MOB I LUBE 360 OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

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

Machine Id
**8428**
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON SHP 15W40 (20 LTR)**

## RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

## WEAR

All component wear rates are normal.

## CONTAMINATION

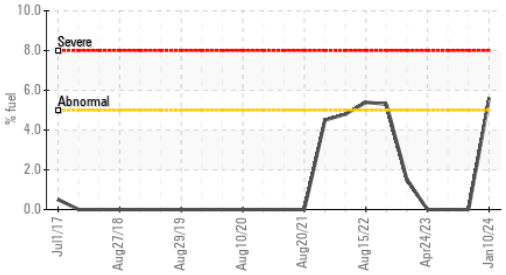
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

## FLUID CONDITION

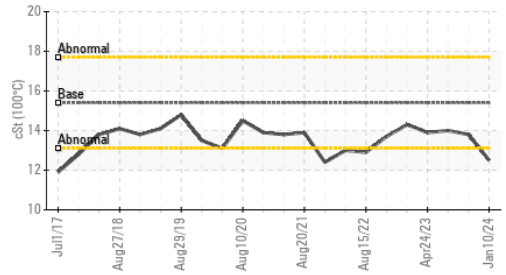
Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | GFL0097439 | GFL0085673 | GFL0077304 |
| Sample Date | | Client Info | | 10 Jan 2024 | 16 Oct 2023 | 18 Jul 2023 |
| Machine Age | hrs | Client Info | | 3237 | 3237 | 3237 |
| Oil Age | hrs | Client Info | | 3237 | 3237 | 3237 |
| Filter Age | hrs | Client Info | | 3237 | 3237 | 3237 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | ABNORMAL | NORMAL | NORMAL |
| Iron | ppm | ASTM D5185(m) | >100 | 21 | 23 | 24 |
| Chromium | ppm | ASTM D5185(m) | >20 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185(m) | >4 | <1 | <1 | 0 |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >3 | 0 | <1 | <1 |
| Aluminum | ppm | ASTM D5185(m) | >20 | 2 | 1 | 1 |
| Lead | ppm | ASTM D5185(m) | >40 | <1 | <1 | <1 |
| Copper | ppm | ASTM D5185(m) | >330 | <1 | 1 | 1 |
| Tin | ppm | ASTM D5185(m) | >15 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Silicon | ppm | ASTM D5185(m) | >25 | 4 | 4 | 4 |
| Potassium | ppm | ASTM D5185(m) | >20 | 0 | 0 | <1 |
| Fuel | % | ASTM D7593* | >5 | ▲ 5.6 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | % | ASTM D7922* | | NEG | NEG | NEG |
| Soot % | % | ASTM D7844* | >3 | 0.5 | 0.6 | 0.6 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 11.7 | 11.5 | 12.2 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 23.4 | 23.3 | 24.4 |
| Emulsified Water | scalar | Visual* | >0.2 | NEG | NEG | NEG |
| Sodium | ppm | ASTM D5185(m) | | 1 | 2 | 2 |
| Boron | ppm | ASTM D5185(m) | 0 | 2 | 1 | 2 |
| Barium | ppm | ASTM D5185(m) | 0 | 0 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 60 | 55 | 58 | 59 |
| Manganese | ppm | ASTM D5185(m) | 0 | 0 | 0 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 1010 | 866 | 932 | 949 |
| Calcium | ppm | ASTM D5185(m) | 1070 | 965 | 1025 | 1033 |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | 910 | 945 | 1003 |
| Zinc | ppm | ASTM D5185(m) | 1270 | 1070 | 1161 | 1165 |
| Sulfur | ppm | ASTM D5185(m) | 2060 | 2285 | 2324 | 2324 |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 21.9 | 20.3 | 21.8 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 15.4 | ▲ 12.5 | 13.8 | 14.0 |

