FLEET LUBE 360 OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

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

Machine Id
**2227118**
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON SHP 10W30 (--- QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

## WEAR

Metal levels are typical for a new component breaking in.

## CONTAMINATION

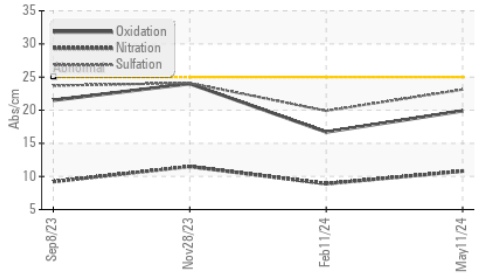
There is no indication of any contamination in the oil.

## FLUID CONDITION

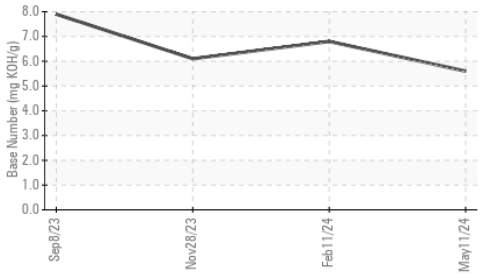
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **PCA0124252** | PCA0118397 | PCA0102460 |
| Sample Date | | Client Info | | **11 May 2024** | 11 Feb 2024 | 28 Nov 2023 |
| Machine Age | mls | Client Info | | **70000** | 60500 | 41206 |
| Oil Age | mls | Client Info | | **40000** | 20000 | 40000 |
| Filter Age | mls | Client Info | | **20000** | 20000 | 20000 |
| Oil Changed | | Client Info | | **Changed** | Changed | Changed |
| Filter Changed | | Client Info | | **Changed** | Not Changd | Changed |
| Sample Status | | | | **NORMAL** | NORMAL | ABNORMAL |
| Iron | ppm | ASTM D5185m | >100 | **37** | 22 | 62 |
| Chromium | ppm | ASTM D5185m | >20 | **<1** | <1 | 2 |
| Nickel | ppm | ASTM D5185m | >4 | **8** | 5 | 7 |
| Titanium | ppm | ASTM D5185m | | **18** | 16 | <1 |
| Silver | ppm | ASTM D5185m | >3 | **2** | 7 | 11 |
| Aluminum | ppm | ASTM D5185m | >20 | **10** | 8 | 25 |
| Lead | ppm | ASTM D5185m | >40 | **<1** | 0 | <1 |
| Copper | ppm | ASTM D5185m | >330 | **278** | 274 | ▲ 441 |
| Tin | ppm | ASTM D5185m | >15 | **3** | 2 | 6 |
| Vanadium | ppm | ASTM D5185m | | **<1** | <1 | 0 |
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >25 | **13** | 12 | ▲ 49 |
| Potassium | ppm | ASTM D5185m | >20 | **25** | 22 | 73 |
| 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 | **0.5** | 0.3 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **10.8** | 8.9 | 11.5 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **23.1** | 19.9 | 24.1 |
| 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 | | **4** | 3 | 2 |
| Boron | ppm | ASTM D5185m | 2 | **10** | 16 | 56 |
| Barium | ppm | ASTM D5185m | 0 | **0** | 0 | 11 |
| Molybdenum | ppm | ASTM D5185m | 50 | **55** | 56 | 110 |
| Manganese | ppm | ASTM D5185m | 0 | **2** | 2 | 4 |
| Magnesium | ppm | ASTM D5185m | 950 | **849** | 780 | 689 |
| Calcium | ppm | ASTM D5185m | 1050 | **1324** | 1257 | 1379 |
| Phosphorus | ppm | ASTM D5185m | 995 | **952** | 946 | 648 |
| Zinc | ppm | ASTM D5185m | 1180 | **1206** | 1151 | 837 |
| Sulfur | ppm | ASTM D5185m | 2600 | **2740** | 2618 | 2275 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **19.9** | 16.7 | 24.0 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | **5.6** | 6.8 | 6.1 |
| Visc @ 100°C | cSt | ASTM D445 | 12.00 | **10.4** | 10.6 | 9.6 |

