FLEET LUBE 360 OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

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

Machine Id
**813033**
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

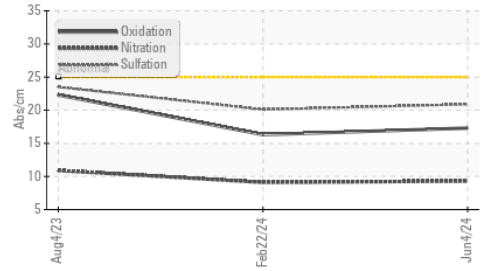
There is no indication of any contamination in the oil.

## FLUID CONDITION

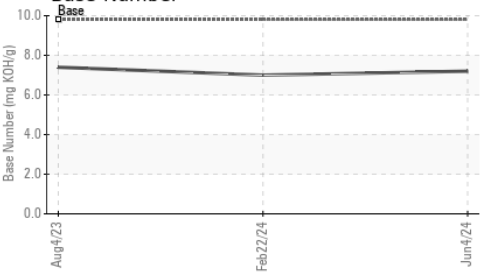
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | GFL0084832 | GFL0084795 | GFL0084851 |
| Sample Date | | Client Info | | 04 Jun 2024 | 22 Feb 2024 | 04 Aug 2023 |
| Machine Age | hrs | Client Info | | 2994 | 2349 | 699 |
| Oil Age | hrs | Client Info | | 2349 | 699 | 200 |
| Filter Age | hrs | Client Info | | 0 | 0 | 200 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | ABNORMAL |
| Iron | ppm | ASTM D5185m | >120 | 12 | 17 | 40 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | 1 |
| Nickel | ppm | ASTM D5185m | >5 | 2 | 4 | 10 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | <1 | <1 |
| Silver | ppm | ASTM D5185m | >2 | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | 2 | 5 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | 2 |
| Copper | ppm | ASTM D5185m | >330 | 4 | 14 | 157 |
| Tin | ppm | ASTM D5185m | >15 | <1 | <1 | 4 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >25 | 5 | 6 | ▲ 109 |
| Potassium | ppm | ASTM D5185m | >20 | 4 | 3 | 8 |
| Fuel | | WC Method | >3.0 | <1.0 | <1.0 | 0.4 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >4 | 0.5 | 0.6 | 0.6 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 9.3 | 9.1 | 10.9 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 20.9 | 20.1 | 23.5 |
| 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 | 6 | 2 |
| Boron | ppm | ASTM D5185m | 0 | 3 | 2 | 175 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 60 | 58 | 66 | 116 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 | 5 |
| Magnesium | ppm | ASTM D5185m | 1010 | 991 | 1006 | 757 |
| Calcium | ppm | ASTM D5185m | 1070 | 1085 | 1164 | 1546 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1019 | 1131 | 728 |
| Zinc | ppm | ASTM D5185m | 1270 | 1295 | 1316 | 947 |
| Sulfur | ppm | ASTM D5185m | 2060 | 3253 | 3036 | 2744 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 17.3 | 16.3 | 22.3 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 7.2 | 7.0 | 7.4 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.9 | 13.8 | ● 10.5 |

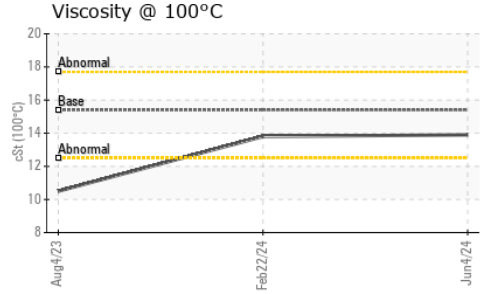
FT-IR (Direct Trend)



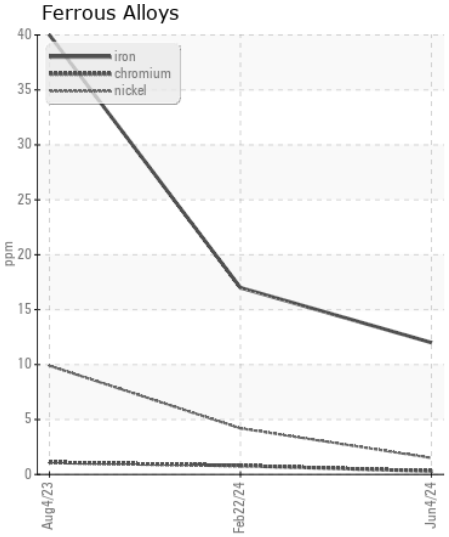

Base Number



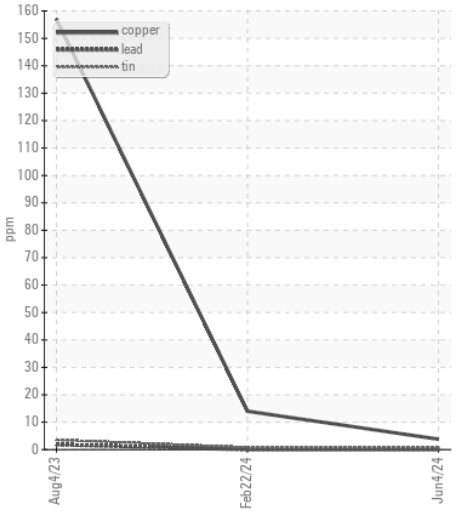

Viscosity @ 100°C



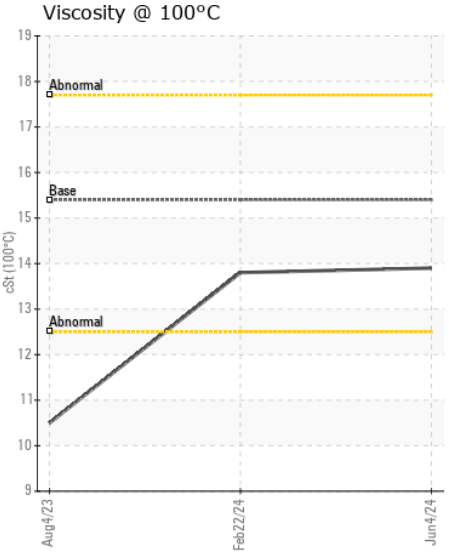

Ferrous Alloys



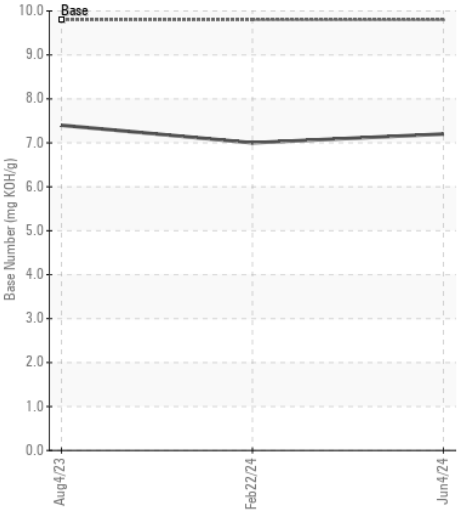

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : GFL0084832
**Lab Number** : 06214411
**Unique Number** : 11087275
**Test Package** : FLEET

**Received** : 19 Jun 2024
**Tested** : 20 Jun 2024
**Diagnosed** : 20 Jun 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 - 959A - Urbana HC**
4808 cunningham Rd
Urbana, IL
US 61802
Contact: Kristine Tryon
Ktryon@gflenv.com
T:
F: