FLEET LUBE 360 OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

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

Machine Id
**713057**
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

## FLUID CONDITION

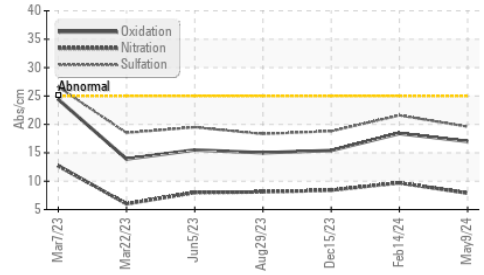
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | GFL0117811 | GFL0104006 | GFL0100541 |
| Sample Date | | Client Info | | 09 May 2024 | 14 Feb 2024 | 15 Dec 2023 |
| Machine Age | hrs | Client Info | | 4049 | 3424 | 2993 |
| Oil Age | hrs | Client Info | | 0 | 3424 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| Iron | ppm | ASTM D5185m | >110 | 8 | 9 | 9 |
| Chromium | ppm | ASTM D5185m | >4 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | 14 | 15 | 31 |
| Lead | ppm | ASTM D5185m | >45 | <1 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >85 | 1 | <1 | 1 |
| Tin | ppm | ASTM D5185m | >4 | 0 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >30 | 6 | 3 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | 43 | 45 | 97 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.2 | 0.5 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 7.9 | 9.7 | 8.4 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.6 | 21.6 | 18.8 |
| 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 |
| Sodium | ppm | ASTM D5185m | | 5 | 4 | 7 |
| Boron | ppm | ASTM D5185m | 0 | 4 | 19 | 5 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | <1 |
| Molybdenum | ppm | ASTM D5185m | 60 | 52 | 45 | 58 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 | 1 |
| Magnesium | ppm | ASTM D5185m | 1010 | 952 | 718 | 882 |
| Calcium | ppm | ASTM D5185m | 1070 | 1138 | 1236 | 1079 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 950 | 959 | 1028 |
| Zinc | ppm | ASTM D5185m | 1270 | 1124 | 1163 | 1180 |
| Sulfur | ppm | ASTM D5185m | 2060 | 3195 | 2953 | 2838 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 17.0 | 18.4 | 15.4 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 7.9 | 7.7 | 8.4 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.2 | 13.1 | 13.2 |

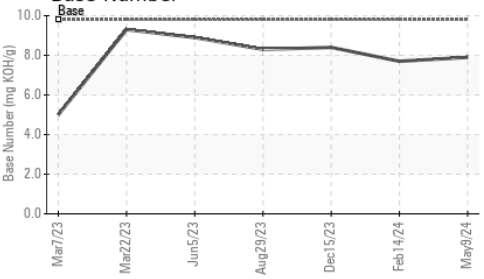
Report Id: GFL865 [WUSCAR] 06196118 (Generated: 05/31/2024 15:54:20) Rev: 1

Submitted By: TECHNICIAN ACCOUNT

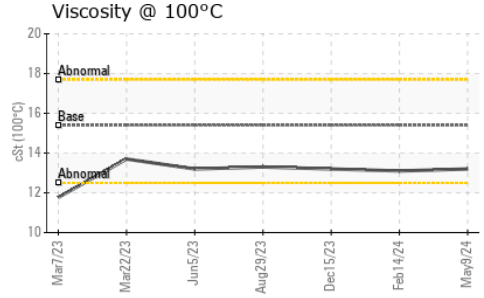
FT-IR (Direct Trend)



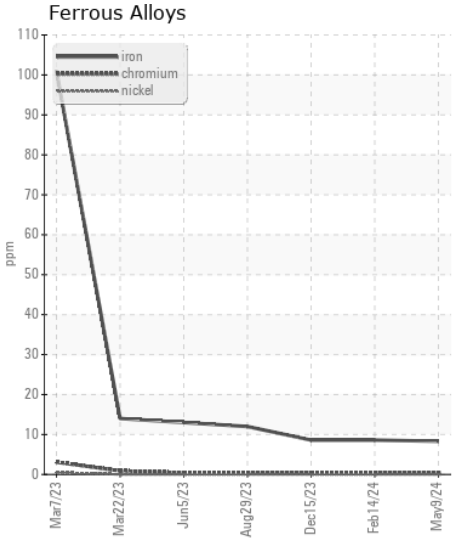

Base Number



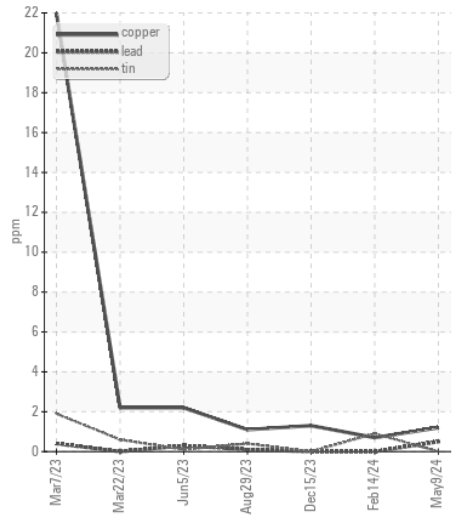

Viscosity @ 100°C



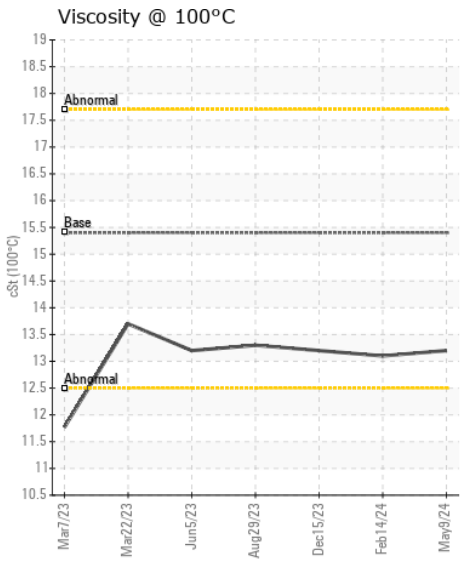

Ferrous Alloys




Non-ferrous Metals




Viscosity @ 100°C

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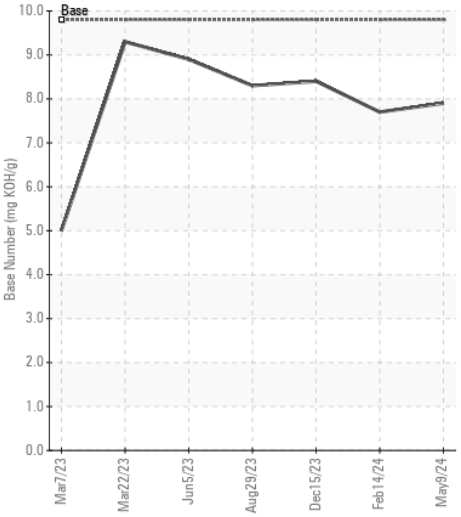


Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : GFL0117811
**Lab Number** : 06196118
**Unique Number** : 11058241
**Test Package** : FLEET

**Received** : 30 May 2024
**Tested** : 31 May 2024
**Diagnosed** : 31 May 2024 - 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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