FLEET LUBE 360 OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

| | |
|---|---|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Machine Id
**227055-632109**
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

## WEAR

All component wear rates are normal.

## CONTAMINATION

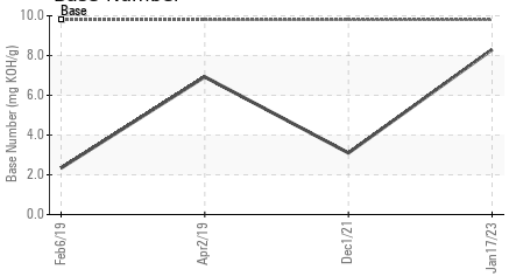
There is no indication of any contamination in the oil.

## FLUID CONDITION

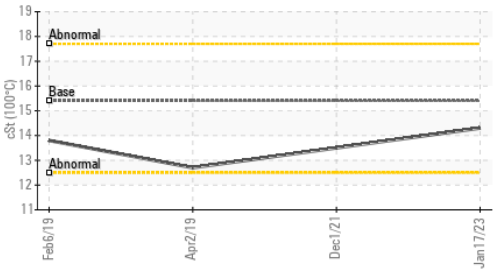
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **GFL0064663** | GFL0037286 | GFLI-X11527 |
| Sample Date | | Client Info | | **17 Jan 2023** | 01 Dec 2021 | 02 Apr 2019 |
| Machine Age | hrs | Client Info | | **5296** | 4018 | 20288 |
| Oil Age | hrs | Client Info | | **0** | 0 | 450 |
| Filter Age | hrs | Client Info | | **0** | 0 | --- |
| Oil Changed | | Client Info | | **Changed** | Changed | Changed |
| Filter Changed | | Client Info | | **Changed** | Changed | Changed |
| Sample Status | | | | **NORMAL** | ABNORMAL | NORMAL |
| Iron | ppm | ASTM D5185m | >100 | **25** | ▲ 124 | 29 |
| Chromium | ppm | ASTM D5185m | >20 | **<1** | 3 | 0 |
| Nickel | ppm | ASTM D5185m | >2 | **<1** | <1 | 0 |
| Titanium | ppm | ASTM D5185m | >2 | **0** | <1 | 0 |
| Silver | ppm | ASTM D5185m | >2 | **0** | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | **5** | 14 | 3 |
| Lead | ppm | ASTM D5185m | >40 | **<1** | <1 | 1 |
| Copper | ppm | ASTM D5185m | >330 | **2** | 8 | 1 |
| Tin | ppm | ASTM D5185m | >15 | **<1** | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Silicon | ppm | ASTM D5185m | >25 | **6** | 16 | 5 |
| Potassium | ppm | ASTM D5185m | >20 | **<1** | 1 | 0 |
| Fuel | | WC Method | >5 | **<1.0** | <1.0 | 1.1 |
| Water | | WC Method | >0.2 | **NEG** | NEG | NEG |
| Glycol | | WC Method | | **NEG** | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | **0.6** | 1 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **9.9** | 13.1 | 7 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **20.0** | 29.6 | --- |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Debris | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Sand/Dirt | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Appearance | scalar | *Visual | NORML | **NORML** | NORML | --- |
| Odor | scalar | *Visual | NORML | **NORML** | NORML | --- |
| Emulsified Water | scalar | *Visual | >0.2 | **NEG** | NEG | --- |
| Sodium | ppm | ASTM D5185m | | **2** | 0 | 1 |
| Boron | ppm | ASTM D5185m | 0 | **8** | 10 | 268 |
| Barium | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 60 | **61** | 68 | 110 |
| Manganese | ppm | ASTM D5185m | 0 | **<1** | 2 | 0 |
| Magnesium | ppm | ASTM D5185m | 1010 | **929** | 278 | 633 |
| Calcium | ppm | ASTM D5185m | 1070 | **1063** | 1993 | 1408 |
| Phosphorus | ppm | ASTM D5185m | 1150 | **1014** | 1042 | 633 |
| Zinc | ppm | ASTM D5185m | 1270 | **1272** | 1158 | 711 |
| Sulfur | ppm | ASTM D5185m | 2060 | **3625** | 2732 | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **17.5** | 28.4 | 13 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | **8.3** | ▲ 3.1 | 6.93 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | **14.3** | 13.5 | 12.7 |

