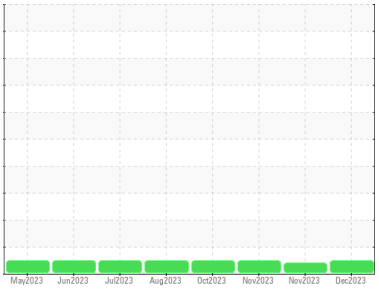
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
**934023**
Component
**Natural Gas Engine**
Fluid
**PETRO CANADA DURON GEO LD 15W40 (--- 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 | | **GFL0103360** | GFL0099938 | GFL0095164 |
| Sample Date | | Client Info | | **21 Dec 2023** | 18 Nov 2023 | 02 Nov 2023 |
| Machine Age | hrs | Client Info | | **1384** | 1213 | 1127 |
| Oil Age | hrs | Client Info | | **1384** | 1213 | 0 |
| Oil Changed | | Client Info | | **Not Changd** | Changed | Not Changd |
| Sample Status | | | | **NORMAL** | MARGINAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.1 | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **10** | 81 | 78 |
| Chromium | ppm | ASTM D5185m | >4 | **<1** | 4 | 3 |
| Nickel | ppm | ASTM D5185m | >2 | **0** | 3 | 4 |
| Titanium | ppm | ASTM D5185m | | **0** | <1 | <1 |
| Silver | ppm | ASTM D5185m | >3 | **0** | <1 | <1 |
| Aluminum | ppm | ASTM D5185m | >9 | **3** | 37 | 35 |
| Lead | ppm | ASTM D5185m | >30 | **1** | 6 | 5 |
| Copper | ppm | ASTM D5185m | >35 | **4** | 23 | 24 |
| Tin | ppm | ASTM D5185m | >4 | **0** | 3 | 3 |
| Vanadium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | <1 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 50 | **13** | 2 | 4 |
| Barium | ppm | ASTM D5185m | 5 | **0** | 0 | 10 |
| Molybdenum | ppm | ASTM D5185m | 50 | **48** | 71 | 70 |
| Manganese | ppm | ASTM D5185m | 0 | **<1** | 16 | 17 |
| Magnesium | ppm | ASTM D5185m | 560 | **561** | 962 | 850 |
| Calcium | ppm | ASTM D5185m | 1510 | **1579** | 1527 | 1414 |
| Phosphorus | ppm | ASTM D5185m | 780 | **718** | 849 | 860 |
| Zinc | ppm | ASTM D5185m | 870 | **973** | 1190 | 1045 |
| Sulfur | ppm | ASTM D5185m | 2040 | **2435** | 2540 | 2408 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >+100 | **15** | 35 | 40 |
| Sodium | ppm | ASTM D5185m | | **3** | 9 | 5 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 70 | 74 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | | **0** | 0.1 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **11.0** | 14.3 | 14.2 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **23.3** | ▲ 30.2 | 28.9 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **19.3** | 29.8 | 28.0 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10.2 | **4.7** | 2.8 | 3.2 |

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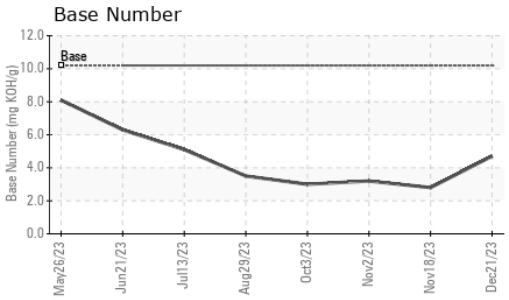
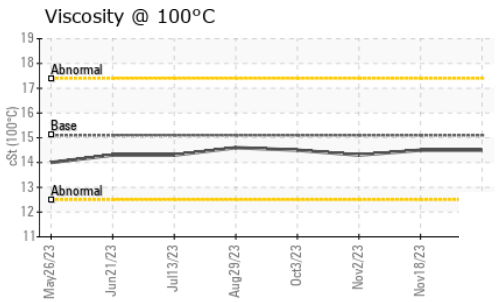
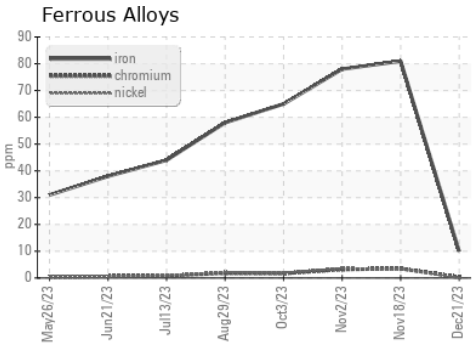


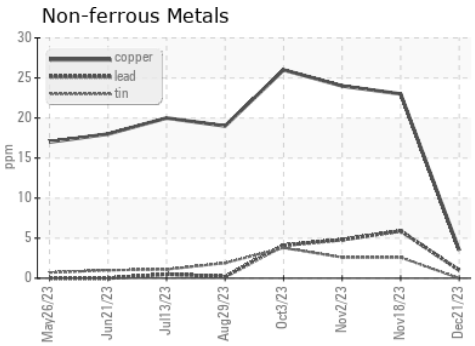



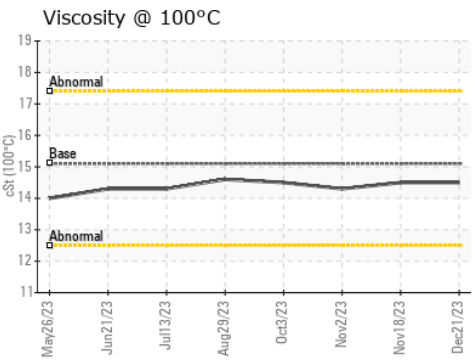

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | >0.1 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

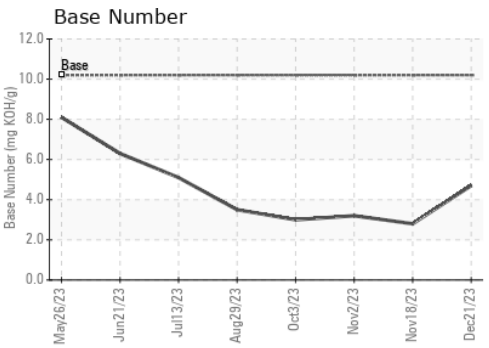
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 15.1 | **14.5** | 14.5 | 14.3 |

## GRAPHS




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : GFL0103360
**Lab Number** : 06044454
**Unique Number** : 10805062
**Test Package** : FLEET

**Recieved** : 26 Dec 2023
**Diagnosed** : 27 Dec 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)*

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Report Id: GFL836 [WUSCAR] 06044454 (Generated: 12/27/2023 10:38:51) Rev: 1

Contact/Location: See also GFL823, 834, 837, 840 - Robert Hart - GFL836