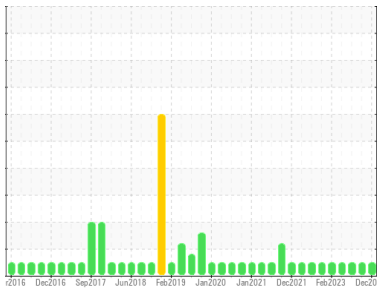
# OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
**3697**
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON SHP 15W40 (8 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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **GFL0077765** | GFL0065060 | GFL0077818 |
| Sample Date | | Client Info | | **27 Dec 2023** | 25 Sep 2023 | 17 Jul 2023 |
| Machine Age | mls | Client Info | | **306300** | 298567 | 289515 |
| Oil Age | mls | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **Not Changd** | 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 D5185m | >120 | **5** | 8 | 13 |
| Chromium | ppm | ASTM D5185m | >20 | **0** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | **0** | 0 | 3 |
| Titanium | ppm | ASTM D5185m | >2 | **0** | 0 | <1 |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | **2** | 4 | 7 |
| Lead | ppm | ASTM D5185m | >40 | **<1** | <1 | 4 |
| Copper | ppm | ASTM D5185m | >330 | **4** | 3 | 2 |
| Tin | ppm | ASTM D5185m | >15 | **<1** | <1 | 1 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

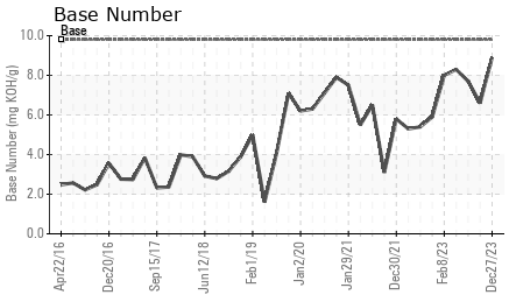
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 0 | **5** | 25 | 2 |
| Barium | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 60 | **65** | 41 | 65 |
| Manganese | ppm | ASTM D5185m | 0 | **0** | 1 | <1 |
| Magnesium | ppm | ASTM D5185m | 1010 | **1018** | 535 | 1036 |
| Calcium | ppm | ASTM D5185m | 1070 | **1118** | 1718 | 1178 |
| Phosphorus | ppm | ASTM D5185m | 1150 | **1047** | 950 | 1004 |
| Zinc | ppm | ASTM D5185m | 1270 | **1307** | 1152 | 1330 |
| Sulfur | ppm | ASTM D5185m | 2060 | **3169** | 2877 | 3229 |

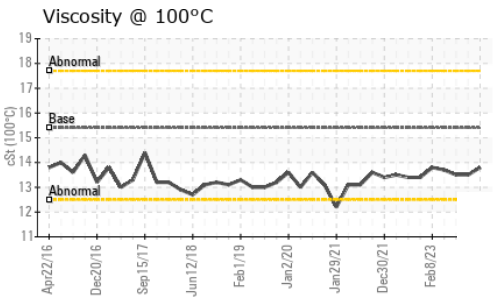
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **5** | 5 | 8 |
| Sodium | ppm | ASTM D5185m | | **7** | 4 | 6 |
| Potassium | ppm | ASTM D5185m | >20 | **38** | 3 | 15 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >4 | **0.1** | 0.3 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **5.4** | 8.4 | 8.7 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **17.8** | 20.6 | 21.1 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **13.5** | 18.4 | 18.5 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | **8.9** | 6.6 | 7.7 |

# OIL ANALYSIS REPORT

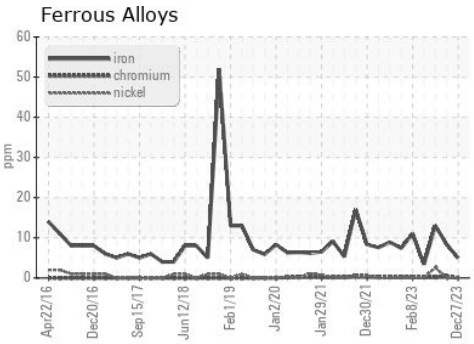


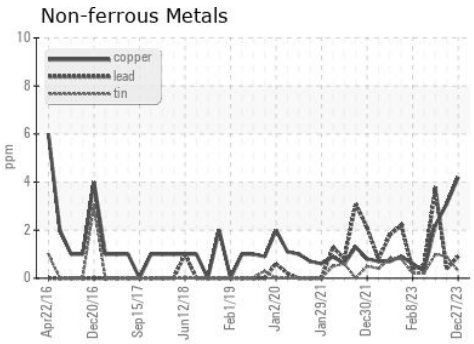



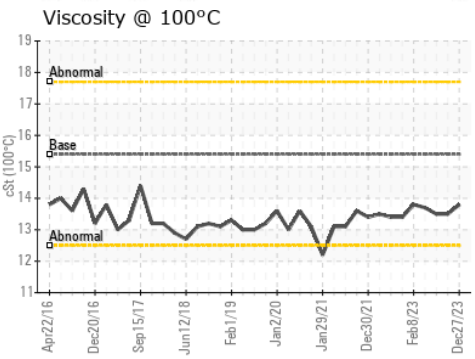

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Appearance | scalar | *Visual | NORML | **NORML** | NORML | NORML |
| Odor | scalar | *Visual | NORML | **NORML** | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.2 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

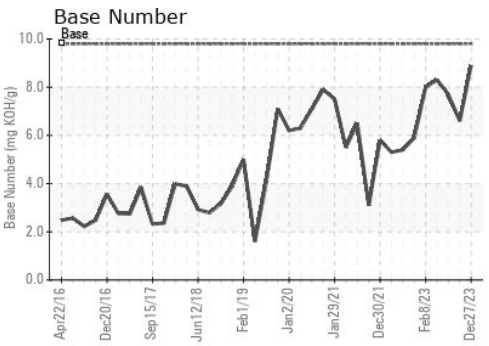
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | **13.8** | 13.5 | 13.5 |

## GRAPHS




Certificate L2367

| | | | |
|---|---|---|---|
| **Laboratory** | : WearCheck USA - 501 Madison Ave., Cary, NC 27513 | | |
| **Sample No.** | : GFL0077765 | **Recieved** | : 02 Jan 2024 |
| **Lab Number** | : 06049486 | **Diagnosed** | : 04 Jan 2024 |
| **Unique Number** | : 10810094 | **Diagnostician** | : Wes Davis |
| **Test Package** | : FLEET | | |

*To discuss this sample report, contact Customer Service at 1-800-237-1369.*
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
*Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)*

**GFL Environmental - 650 - West Point Hauling**
7825 Parham Landing Road
West Point, VA
US 23181
Contact: Jason Smith
jasonsmith@gflenv.com
T:
F:

Report Id: GFL650 [WUSCAR] 06049486 (Generated: 01/04/2024 00:56:21) Rev: 1

Submitted By: ?