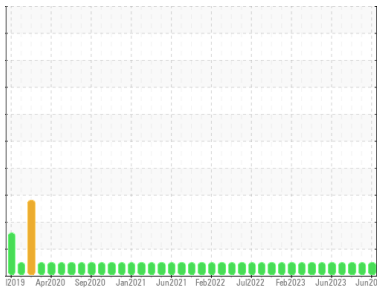
# OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Area
## Toronto Shunt
Machine Id
## Autocar 5017T
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON SHP 10W30 (16 LTR)**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor.

**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 condition of the oil is acceptable for the time in service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0948254** | WC0899676 | WC0886695 |
| Sample Date | | Client Info | | **11 Jun 2024** | 10 Mar 2024 | 17 Dec 2023 |
| Machine Age | mls | Client Info | | **22264** | 21303 | 20341 |
| Oil Age | mls | Client Info | | **532** | 478 | 412 |
| Oil Changed | | Client Info | | **Changed** | Changed | Changed |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >3.0 | **<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 D5185(m) | >130 | **15** | 11 | 10 |
| Chromium | ppm | ASTM D5185(m) | >10 | **<1** | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | >4 | **<1** | <1 | 0 |
| Titanium | ppm | ASTM D5185(m) | >2 | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >2 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >20 | **3** | 3 | 3 |
| Lead | ppm | ASTM D5185(m) | >20 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185(m) | >125 | **<1** | <1 | <1 |
| Tin | ppm | ASTM D5185(m) | >4 | **0** | 0 | 0 |
| Antimony | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |

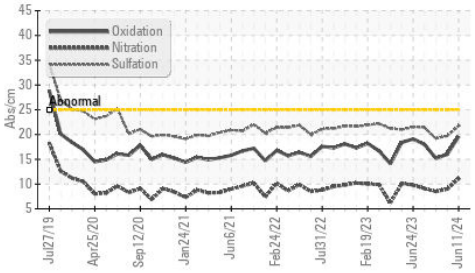
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 2 | **2** | 2 | 7 |
| Barium | ppm | ASTM D5185(m) | 0 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 50 | **55** | 59 | 61 |
| Manganese | ppm | ASTM D5185(m) | 0 | **<1** | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) | 950 | **896** | 957 | 979 |
| Calcium | ppm | ASTM D5185(m) | 1050 | **990** | 1014 | 1112 |
| Phosphorus | ppm | ASTM D5185(m) | 995 | **966** | 1009 | 1050 |
| Zinc | ppm | ASTM D5185(m) | 1180 | **1148** | 1186 | 1212 |
| Sulfur | ppm | ASTM D5185(m) | 2600 | **2403** | 2730 | 2803 |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >25 | **2** | 2 | 2 |
| Sodium | ppm | ASTM D5185(m) | | **2** | <1 | 1 |
| Potassium | ppm | ASTM D5185(m) | >20 | **<1** | <1 | 1 |

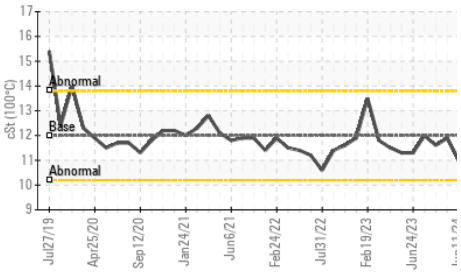
| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | ASTM D7844* | >6 | **1** | 0.8 | 0.7 |
| Nitration | Abs/cm | ASTM D7624* | >20 | **11.1** | 9.0 | 8.5 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | **21.7** | 19.7 | 19.2 |

# OIL ANALYSIS REPORT

FT-IR (Direct Trend)




Viscosity @ 100°C



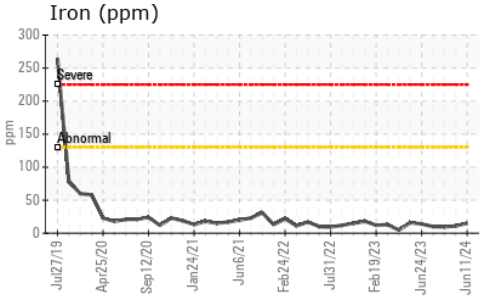

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | **19.6** | 16.0 | 15.2 |

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Emulsified Water | scalar | Visual* | >0.2 | **NEG** | NEG | NEG |
| Free Water | scalar | Visual* | | **NEG** | NEG | NEG |

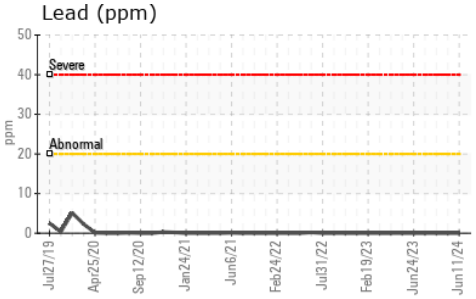
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D7279(m) | 12.00 | **11.0** | 11.9 | 11.6 |

GRAPHS

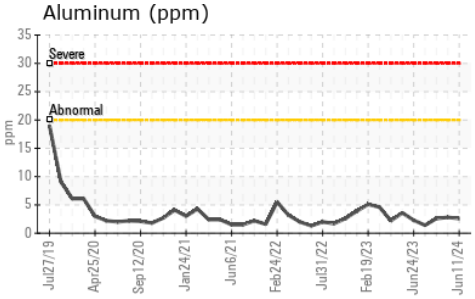
Iron (ppm)



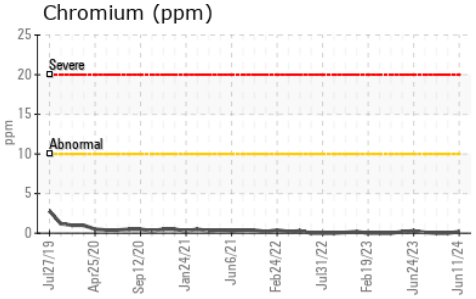

Lead (ppm)



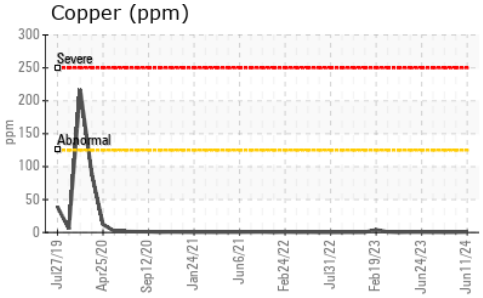

Aluminum (ppm)



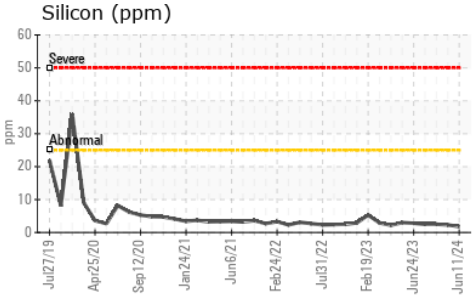

Chromium (ppm)



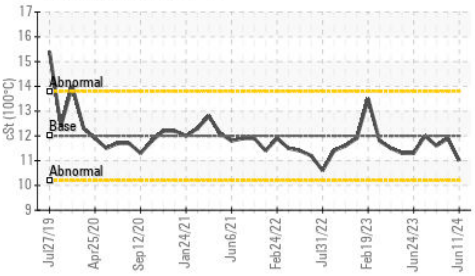

Copper (ppm)



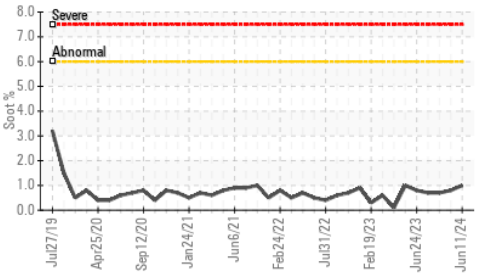

Silicon (ppm)




Viscosity @ 100°C




Soot %




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WC0948254
**Lab Number** : 02646535
**Unique Number** : 5812087
**Test Package** : MOB 1

**Received** : 09 Jul 2024
**Tested** : 09 Jul 2024
**Diagnosed** : 09 Jul 2024 - Wes Davis

*To discuss this sample report, contact Customer Service at 1-800-268-2131.*
*Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.*
*Validity of results and interpretation are based on the sample and information as supplied.*

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