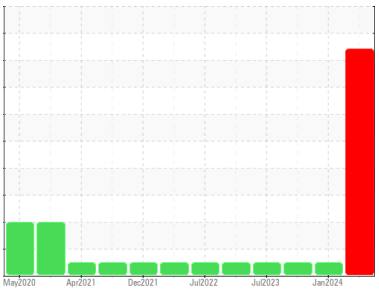
OIL DIAGNOSTICS

# PROBLEM SUMMARY

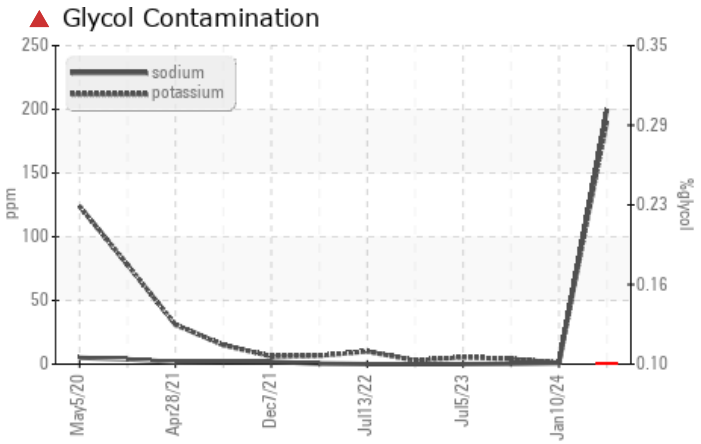
Sample Rating Trend




**GLYCOL**

Machine Id
**T307**
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON SHP 10W30 (36 GAL)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample.

## PROBLEMATIC TEST RESULTS

| | | | | | | |
|---|---|---|---|---|---|---|
| Sample Status | | | | **SEVERE** | NORMAL | NORMAL |
| Potassium | ppm | ASTM D5185m | >20 | ▲ **191** | 1 | 4 |
| Glycol | % | *ASTM D2982 | | ▲ **0.10** | NEG | NEG |

**Customer Id:** NWWSSC
**Sample No.:** PCA0102237
**Lab Number:** 06155767
**Test Package:** FLEET

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

*To change component or sample information:*
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

## RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|---|---|---|---|---|
| Resample | --- | --- | ? | We recommend an early resample to monitor this condition. |
| Information Required | --- | --- | ? | Please specify the component make and model with your next sample. |
| Check Glycol Access | --- | --- | ? | We advise that you check for the source of the coolant leak. |

## HISTORICAL DIAGNOSIS

NORMAL

**10 Jan 2024 Diag: Wes Davis**
Resample at the next service interval to monitor. Please specify the component make and model with your next sample.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

NORMAL

**11 Oct 2023 Diag: Wes Davis**
Resample at the next service interval to monitor. Please specify the component make and model with your next sample.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

NORMAL

**05 Jul 2023 Diag: Wes Davis**
Resample at the next service interval to monitor. Please specify the component make and model with your next sample.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

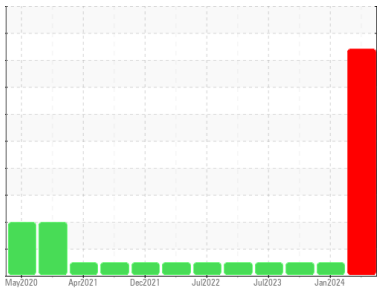
view report

# OIL ANALYSIS REPORT

OIL DIAGNOSTICS

Machine Id
**T307**
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON SHP 10W30 (36 GAL)**

Sample Rating Trend




**GLYCOL**

## DIAGNOSIS

**Recommendation**
We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample.

**Wear**
All component wear rates are normal.

**Contamination**
Test for glycol is positive. There is a high concentration of glycol present in the oil.

**Fluid Condition**
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **PCA0102237** | PCA0114717 | PCA0107491 |
| Sample Date | | Client Info | | **11 Apr 2024** | 10 Jan 2024 | 11 Oct 2023 |
| Machine Age | mls | Client Info | | **345460** | 316470 | 290899 |
| Oil Age | mls | Client Info | | **25000** | 25000 | 25000 |
| Oil Changed | | Client Info | | **Changed** | Changed | Changed |
| Sample Status | | | | **SEVERE** | 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 |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >100 | **19** | 16 | 15 |
| Chromium | ppm | ASTM D5185m | >20 | **<1** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | **0** | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | **4** | 3 | 3 |
| Lead | ppm | ASTM D5185m | >40 | **0** | 1 | 0 |
| Copper | ppm | ASTM D5185m | >330 | **3** | 1 | 2 |
| Tin | ppm | ASTM D5185m | >15 | **<1** | 1 | <1 |
| Vanadium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 2 | **3** | 4 | 2 |
| Barium | ppm | ASTM D5185m | 0 | **3** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 50 | **78** | 64 | 66 |
| Manganese | ppm | ASTM D5185m | 0 | **1** | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | 950 | **913** | 1030 | 894 |
| Calcium | ppm | ASTM D5185m | 1050 | **1080** | 1249 | 1080 |
| Phosphorus | ppm | ASTM D5185m | 995 | **1002** | 1134 | 966 |
| Zinc | ppm | ASTM D5185m | 1180 | **1235** | 1434 | 1202 |
| Sulfur | ppm | ASTM D5185m | 2600 | **3059** | 3299 | 2976 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **10** | 16 | 14 |
| Sodium | ppm | ASTM D5185m | | **200** | <1 | <1 |
| Potassium | ppm | ASTM D5185m | >20 | **191** | 1 | 4 |
| Glycol | % | *ASTM D2982 | | **0.10** | NEG | NEG |