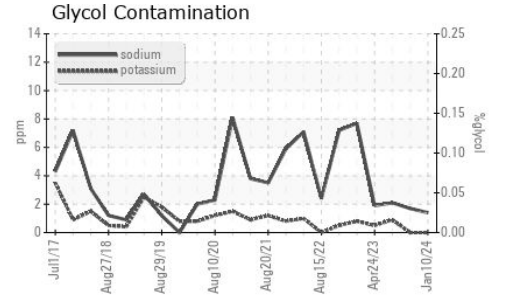
Fuel Dilution



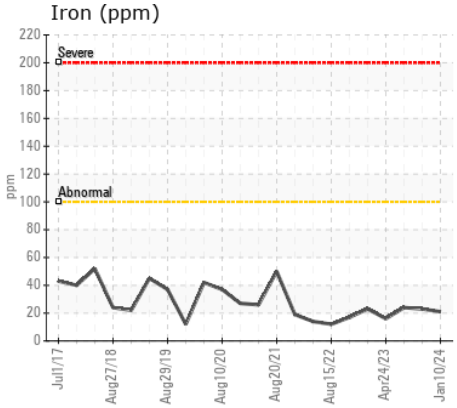

Viscosity @ 100°C



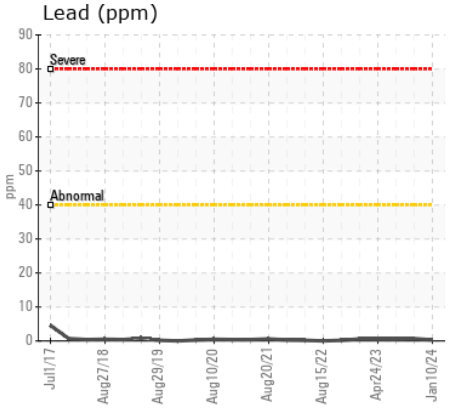

Glycol Contamination



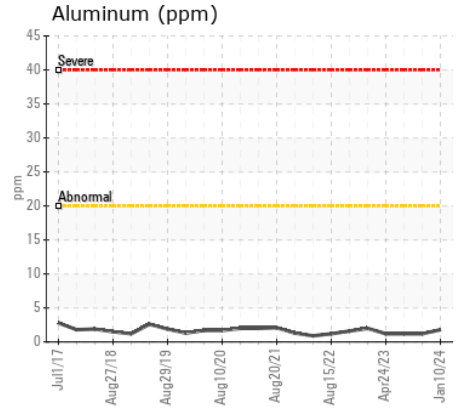

Iron (ppm)



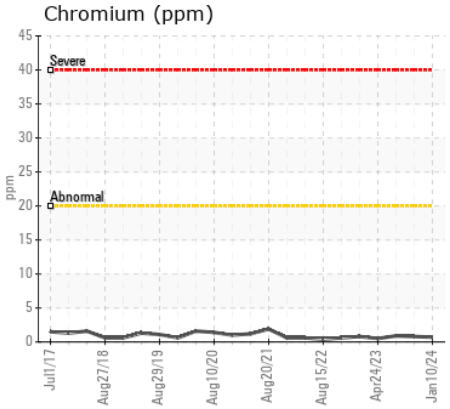

Lead (ppm)



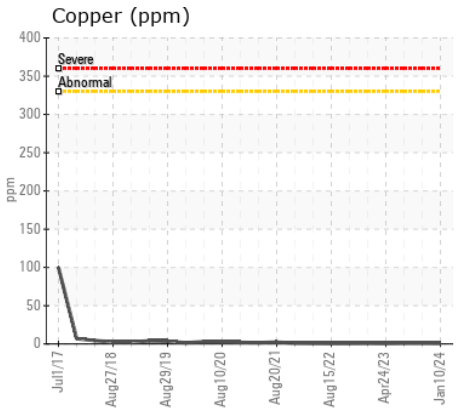

Aluminum (ppm)



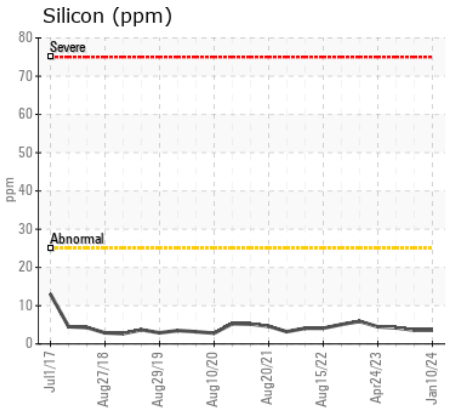

Chromium (ppm)



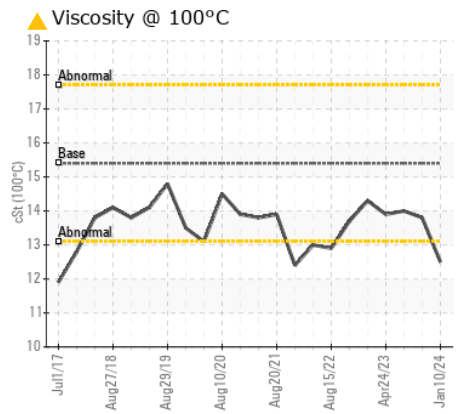

Copper (ppm)



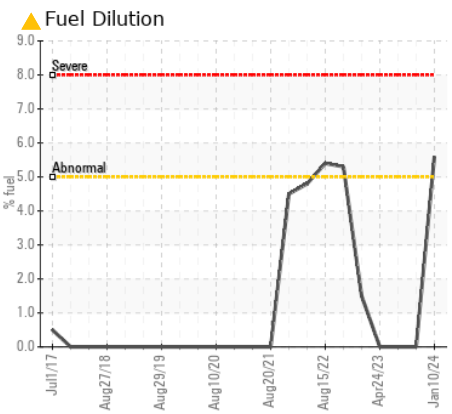

Silicon (ppm)




Viscosity @ 100°C




Fuel Dilution




ISO 17025:2017 Accredited Laboratory

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|---|---|---|---|
| **Laboratory** | : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 | **GFL Environmental - 221 - Windsor** | |
| **Sample No.** | : GFL0097439 | **Recieved** | : 12 Jan 2024 |
| **Lab Number** | : 02608360 | **Diagnosed** | : 15 Jan 2024 |
| **Unique Number** | : 5709446 | **Diagnostician** | : Kevin Marson |
| **Test Package** | : MOB 1 ( Additional Tests: FuelDilution, Glycol, PercentFuel ) | | |

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*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.*