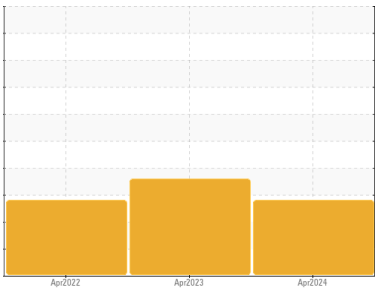
# OIL ANALYSIS REPORT

Sample Rating Trend




**FUEL**

Area
**[142229]**
Machine Id
## DORMAN PETER ST PS
Component
**Diesel Engine**
Fluid
**DIESEL ENGINE OIL SAE 15W40 (--- 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**
Metal levels are typical for a new component breaking in.

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

**Fluid Condition**
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0919651** | WC0791191 | WC0668179 |
| Sample Date | | Client Info | | **02 Apr 2024** | 17 Apr 2023 | 19 Apr 2022 |
| