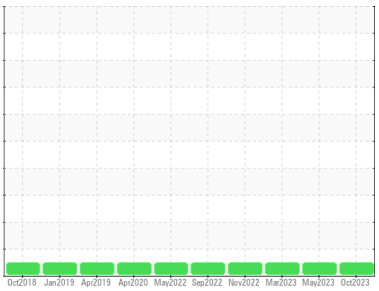
OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
**26641**
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON UHP 5W30 (--- QTS)**

## 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 | | **PCA0106128** | PCA0099462 | PCA0094439 |
| Sample Date | | Client Info | | **16 Oct 2023** | 23 May 2023 | 03 Mar 2023 |
| Machine Age | mls | Client Info | | **421145** | 382684 | 360073 |
| Oil Age | mls | Client Info | | **38461** | 42860 | 0 |
| Oil Changed | | Client Info | | **Changed** | Changed | N/A |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >6.0 | **<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 | >100 | **18** | 10 | 15 |
| Chromium | ppm | ASTM D5185m | >20 | **<1** | <1 | 0 |
| Nickel | ppm | ASTM D5185m | >2 | **<1** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **<1** | 2 | 10 |
| Silver | ppm | ASTM D5185m | >2 | **<1** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | **2** | 2 | 2 |
| Lead | ppm | ASTM D5185m | >40 | **3** | 2 | 0 |
| Copper | ppm | ASTM D5185m | >330 | **4** | 2 | 2 |
| Tin | ppm | ASTM D5185m | >15 | **1** | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **<1** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 0 | **0** | <1 | 5 |
| Barium | ppm | ASTM D5185m | 0 | **12** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 64 | **62** | 57 | 49 |
| Manganese | ppm | ASTM D5185m | 0 | **<1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 1160 | **964** | 946 | 835 |
| Calcium | ppm | ASTM D5185m | 820 | **1089** | 1126 | 1238 |
| Phosphorus | ppm | ASTM D5185m | 1160 | **1033** | 877 | 951 |
| Zinc | ppm | ASTM D5185m | 1260 | **1266** | 1292 | 1225 |
| Sulfur | ppm | ASTM D5185m | 3000 | **2919** | 3566 | 3239 |

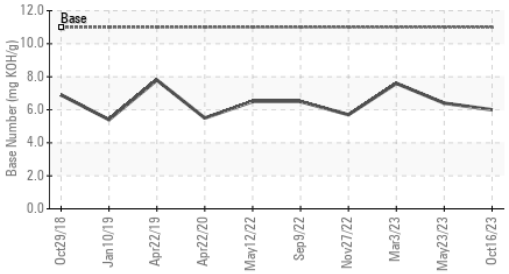
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **5** | 3 | 3 |
| Sodium | ppm | ASTM D5185m | | **13** | 7 | 7 |
| Potassium | ppm | ASTM D5185m | >20 | **4** | 2 | 1 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **0.5** | 0.3 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **9.5** | 8.9 | 8.9 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **21.7** | 19.4 | 19.8 |

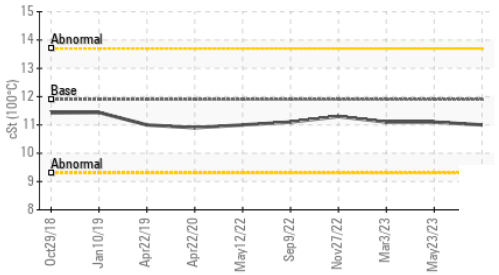
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **18.3** | 16.0 | 16.0 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 11.0 | **6.0** | 6.4 | 7.6 |

# OIL ANALYSIS REPORT

Base Number




Viscosity @ 100°C

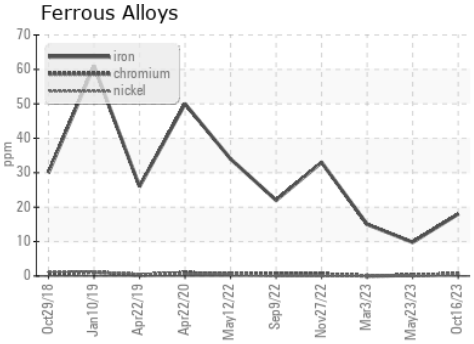



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
|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

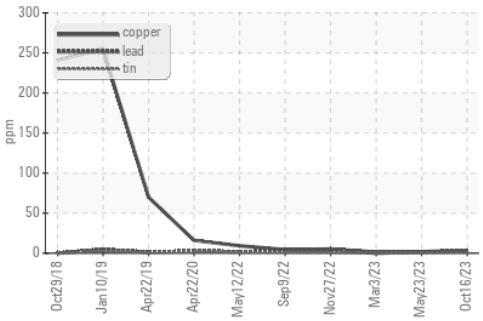
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 11.9 | **11.0** | 11.1 | 11.1 |

## GRAPHS

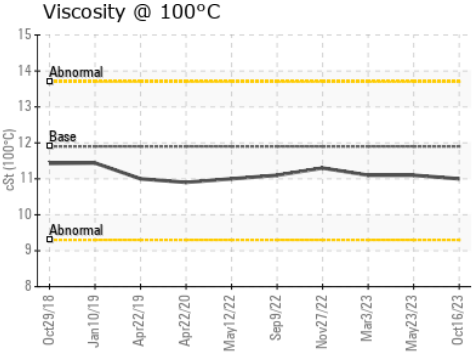
Ferrous Alloys



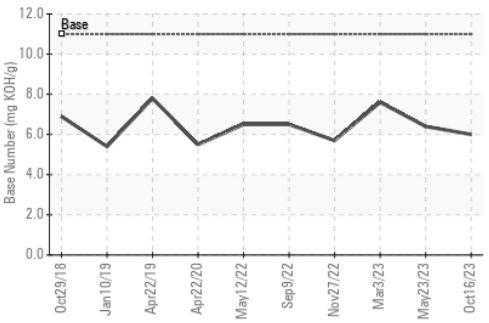

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PCA0106128
**Lab Number** : 06036637
**Unique Number** : 10791866
**Test Package** : FLEET

**Recieved** : 15 Dec 2023
**Diagnosed** : 18 Dec 2023
**Diagnostician** : 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)*

**PERDUE FARMS - GEORGETOWN**
20621 SAVANAH RD
GEORGETOWN, DE
US 19947
Contact: ROBERT LOCKWOOD
Robert.Lockwood@Perdue.com
T:
F: