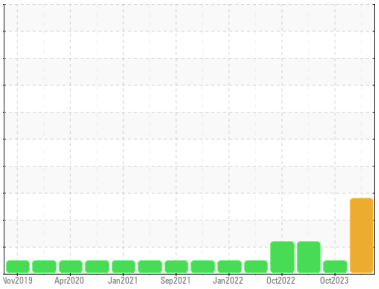
# OIL ANALYSIS REPORT

Sample Rating Trend




**FUEL**

Area
**[42932426]**
Machine Id
**9486**
Component
**Diesel Engine**
Fluid
**CHEVRON DELO 400 XLE 10W30 (--- GAL)**

## DIAGNOSIS

**Recommendation**

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

**Wear**

Iron ppm levels are abnormal. Cylinder, crank, or cam shaft wear is indicated.

**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 a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

**Fluid Condition**

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0853067** | WC0853202 | WC0702901 |
| Sample Date | | Client Info | | **14 Jan 2024** | 28 Oct 2023 | 29 Jan 2023 |
| Machine Age | kms | Client Info | | **354559** | 345412 | 317708 |
| Oil Age | kms | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **Not Changd** | Not Changd | Changed |
| Sample Status | | | | **SEVERE** | NORMAL | ABNORMAL |

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

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| PQ | | ASTM D8184* | | **0** | --- | --- |
| Iron | ppm | ASTM D5185(m) | >90 | ▲ **173** | 29 | 27 |
| Chromium | ppm | ASTM D5185(m) | >20 | **6** | 1 | 1 |
| Nickel | ppm | ASTM D5185(m) | >2 | **<1** | 0 | <1 |
| Titanium | ppm | ASTM D5185(m) | >2 | **0** | 0 | <1 |
| Silver | ppm | ASTM D5185(m) | >2 | **<1** | <1 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >20 | **14** | 3 | 6 |
| Lead | ppm | ASTM D5185(m) | >40 | **5** | 6 | 7 |
| Copper | ppm | ASTM D5185(m) | >330 | **6** | 2 | 2 |
| Tin | ppm | ASTM D5185(m) | >15 | **2** | <1 | <1 |
| Antimony | ppm | ASTM D5185(m) | | **0** | 0 | <1 |
| 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) | | **23** | 29 | 27 |
| Barium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | | **7** | 3 | 67 |
| Manganese | ppm | ASTM D5185(m) | | **2** | 0 | <1 |
| Magnesium | ppm | ASTM D5185(m) | | **670** | 735 | 222 |
| Calcium | ppm | ASTM D5185(m) | | **1282** | 1353 | 2039 |
| Phosphorus | ppm | ASTM D5185(m) | | **650** | 677 | 1028 |
| Zinc | ppm | ASTM D5185(m) | | **741** | 767 | 1121 |
| Sulfur | ppm | ASTM D5185(m) | | **2354** | 2429 | 2924 |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >25 | **9** | 5 | 6 |
| Sodium | ppm | ASTM D5185(m) | | **4** | 3 | 3 |
| Potassium | ppm | ASTM D5185(m) | >20 | **23** | 3 | 9 |
| Fuel | % | ASTM D7593* | >3.0 | ● **6.8** | <1.0 | ▲ 3 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | ASTM D7844* | >6 | **1.4** | 0.4 | 0.2 |
| Nitration | Abs/cm | ASTM D7624* | >20 | **22.7** | 11.3 | 12.2 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | **40.7** | 25.8 | 28.3 |

# OIL ANALYSIS REPORT

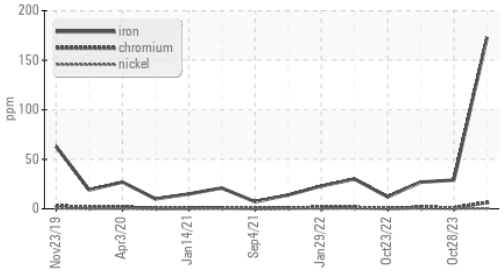
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | **56.5** | 23.6 | 25.4 |

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

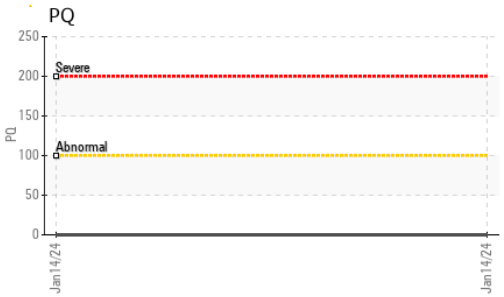
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D7279(m) | | **11.9** | 11.1 | ▲ 12.3 |

## GRAPHS

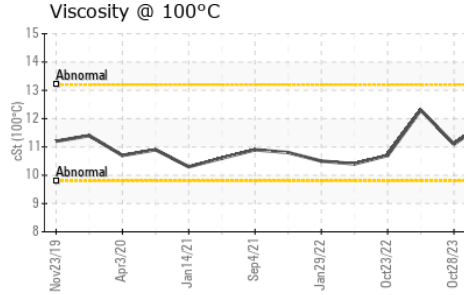
Ferrous Alloys



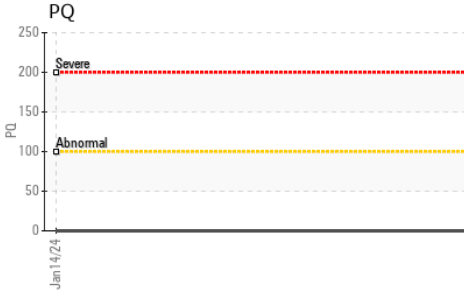

PQ



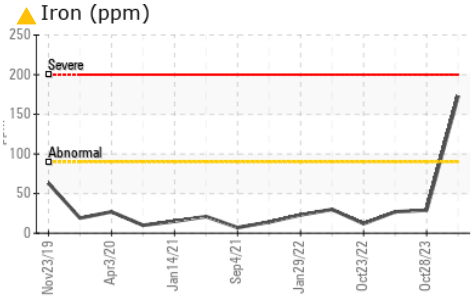

Viscosity @ 100°C



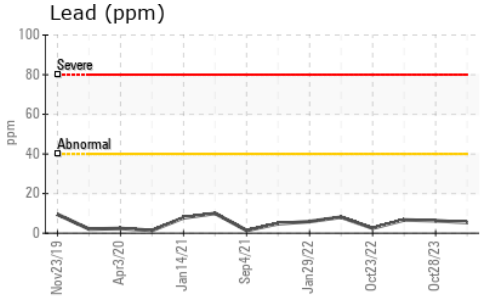

PQ



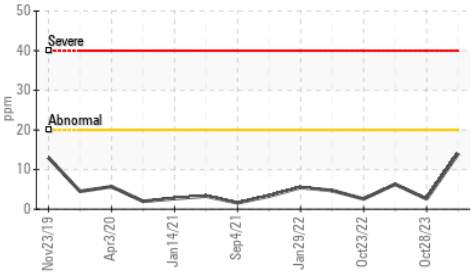

Iron (ppm)



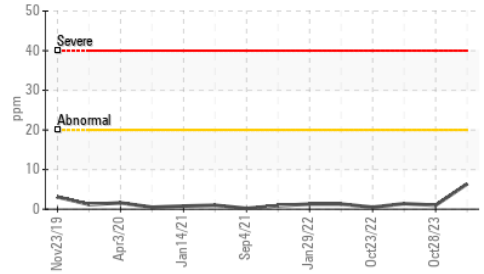

Lead (ppm)



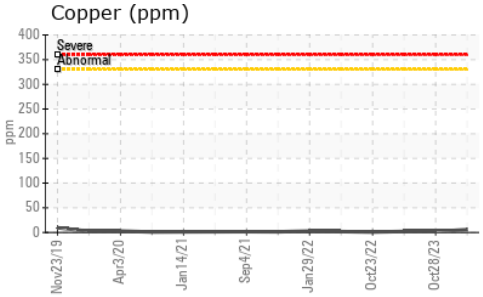

Aluminum (ppm)



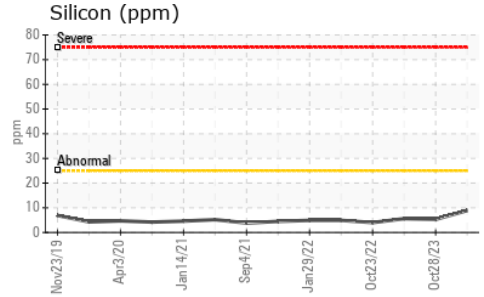

Chromium (ppm)



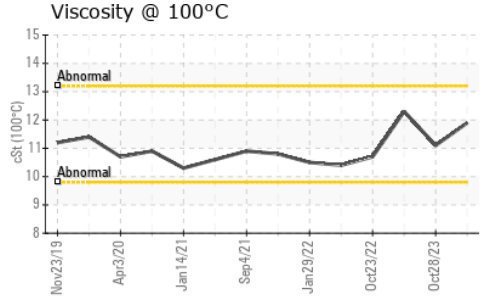

Copper (ppm)



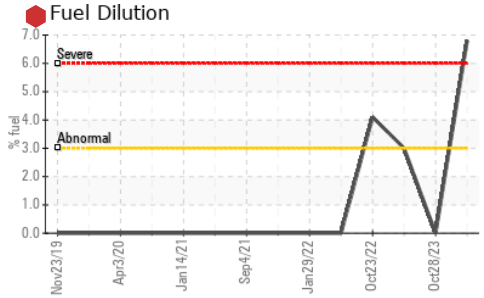

Silicon (ppm)




Viscosity @ 100°C




Fuel Dilution




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WC0853067 **Recieved** : 17 Jan 2024
**Lab Number** : 02609180 **Diagnosed** : 19 Jan 2024
**Unique Number** : 5710266 **Diagnostician** : Kevin Marson
**Test Package** : MOB 1 ( Additional Tests: FUELDILUTION, PercentFuel, PQ )

*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.*

**Rush Truck Centres**
7450 Torbram Rd.
Mississauga, ON
CA L4T 1G9
Contact: Serdar Okur
sokur@rushtruckcentres.ca
T: (905)671-7600
F: