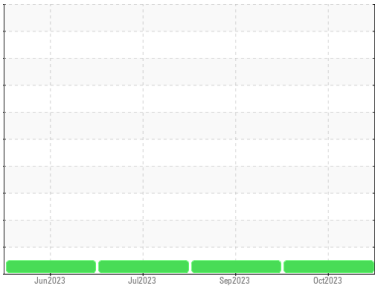
# OIL ANALYSIS REPORT

Area
**{UNASSIGNED}**
Machine Id
**933041**
Component
**Natural Gas Engine**
Fluid
**PETRO CANADA DURON SHP 15W40 (8 GAL)**

**Sample Rating Trend**




**NORMAL**

## 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 | | **GFL0094360** | GFL0091367 | GFL0086127 |
| Sample Date | | Client Info | | **02 Oct 2023** | 01 Sep 2023 | 06 Jul 2023 |
| Machine Age | hrs | Client Info | | **979** | 716 | 391 |
| Oil Age | hrs | Client Info | | **263** | 716 | 391 |
| Oil Changed | | Client Info | | **Not Changd** | Changed | Not Changd |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **18** | 70 | 63 |
| Chromium | ppm | ASTM D5185m | >4 | **<1** | 1 | 1 |
| Nickel | ppm | ASTM D5185m | >2 | **<1** | 2 | 1 |
| Titanium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Silver | ppm | ASTM D5185m | >3 | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >9 | **5** | 20 | 20 |
| Lead | ppm | ASTM D5185m | >30 | **<1** | 2 | 1 |
| Copper | ppm | ASTM D5185m | >35 | **3** | 15 | 18 |
| Tin | ppm | ASTM D5185m | >4 | **<1** | 1 | 1 |
| Vanadium | ppm | ASTM D5185m | | **<1** | <1 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 0 | **5** | 8 | 18 |
| Barium | ppm | ASTM D5185m | 0 | **0** | 0 | 2 |
| Molybdenum | ppm | ASTM D5185m | 60 | **65** | 56 | 52 |
| Manganese | ppm | ASTM D5185m | 0 | **2** | 11 | 13 |
| Magnesium | ppm | ASTM D5185m | 1010 | **914** | 803 | 785 |
| Calcium | ppm | ASTM D5185m | 1070 | **1191** | 1086 | 990 |
| Phosphorus | ppm | ASTM D5185m | 1150 | **979** | 740 | 715 |
| Zinc | ppm | ASTM D5185m | 1270 | **1240** | 985 | 929 |
| Sulfur | ppm | ASTM D5185m | 2060 | **2851** | 2727 | 2831 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >+100 | **6** | 28 | 35 |
| Sodium | ppm | ASTM D5185m | | **5** | 5 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | **15** | 66 | 58 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | | **0** | 0 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **7.3** | 10.5 | 11.4 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **17.3** | 22.0 | 21.8 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **12.9** | 19.7 | 20.4 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | **6.4** | 3.9 | 5.2 |

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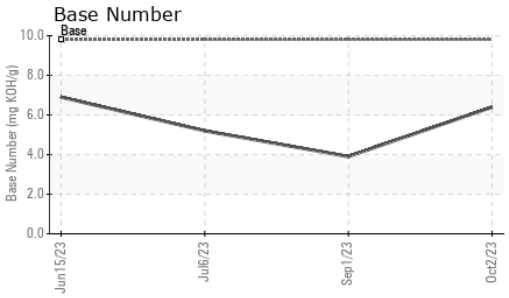
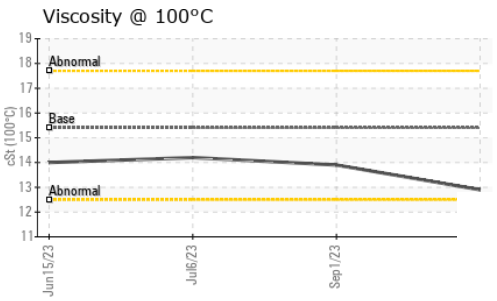
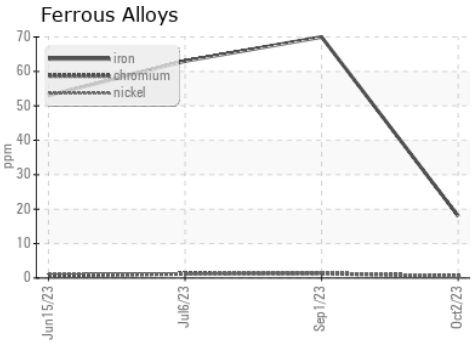


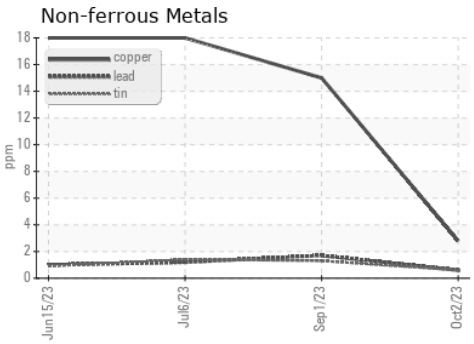



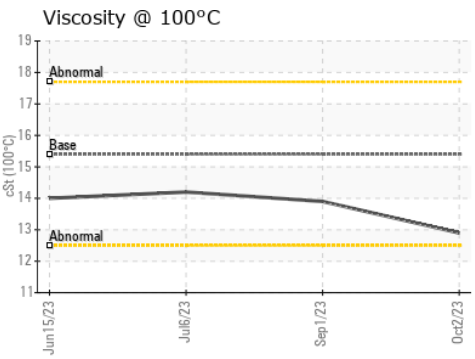

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
|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

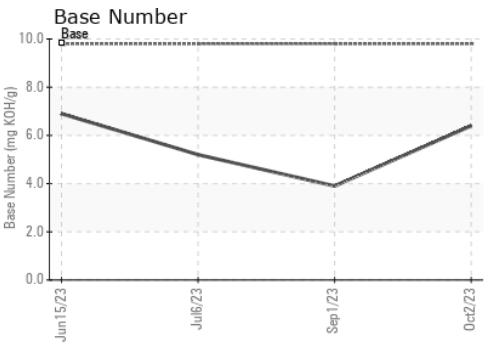
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | **12.9** | 13.9 | 14.2 |

## GRAPHS




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : GFL0094360
**Lab Number** : 05968569
**Unique Number** : 10675120
**Test Package** : FLEET

**Received** : 04 Oct 2023
**Diagnosed** : 04 Oct 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 - 010 - Stockbridge**
1280 Rum Creek Parkway
Stockbridge, GA
US 30281
Contact: JOSHUA TINKER
joshuatinker@gflenv.com
T:
F: