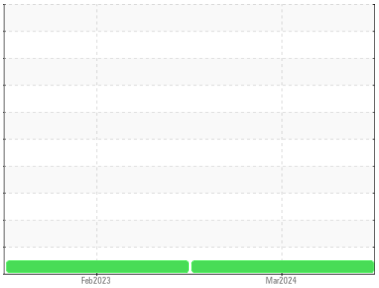
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
**25087/P123**
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON HP 15W40 (--- GAL)**

## DIAGNOSIS

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

**Wear**
Metal levels are typical for a new component breaking in.

**Contamination**
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. 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 | | **PC0088423** | PC0071361 | --- |
| Sample Date | | Client Info | | **20 Mar 2024** | 08 Feb 2023 | --- |
| Machine Age | kms | Client Info | | **33698** | 1246 | --- |
| Oil Age | kms | Client Info | | **0** | 0 | --- |
| Oil Changed | | Client Info | | **Changed** | Changed | --- |
| Sample Status | | | | **NORMAL** | NORMAL | --- |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >3.0 | **<1.0** | <1.0 | --- |
| Water | | WC Method | >0.2 | **NEG** | NEG | --- |
| Glycol | | WC Method | | **NEG** | NEG | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >75 | **21** | 21 | --- |
| Chromium | ppm | ASTM D5185(m) | >5 | **<1** | <1 | --- |
| Nickel | ppm | ASTM D5185(m) | >4 | **0** | <1 | --- |
| Titanium | ppm | ASTM D5185(m) | >2 | **0** | <1 | --- |
| Silver | ppm | ASTM D5185(m) | >2 | **0** | 0 | --- |
| Aluminum | ppm | ASTM D5185(m) | >15 | **4** | 4 | --- |
| Lead | ppm | ASTM D5185(m) | >25 | **0** | 2 | --- |
| Copper | ppm | ASTM D5185(m) | >100 | **5** | 54 | --- |
| Tin | ppm | ASTM D5185(m) | >4 | **0** | <1 | --- |
| Antimony | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Vanadium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Beryllium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Cadmium | ppm | ASTM D5185(m) | | **0** | 0 | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 0 | **2** | 3 | --- |
| Barium | ppm | ASTM D5185(m) | 0 | **0** | 0 | --- |
| Molybdenum | ppm | ASTM D5185(m) | 60 | **60** | 56 | --- |
| Manganese | ppm | ASTM D5185(m) | 0 | **0** | <1 | --- |
| Magnesium | ppm | ASTM D5185(m) | 1010 | **951** | 901 | --- |
| Calcium | ppm | ASTM D5185(m) | 1070 | **1033** | 1190 | --- |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | **950** | 970 | --- |
| Zinc | ppm | ASTM D5185(m) | 1270 | **1158** | 1132 | --- |
| Sulfur | ppm | ASTM D5185(m) | 2060 | **2465** | 2503 | --- |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >25 | **4** | 6 | --- |
| Sodium | ppm | ASTM D5185(m) | | **2** | 2 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | **7** | 8 | --- |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | ASTM D7844* | >6 | **0.6** | 0.6 | --- |
| Nitration | Abs/cm | ASTM D7624* | >20 | **9.3** | 9.3 | --- |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | **21.9** | 23.4 | --- |

# OIL ANALYSIS REPORT

Viscosity @ 40°C


Viscosity @ 40°C

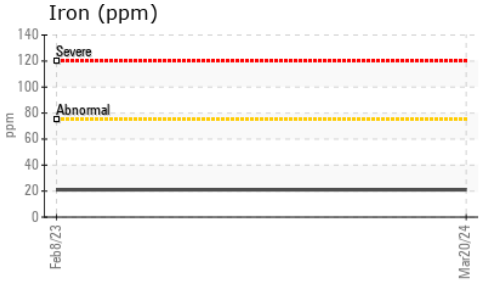

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | **18.9** | 20.2 | --- |

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

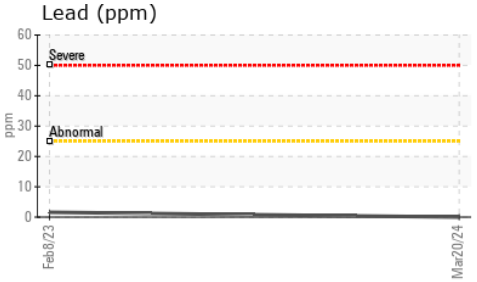
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D7279(m) | 118.2 | **97.8** | 98.7 | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 15.6 | **13.5** | 13.5 | --- |
| Viscosity Index (VI) | Scale | ASTM D2270* | 139 | **138** | 136 | --- |