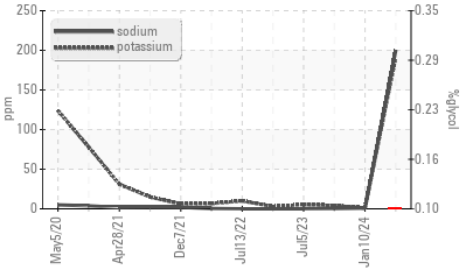
| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **1** | 0.8 | 0.7 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **10.2** | 9.1 | 9.0 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **22.0** | 20.9 | 20.4 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **17.1** | 16.1 | 15.8 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | **6.8** | 7.2 | 6.4 |

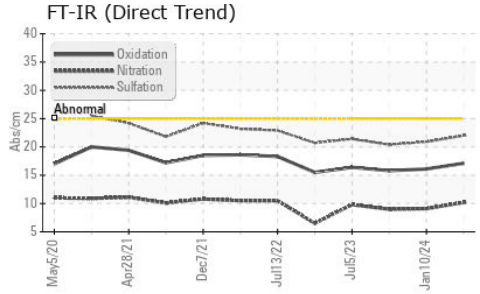
# OIL ANALYSIS REPORT

OIL DIAGNOSTICS

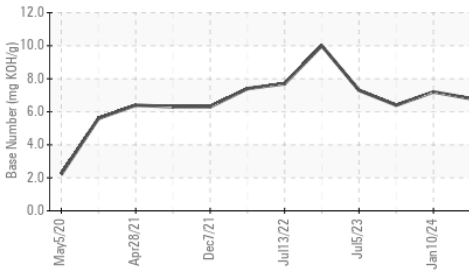
Glycol Contamination



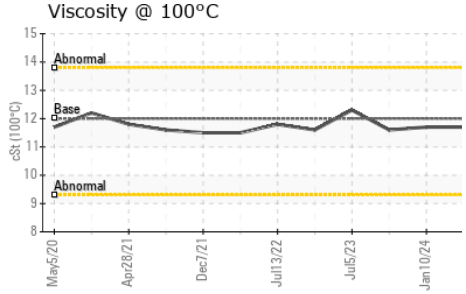

FT-IR (Direct Trend)




Base Number




Viscosity @ 100°C

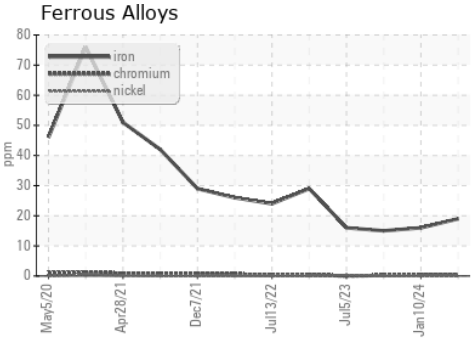



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
|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

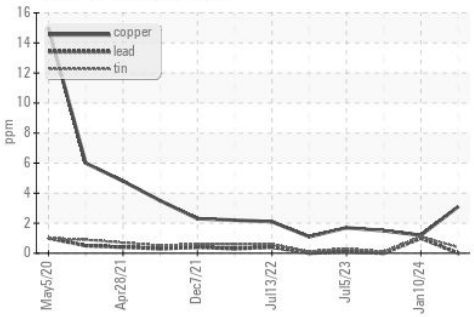
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 12.00 | **11.7** | 11.7 | 11.6 |

## GRAPHS

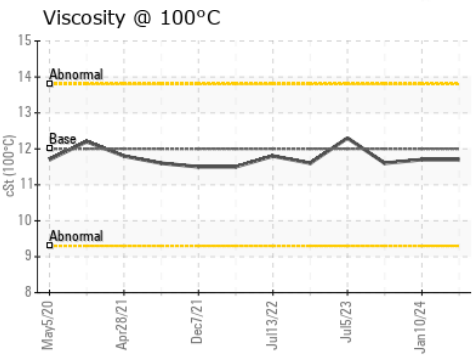
Ferrous Alloys



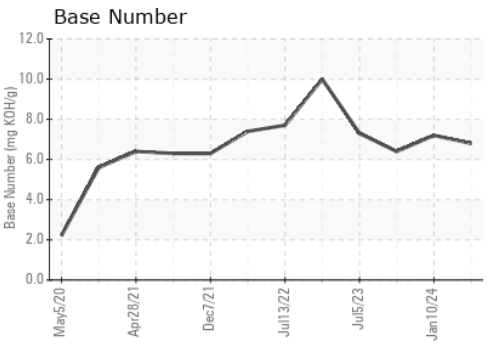

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PCA0102237
**Lab Number** : 06155767
**Unique Number** : 10991190
**Test Package** : FLEET ( Additional Tests: Glycol )

**Received** : 22 Apr 2024
**Tested** : 23 Apr 2024
**Diagnosed** : 23 Apr 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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