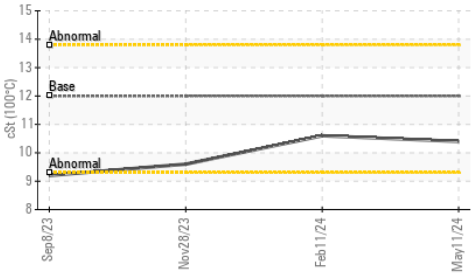
FT-IR (Direct Trend)



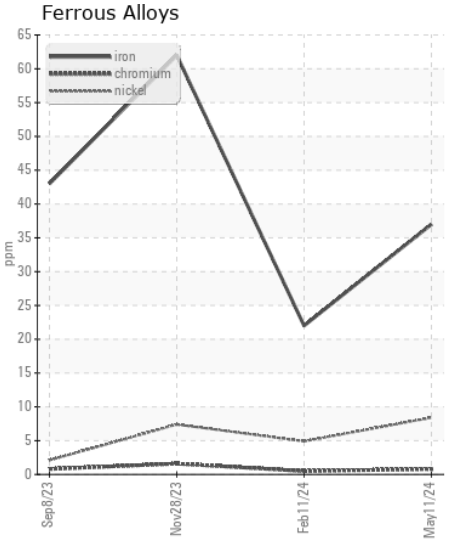

Base Number



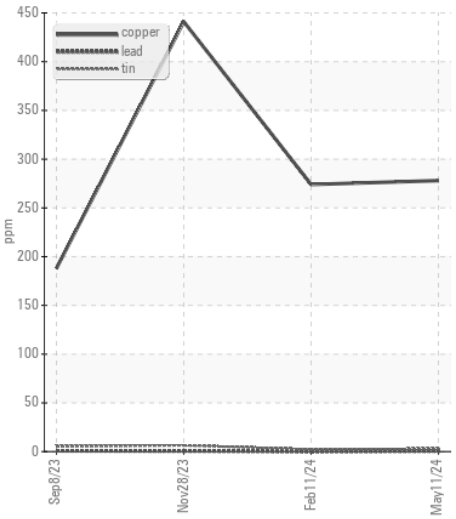

Viscosity @ 100°C



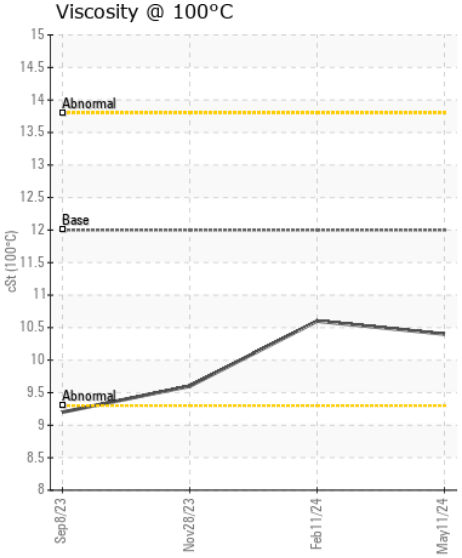

Ferrous Alloys



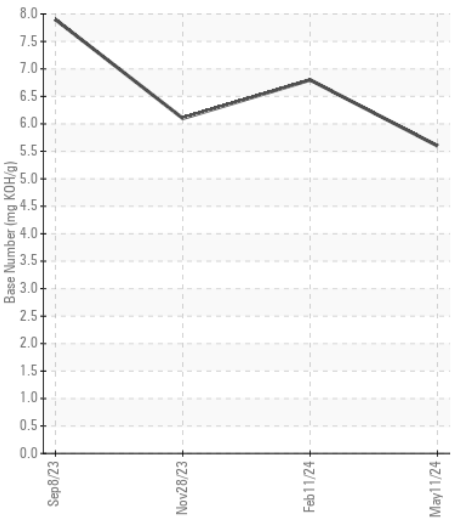

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PCA0124252
**Lab Number** : 06188955
**Unique Number** : 11045707
**Test Package** : FLEET

**Received** : 23 May 2024
**Tested** : 24 May 2024
**Diagnosed** : 24 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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