## GRAPHS

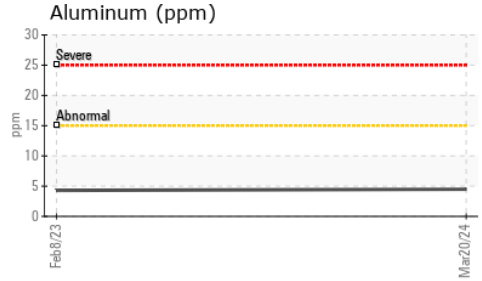
Iron (ppm)



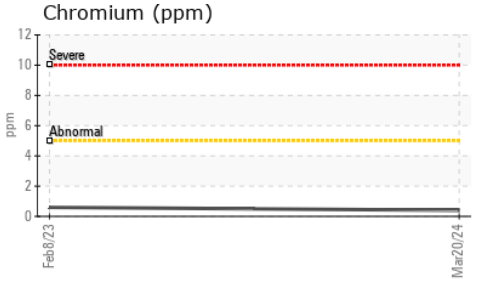

Lead (ppm)



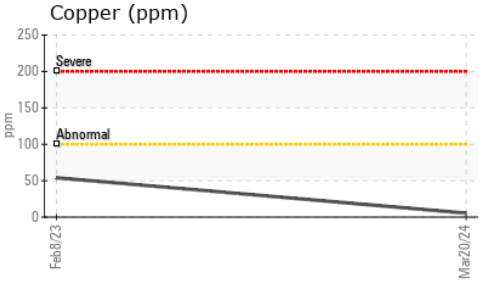

Aluminum (ppm)



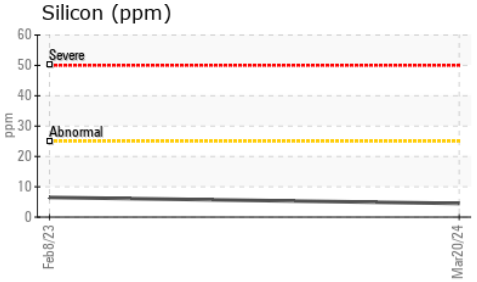

Chromium (ppm)



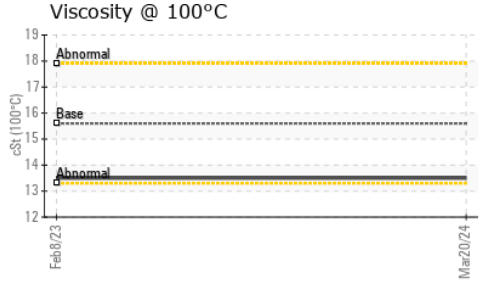

Copper (ppm)



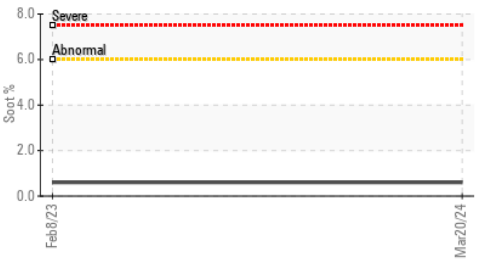

Silicon (ppm)




Viscosity @ 100°C




Soot %




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : PC0088423 **Received** : 26 Mar 2024
**Lab Number** : 02624579 **Tested** : 26 Mar 2024
**Unique Number** : 5749698 **Diagnosed** : 26 Mar 2024 - Wes Davis
**Test Package** : MOB 1 ( Additional Tests: KV40, VI )

*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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