MOB I LUBE 360 OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

| | |
|---|---|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Machine Id
**801041**
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON SHP 15W40 (25 LTR)**

## RECOMMENDATION

Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

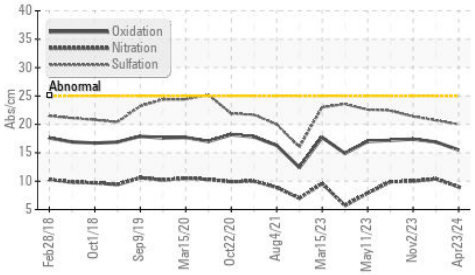
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

## FLUID CONDITION

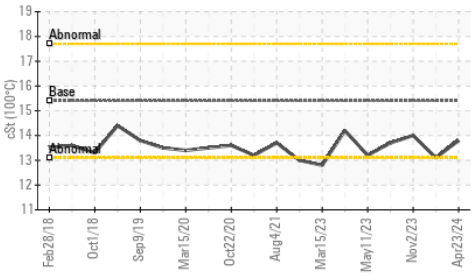
The condition of the oil is acceptable for the time in service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **GFL0107133** | GFL0111742 | WC0875104 |
| Sample Date | | Client Info | | **23 Apr 2024** | 12 Feb 2024 | 02 Nov 2023 |
| Machine Age | hrs | Client Info | | **14777** | 14366 | 0 |
| Oil Age | hrs | Client Info | | **600** | 600 | 0 |
| Filter Age | hrs | Client Info | | **600** | 0 | 0 |
| Oil Changed | | Client Info | | **Changed** | Changed | Changed |
| Filter Changed | | Client Info | | **Changed** | Changed | Changed |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |
| Iron | ppm | ASTM D5185(m) | >80 | **14** | 19 | 20 |
| Chromium | ppm | ASTM D5185(m) | >5 | **<1** | <1 | <1 |
| Nickel | ppm | ASTM D5185(m) | >2 | **0** | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >3 | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185(m) | >30 | **4** | 11 | 9 |
| Lead | ppm | ASTM D5185(m) | >30 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185(m) | >150 | **<1** | 1 | <1 |
| Tin | ppm | ASTM D5185(m) | >5 | **0** | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Silicon | ppm | ASTM D5185(m) | >20 | **4** | 6 | 5 |
| Potassium | ppm | ASTM D5185(m) | >20 | **5** | 17 | 14 |
| Fuel | | WC Method | >5 | **<1.0** | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | **NEG** | NEG | NEG |
| Glycol | | WC Method | | **NEG** | NEG | NEG |
| Soot % | % | ASTM D7844* | >3 | **0.5** | 0.5 | 0.6 |
| Nitration | Abs/cm | ASTM D7624* | >20 | **9.0** | 10.4 | 10.0 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | **20.0** | 20.7 | 21.4 |
| Emulsified Water | scalar | Visual* | >0.2 | **NEG** | NEG | NEG |
| Sodium | ppm | ASTM D5185(m) | | **8** | 8 | 9 |
| Boron | ppm | ASTM D5185(m) | 0 | **6** | 9 | 7 |
| Barium | ppm | ASTM D5185(m) | 0 | **0** | 0 | <1 |
| Molybdenum | ppm | ASTM D5185(m) | 60 | **58** | 60 | 62 |
| Manganese | ppm | ASTM D5185(m) | 0 | **<1** | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) | 1010 | **932** | 913 | 935 |
| Calcium | ppm | ASTM D5185(m) | 1070 | **1029** | 1054 | 1069 |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | **963** | 974 | 989 |
| Zinc | ppm | ASTM D5185(m) | 1270 | **1160** | 1161 | 1220 |
| Sulfur | ppm | ASTM D5185(m) | 2060 | **2384** | 2592 | 2380 |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | **15.5** | 16.9 | 17.4 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 15.4 | **13.8** | 13.1 | 14.0 |

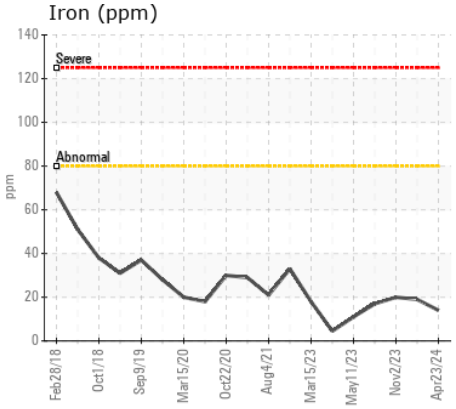
FT-IR (Direct Trend)



