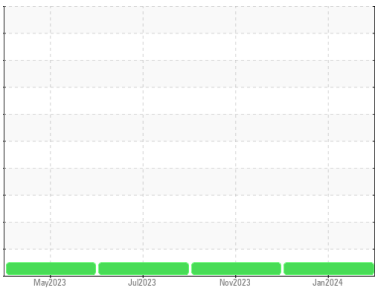
OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Area
## (16090Z) Walgreens - Tractor
Machine Id
## [Walgreens - Tractor] 136A61411
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON SHP 10W30 (11 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 | | **PCA0117849** | PCA0105427 | PCA0093815 |
| Sample Date | | Client Info | | **30 Jan 2024** | 08 Nov 2023 | 18 Jul 2023 |
| Machine Age | mls | Client Info | | **338961** | 313216 | 295666 |
| Oil Age | mls | Client Info | | **25000** | 17550 | 50000 |
| Oil Changed | | Client Info | | **Changed** | Not Changd | Changed |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |

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

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >80 | **13** | 6 | 13 |
| Chromium | ppm | ASTM D5185m | >5 | **2** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | **<1** | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | **<1** | <1 | 0 |
| Silver | ppm | ASTM D5185m | >3 | **<1** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >30 | **4** | 1 | 4 |
| Lead | ppm | ASTM D5185m | >30 | **<1** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >150 | **6** | 4 | 4 |
| Tin | ppm | ASTM D5185m | >5 | **<1** | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **<1** | 0 | 0 |

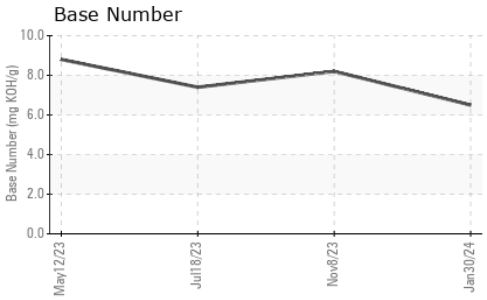
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 2 | **3** | 5 | <1 |
| Barium | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 50 | **57** | 54 | 62 |
| Manganese | ppm | ASTM D5185m | 0 | **<1** | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | 950 | **845** | 777 | 973 |
| Calcium | ppm | ASTM D5185m | 1050 | **1209** | 1212 | 1247 |
| Phosphorus | ppm | ASTM D5185m | 995 | **918** | 969 | 1081 |
| Zinc | ppm | ASTM D5185m | 1180 | **1231** | 1151 | 1326 |
| Sulfur | ppm | ASTM D5185m | 2600 | **3090** | 3144 | 3774 |

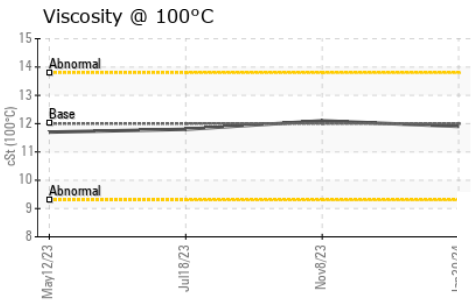
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >20 | **7** | 4 | 6 |
| Sodium | ppm | ASTM D5185m | | **0** | 0 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | **5** | 3 | 3 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **0.5** | 0.3 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **8.6** | 6.9 | 7.8 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **21.2** | 18.8 | 19.1 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **16.8** | 14.1 | 15.1 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | **6.5** | 8.2 | 7.4 |

# OIL ANALYSIS REPORT

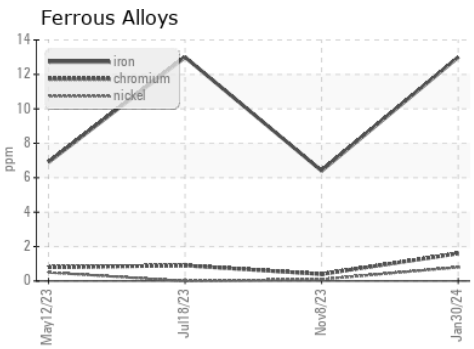


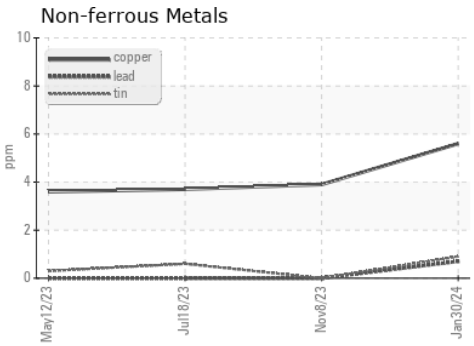



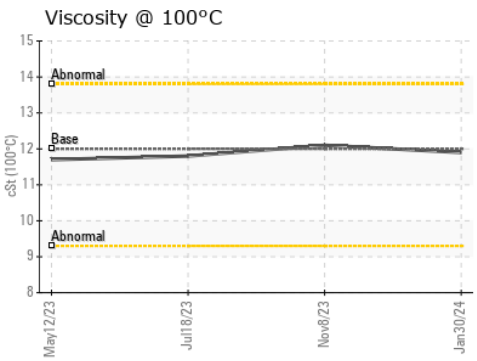

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
|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

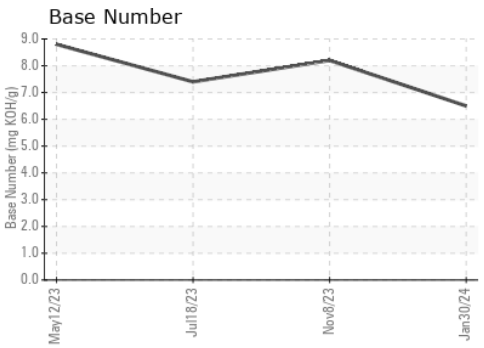
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 12.00 | **11.9** | 12.1 | 11.8 |

## GRAPHS




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PCA0117849
**Lab Number** : 06092247
**Unique Number** : 10885100
**Test Package** : FLEET

**Received** : 16 Feb 2024
**Tested** : 19 Feb 2024
**Diagnosed** : 19 Feb 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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