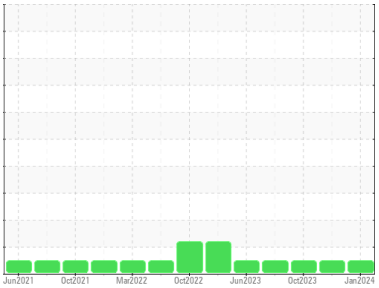
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
**748009**
Component
**Natural Gas Engine**
Fluid
**PETRO CANADA DURON GEO LD 15W40 (--- LTR)**

## 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 | | **GFL0106976** | GFL0094238 | GFL0094257 |
| Sample Date | | Client Info | | **06 Jan 2024** | 09 Nov 2023 | 03 Oct 2023 |
| Machine Age | hrs | Client Info | | **16919** | 16567 | 16326 |
| Oil Age | hrs | Client Info | | **593** | 630 | 699 |
| Oil Changed | | Client Info | | **N/A** | Changed | Changed |
| Sample Status | | | | **NORMAL** | NORMAL | 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 | **19** | 5 | 8 |
| Chromium | ppm | ASTM D5185m | >4 | **<1** | <1 | 1 |
| Nickel | ppm | ASTM D5185m | >2 | **0** | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Silver | ppm | ASTM D5185m | >3 | **0** | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >9 | **<1** | 2 | 2 |
| Lead | ppm | ASTM D5185m | >30 | **<1** | <1 | <1 |
| Copper | ppm | ASTM D5185m | >35 | **0** | 1 | <1 |
| Tin | ppm | ASTM D5185m | >4 | **<1** | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | <1 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 50 | **3** | 26 | 15 |
| Barium | ppm | ASTM D5185m | 5 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 50 | **57** | 51 | 53 |
| Manganese | ppm | ASTM D5185m | 0 | **<1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 560 | **879** | 552 | 582 |
| Calcium | ppm | ASTM D5185m | 1510 | **1034** | 1490 | 1512 |
| Phosphorus | ppm | ASTM D5185m | 780 | **1050** | 794 | 794 |
| Zinc | ppm | ASTM D5185m | 870 | **1247** | 943 | 985 |
| Sulfur | ppm | ASTM D5185m | 2040 | **2973** | 2638 | 2730 |

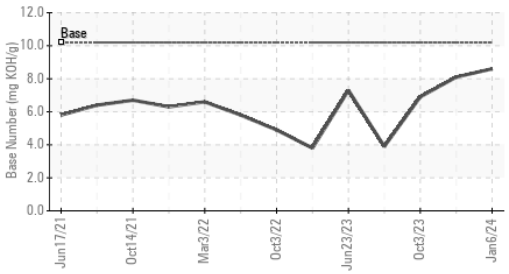
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >+100 | **3** | 3 | 4 |
| Sodium | ppm | ASTM D5185m | | **15** | 2 | 7 |
| Potassium | ppm | ASTM D5185m | >20 | **7** | 2 | <1 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | | **1.5** | 0 | 0 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **10.0** | 8.4 | 9.3 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **20.6** | 18.8 | 19.3 |

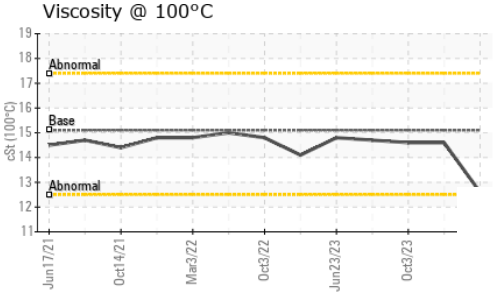
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **16.5** | 16.2 | 16.9 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10.2 | **8.6** | 8.1 | 6.9 |

# OIL ANALYSIS REPORT

Base Number




Viscosity @ 100°C

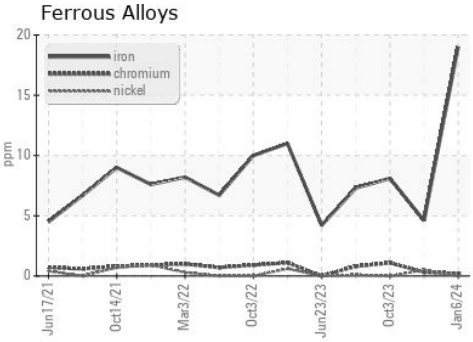



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
|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

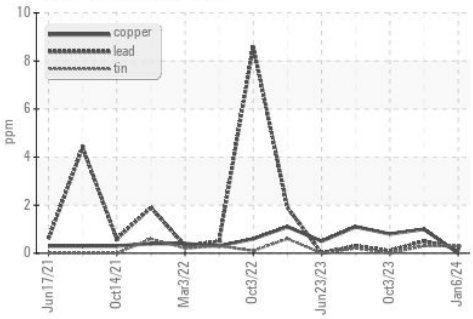
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 15.1 | **12.6** | 14.6 | 14.6 |

## GRAPHS

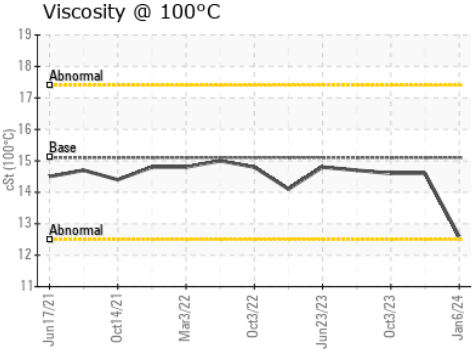
Ferrous Alloys



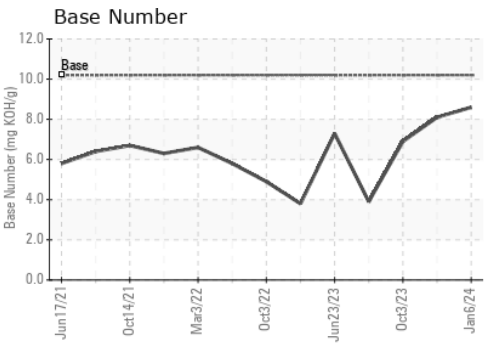

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : GFL0106976
**Lab Number** : 06056369
**Unique Number** : 10822318
**Test Package** : FLEET

**Recieved** : 10 Jan 2024
**Diagnosed** : 11 Jan 2024
**Diagnostician** : Jonathan Hester

*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: GFL882 [WUSCAR] 06056369 (Generated: 01/11/2024 11:02:15) Rev: 1

Submitted By: STEPHEN WEIL