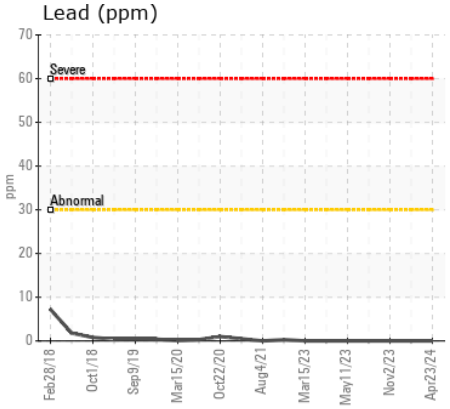

Viscosity @ 100°C



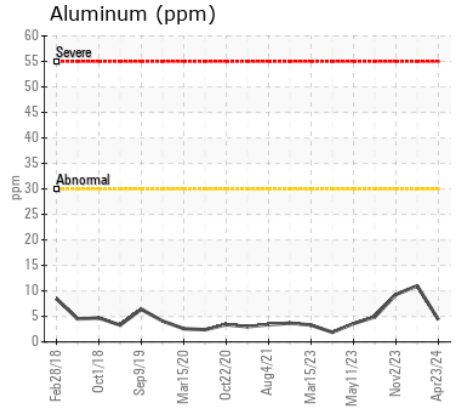

Iron (ppm)



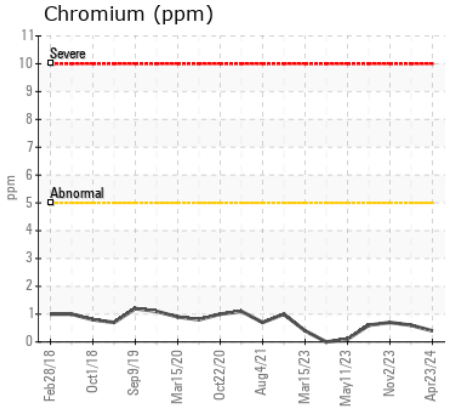

Lead (ppm)



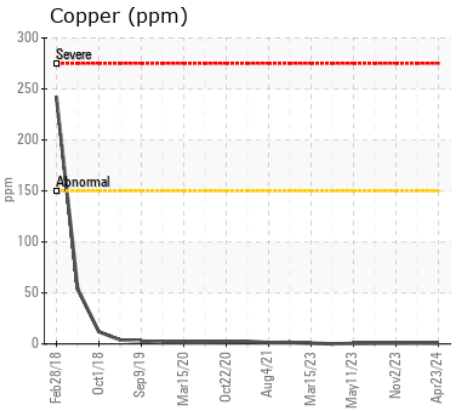

Aluminum (ppm)



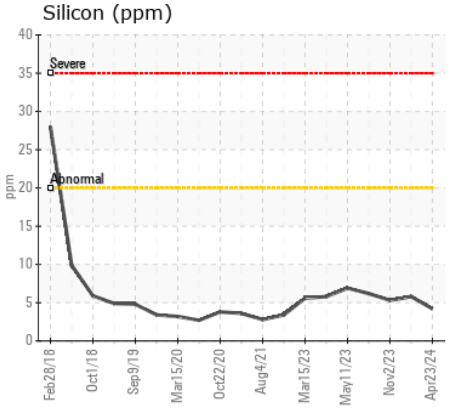

Chromium (ppm)



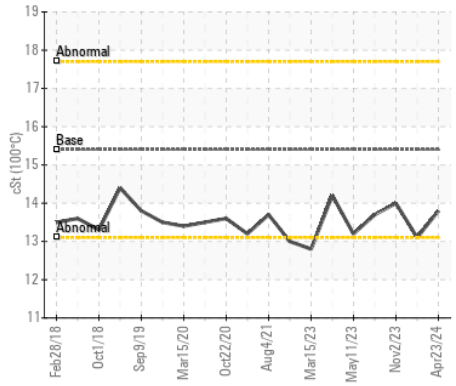

Copper (ppm)



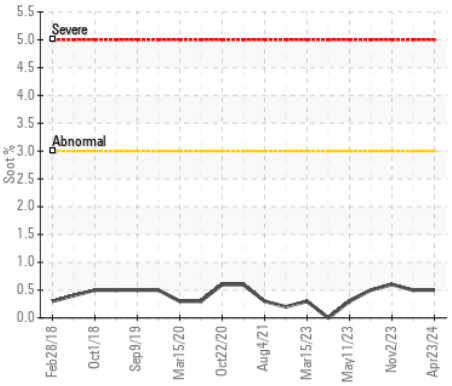

Silicon (ppm)




Viscosity @ 100°C




Soot %




ISO 17025:2017 Accredited Laboratory

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|---|---|---|---|
| **Laboratory** | : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 | | |
| **Sample No.** | : GFL0107133 | **Received** | : 25 Apr 2024 |
| **Lab Number** | : 02631318 | **Tested** | : 25 Apr 2024 |
| **Unique Number** | : 5772471 | **Diagnosed** | : 25 Apr 2024 - Wes Davis |
| **Test Package** | : MOB 1 | | |

*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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