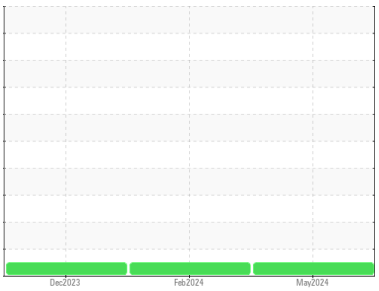
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
**130190M**
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON SHP 10W30 (--- QTS)**

## DIAGNOSIS

**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.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **PCA0121044** | PCA0116867 | PCA0113640 |
| Sample Date | | Client Info | | **08 May 2024** | 14 Feb 2024 | 12 Dec 2023 |
| Machine Age | mls | Client Info | | **62157** | 51663 | 30662 |
| Oil Age | mls | Client Info | | **10494** | 21001 | 18822 |
| Oil Changed | | Client Info | | **Changed** | Changed | 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 | >100 | **47** | 46 | 56 |
| Chromium | ppm | ASTM D5185m | >20 | **1** | 1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | **0** | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Silver | ppm | ASTM D5185m | >3 | **0** | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | **3** | 7 | 8 |
| Lead | ppm | ASTM D5185m | >40 | **2** | 3 | 8 |
| Copper | ppm | ASTM D5185m | >330 | **41** | 225 | 456 |
| Tin | ppm | ASTM D5185m | >15 | **1** | 3 | <1 |
| Vanadium | ppm | ASTM D5185m | | **<1** | <1 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 2 | **0** | 3 | 6 |
| Barium | ppm | ASTM D5185m | 0 | **0** | 2 | 0 |
| Molybdenum | ppm | ASTM D5185m | 50 | **69** | 74 | 72 |
| Manganese | ppm | ASTM D5185m | 0 | **<1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 950 | **1149** | 1014 | 1073 |
| Calcium | ppm | ASTM D5185m | 1050 | **1272** | 1326 | 1489 |
| Phosphorus | ppm | ASTM D5185m | 995 | **1156** | 1087 | 1183 |
| Zinc | ppm | ASTM D5185m | 1180 | **1480** | 1360 | 1519 |
| Sulfur | ppm | ASTM D5185m | 2600 | **3371** | 2903 | 3480 |

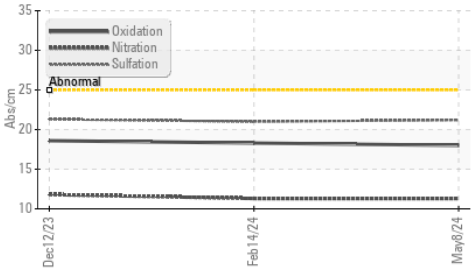
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **6** | 8 | 10 |
| Sodium | ppm | ASTM D5185m | | **3** | 9 | 3 |
| Potassium | ppm | ASTM D5185m | >20 | **3** | 14 | 15 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **1.1** | 1 | 1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **11.3** | 11.3 | 11.8 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **21.2** | 21.0 | 21.3 |

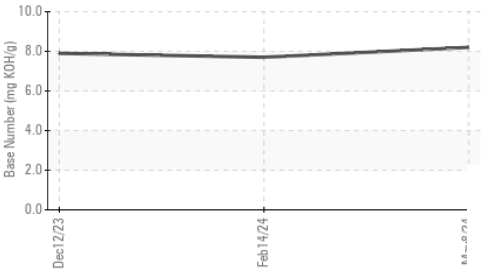
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **18.0** | 18.3 | 18.6 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | **8.2** | 7.7 | 7.9 |

# OIL ANALYSIS REPORT

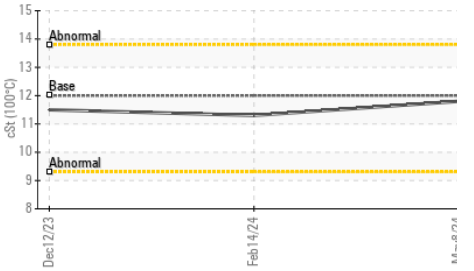
FT-IR (Direct Trend)




