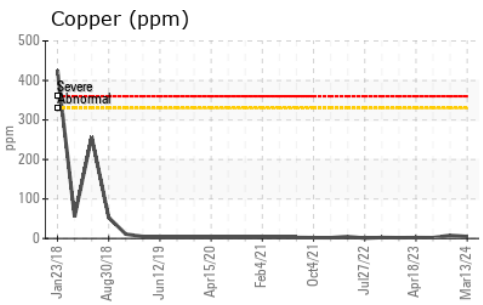
## GRAPHS

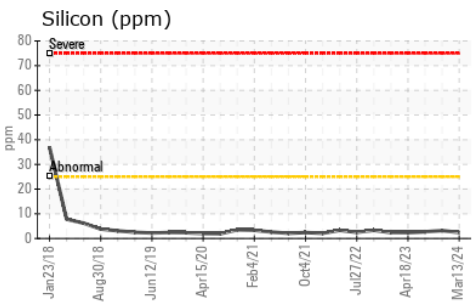


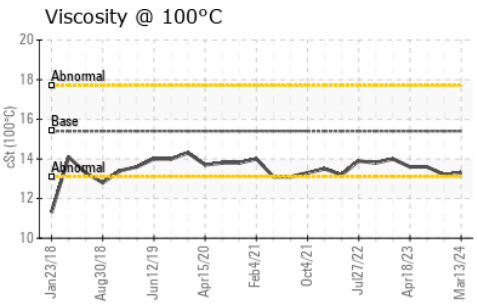



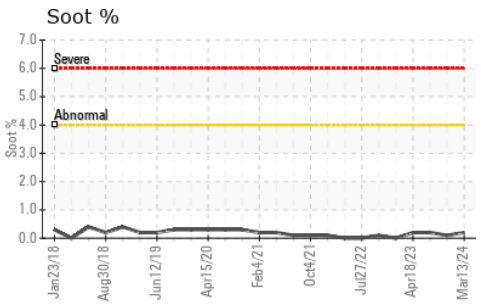




CALA Testing Accreditation No. 1005078
ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : GFL0094414
**Lab Number** : 02621930
**Unique Number** : 5747049
**Test Package** : MOB 1

**Received** : 14 Mar 2024
**Tested** : 14 Mar 2024
**Diagnosed** : 14 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.*

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