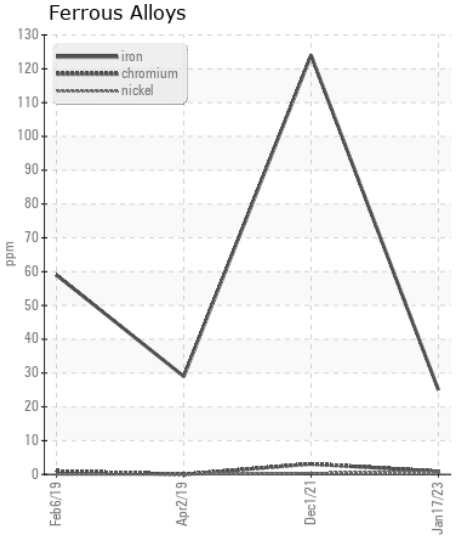
Base Number



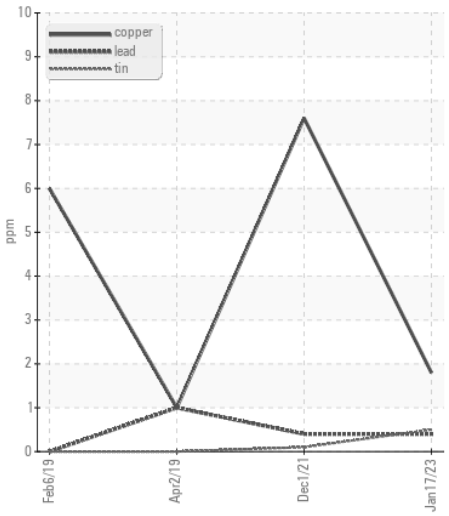

Viscosity @ 100°C



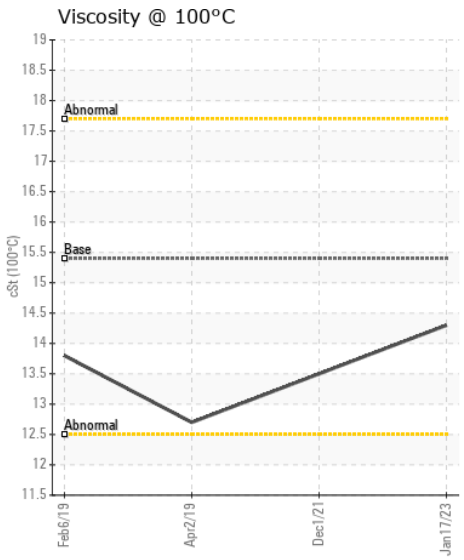

Ferrous Alloys



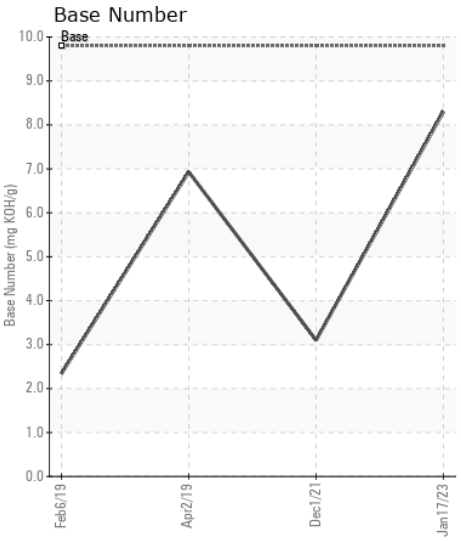

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

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|---|---|---|---|
| **Laboratory** | : WearCheck USA - 501 Madison Ave., Cary, NC 27513 | | |
| **Sample No.** | : GFL0064663 | **Recieved** | : 23 Jan 2023 |
| **Lab Number** | : 05746007 | **Diagnosed** | : 24 Jan 2023 |
| **Unique Number** | : 10305611 | **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)*

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