FLEET LUBE 360 OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

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

Machine Id
**4601M**
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

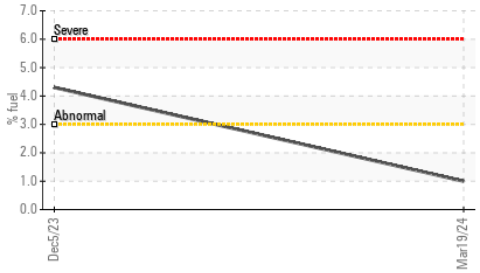
Light fuel dilution occurring. No other contaminants were detected in the oil.

## FLUID CONDITION

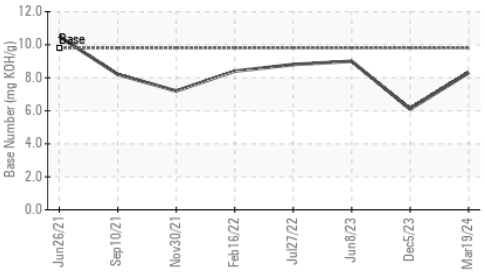
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | GFL0108869 | GFL0101441 | GFL0081414 |
| Sample Date | | Client Info | | 19 Mar 2024 | 05 Dec 2023 | 08 Jun 2023 |
| Machine Age | hrs | Client Info | | 19426 | 18968 | 18129 |
| Oil Age | hrs | Client Info | | 19426 | 18129 | 16353 |
| Filter Age | hrs | Client Info | | 0 | 18129 | 16353 |
| Oil Changed | | Client Info | | Not Changd | Changed | Changed |
| Filter Changed | | Client Info | | Not Changd | Changed | Changed |
| Sample Status | | | | MARGINAL | ABNORMAL | NORMAL |
| Iron | ppm | ASTM D5185m | >90 | 30 | 3 | 41 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | 0 | 2 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | <1 | 1 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | 1 |
| Copper | ppm | ASTM D5185m | >330 | 8 | 2 | 28 |
| Tin | ppm | ASTM D5185m | >15 | 0 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >25 | 4 | 4 | 22 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | 0 | 9 |
| Fuel | % | ASTM D3524 | >3.0 | ▲ 1.0 | ▲ 4.3 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >6 | 0.7 | 0.9 | 0.7 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 8.5 | 9.1 | 8.7 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.7 | 21.7 | 22.4 |
| 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 | | 6 | 3 | 45 |
| Boron | ppm | ASTM D5185m | 0 | 0 | 15 | 9 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 60 | 56 | 59 | 50 |
| Manganese | ppm | ASTM D5185m | 0 | 0 | <1 | 5 |
| Magnesium | ppm | ASTM D5185m | 1010 | 934 | 833 | 636 |
| Calcium | ppm | ASTM D5185m | 1070 | 1054 | 1243 | 1262 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1021 | 997 | 893 |
| Zinc | ppm | ASTM D5185m | 1270 | 1228 | 1192 | 1113 |
| Sulfur | ppm | ASTM D5185m | 2060 | 3296 | 3044 | 2771 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 15.7 | 17.6 | 19.1 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 8.3 | 6.1 | 9.0 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 14.0 | ▲ 12.4 | 12.7 |

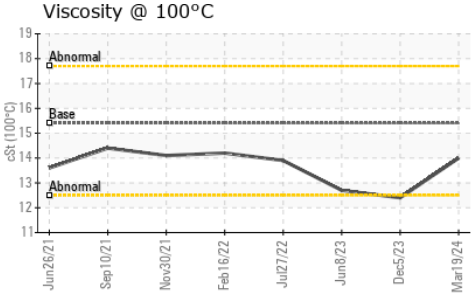
Fuel Dilution



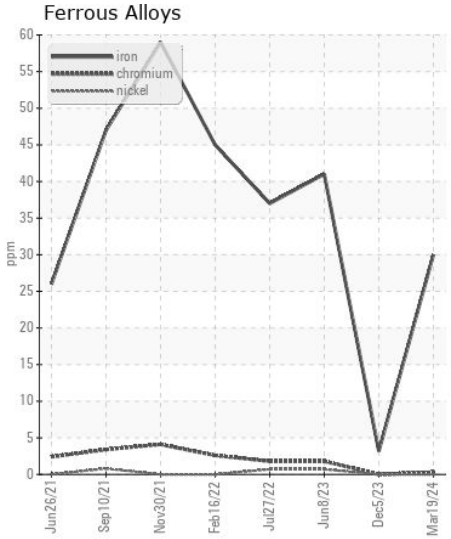

Base Number



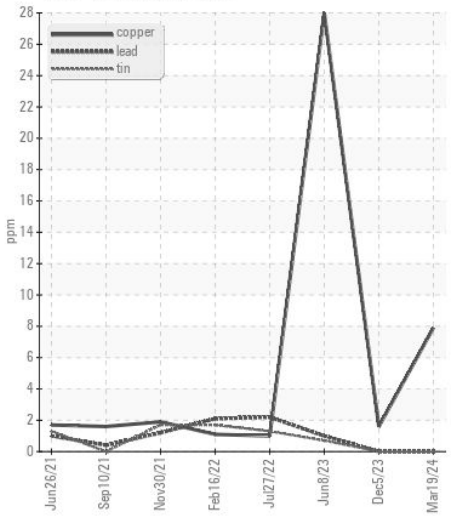

Viscosity @ 100°C



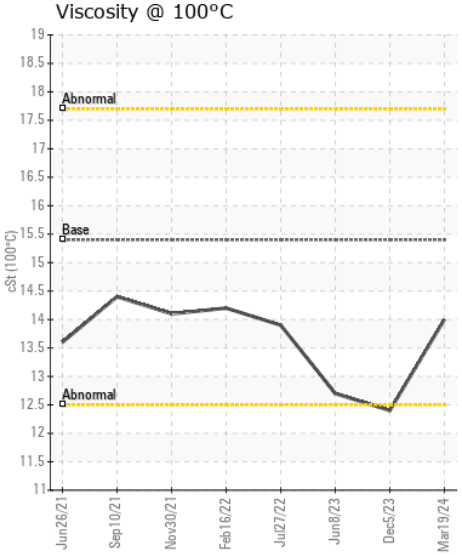

Ferrous Alloys




Non-ferrous Metals




Viscosity @ 100°C

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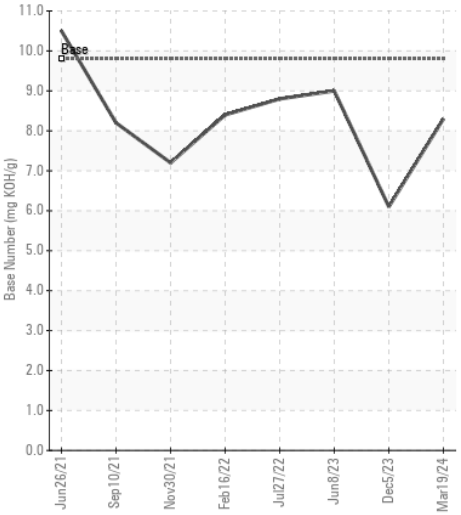


Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : GFL0108869
**Lab Number** : 06124591
**Unique Number** : 10938742
**Test Package** : FLEET ( Additional Tests: PercentFuel )

**Received** : 21 Mar 2024
**Tested** : 22 Mar 2024
**Diagnosed** : 22 Mar 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)*

**GFL Environmental - 415 - Michigan East**
6200 Elmridge
Sterling Heights, MI
US 48313
Contact: Frank Wolak
fwolak@gflenv.com
T: (586)825-9514
F: