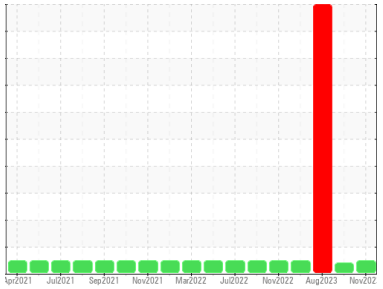
# OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
**411034**
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON SHP 10W30 (12 GAL)**

## DIAGNOSIS

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

**Wear**
Metal levels are typical for a new component breaking in.

**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 | | **GFL0073292** | GFL0072161 | GFL0073339 |
| Sample Date | | Client Info | | **08 Nov 2023** | 14 Sep 2023 | 18 Aug 2023 |
| Machine Age | hrs | Client Info | | **600** | 0 | 600 |
| Oil Age | hrs | Client Info | | **600** | 0 | 600 |
| Oil Changed | | Client Info | | **Changed** | N/A | Changed |
| Sample Status | | | | **NORMAL** | ATTENTION | SEVERE |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >3.0 | **<1.0** | <1.0 | <1.0 |
| Glycol | | WC Method | | **NEG** | 0.0 | 0.10 |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >90 | **38** | 18 | 87 |
| Chromium | ppm | ASTM D5185m | >20 | **2** | 1 | 4 |
| Nickel | ppm | ASTM D5185m | >2 | **<1** | <1 | <1 |
| Titanium | ppm | ASTM D5185m | >2 | **0** | <1 | <1 |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | **9** | 5 | 7 |
| Lead | ppm | ASTM D5185m | >40 | **<1** | <1 | 105 |
| Copper | ppm | ASTM D5185m | >330 | **0** | <1 | 8 |
| Tin | ppm | ASTM D5185m | >15 | **<1** | 1 | 2 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | <1 | 0 |

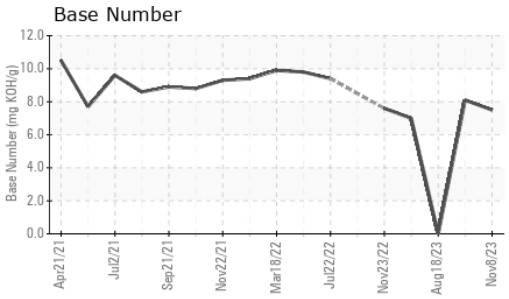
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 2 | **22** | 5 | 22 |
| Barium | ppm | ASTM D5185m | 0 | **0** | 44 | 0 |
| Molybdenum | ppm | ASTM D5185m | 50 | **83** | 59 | 149 |
| Manganese | ppm | ASTM D5185m | 0 | **<1** | 1 | 1 |
| Magnesium | ppm | ASTM D5185m | 950 | **879** | 853 | 843 |
| Calcium | ppm | ASTM D5185m | 1050 | **1090** | 963 | 1327 |
| Phosphorus | ppm | ASTM D5185m | 995 | **1006** | 901 | 906 |
| Zinc | ppm | ASTM D5185m | 1180 | **1202** | 1134 | 1245 |
| Sulfur | ppm | ASTM D5185m | 2600 | **2989** | 3058 | 2963 |

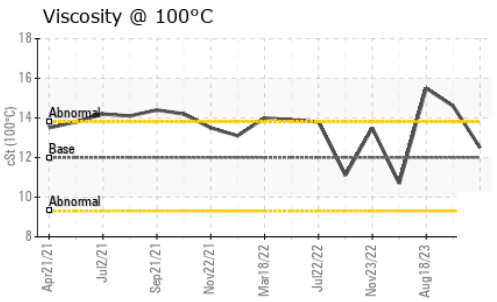
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **8** | 4 | 26 |
| Sodium | ppm | ASTM D5185m | | **13** | 5 | 1487 |
| Potassium | ppm | ASTM D5185m | >20 | **2** | 12 | 375 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >6 | **0.9** | 1.6 | 4.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **8.8** | 9.0 | 23.1 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **21.7** | 21.1 | 41.7 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **17.0** | 14.6 | 35.6 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | **7.5** | 8.1 | 0.0 |

# OIL ANALYSIS REPORT

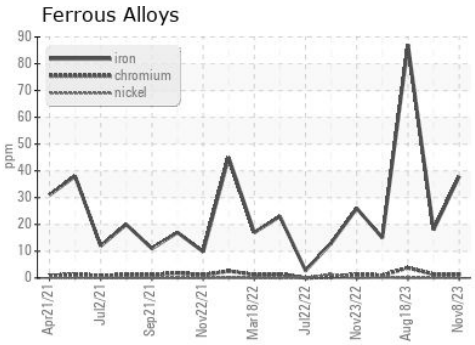


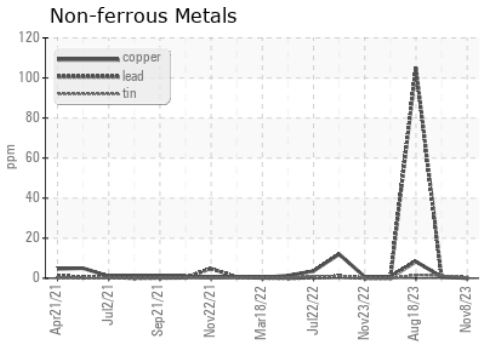



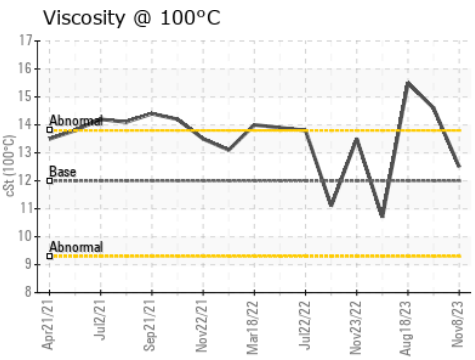

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 |

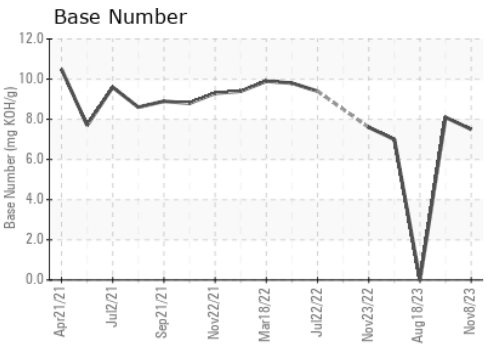
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 12.00 | **12.5** | ▲ 14.6 | ▲ 15.5 |

## GRAPHS




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : GFL0073292
**Lab Number** : 06007441
**Unique Number** : 10741203
**Test Package** : FLEET

**Received** : 14 Nov 2023
**Diagnosed** : 15 Nov 2023
**Diagnostician** : Wes Davis

*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 - 102 - Morristown TN**
415 Ryder Lane, PO Box 1894
Morristown, TN
US 37813
Contact: Ricky Dunlap
ricky.dunlap@gflenv.com
T: (800)207-6618
F: