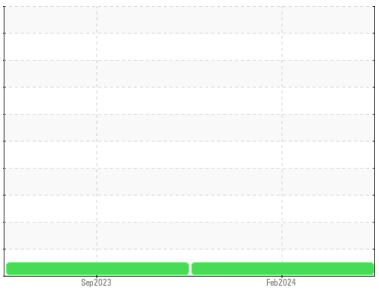
OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
**BM-265**
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON SHP 10W30 (10 GAL)**

## DIAGNOSIS

**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.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **PCA0114015** | PCA0103135 | --- |
| Sample Date | | Client Info | | **29 Feb 2024** | 07 Sep 2023 | --- |
| Machine Age | mls | Client Info | | **176896** | 158551 | --- |
| Oil Age | mls | Client Info | | **18345** | 18551 | --- |
| Oil Changed | | Client Info | | **Changed** | Changed | --- |
| Sample Status | | | | **NORMAL** | NORMAL | --- |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >5 | **<1.0** | <1.0 | --- |
| Water | | WC Method | >0.2 | **NEG** | NEG | --- |
| Glycol | | WC Method | | **NEG** | NEG | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >100 | **14** | 16 | --- |
| Chromium | ppm | ASTM D5185m | >20 | **0** | 0 | --- |
| Nickel | ppm | ASTM D5185m | >4 | **0** | 0 | --- |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | --- |
| Silver | ppm | ASTM D5185m | >3 | **0** | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >20 | **3** | 5 | --- |
| Lead | ppm | ASTM D5185m | >40 | **0** | 0 | --- |
| Copper | ppm | ASTM D5185m | >330 | **0** | 2 | --- |
| Tin | ppm | ASTM D5185m | >15 | **0** | 0 | --- |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | --- |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 2 | **<1** | 3 | --- |
| Barium | ppm | ASTM D5185m | 0 | **1** | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | 50 | **62** | 63 | --- |
| Manganese | ppm | ASTM D5185m | 0 | **0** | 0 | --- |
| Magnesium | ppm | ASTM D5185m | 950 | **977** | 955 | --- |
| Calcium | ppm | ASTM D5185m | 1050 | **1070** | 1155 | --- |
| Phosphorus | ppm | ASTM D5185m | 995 | **1033** | 990 | --- |
| Zinc | ppm | ASTM D5185m | 1180 | **1257** | 1260 | --- |
| Sulfur | ppm | ASTM D5185m | 2600 | **2482** | 2846 | --- |

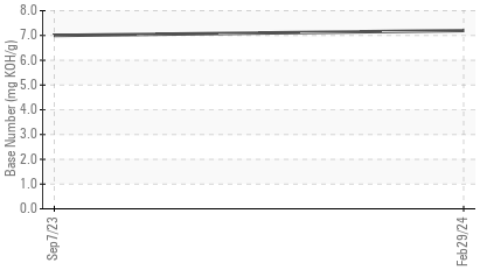
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **6** | 5 | --- |
| Sodium | ppm | ASTM D5185m | | **0** | <1 | --- |
| Potassium | ppm | ASTM D5185m | >20 | **1** | 4 | --- |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **0.8** | 0.7 | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **8.9** | 9.0 | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **20.8** | 20.0 | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **17.1** | 16.3 | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | **7.2** | 7.0 | --- |

# OIL ANALYSIS REPORT

Base Number



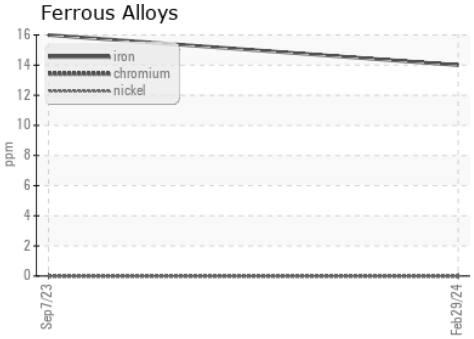

Viscosity @ 100°C


| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | --- |
| 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 | --- |
| Free Water | scalar | *Visual | | **NEG** | NEG | --- |

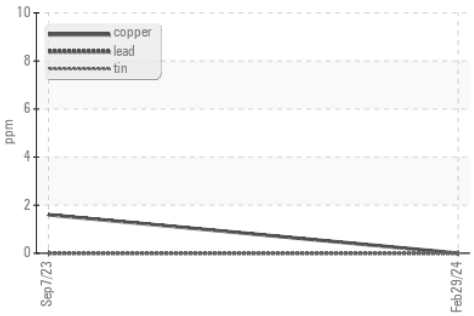
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 12.00 | **11.5** | 11.8 | --- |

## GRAPHS

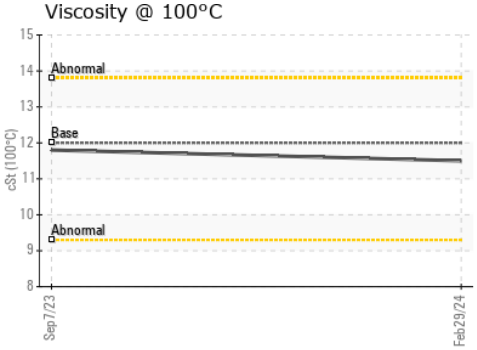
Ferrous Alloys



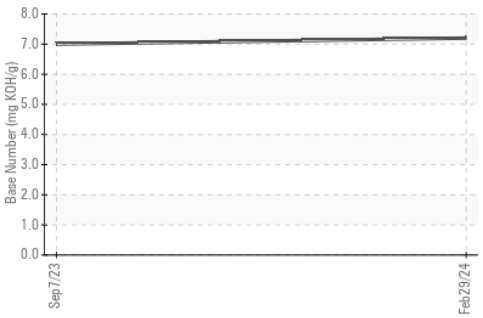

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PCA0114015
**Lab Number** : 06109173
**Unique Number** : 10912670
**Test Package** : FLEET

**Received** : 05 Mar 2024
**Tested** : 06 Mar 2024
**Diagnosed** : 06 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)*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