Base Number




Viscosity @ 100°C

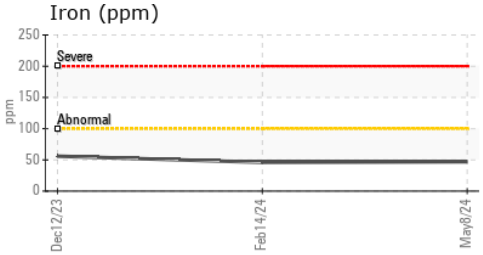



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
|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

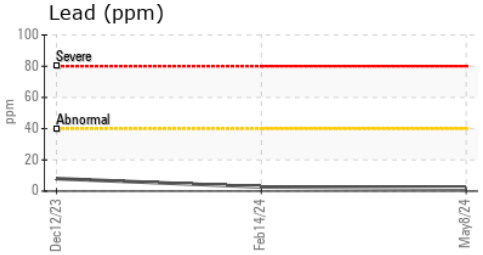
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 12.00 | **11.8** | 11.3 | 11.5 |

## GRAPHS

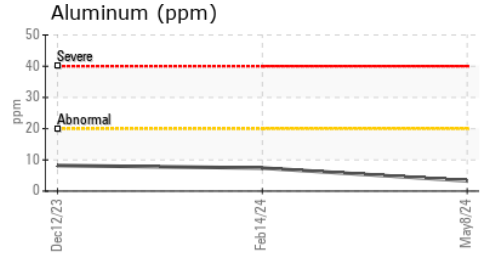
Iron (ppm)



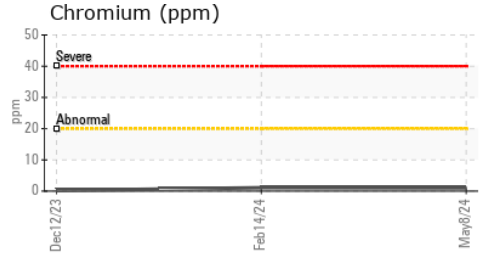

Lead (ppm)



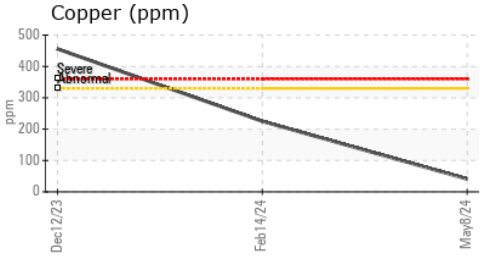

Aluminum (ppm)



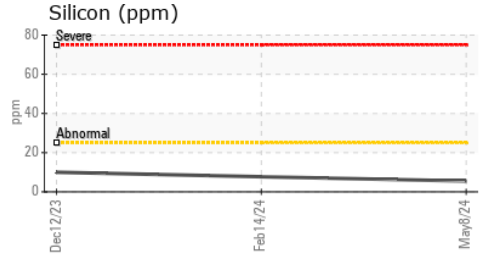

Chromium (ppm)



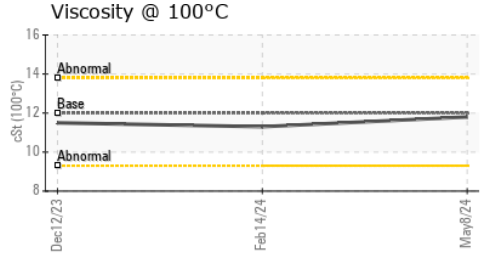

Copper (ppm)



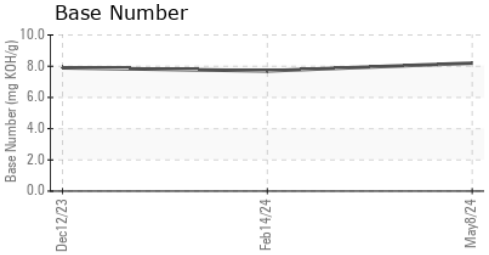

Silicon (ppm)




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PCA0121044 **Received** : 07 Jun 2024
**Lab Number** : 06202457 **Tested** : 11 Jun 2024
**Unique Number** : 11069918 **Diagnosed** : 11 Jun 2024 - Wes Davis
**Test Package** : MOB 1 ( Additional Tests: TBN )

*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)*

**MILLER TRUCK LEASING #114**
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Report Id: MILLOG [WUSCAR] 06202457 (Generated: 06/11/2024 13:32:33) Rev: 1
Contact/Location: ED DAVIS - MILLOG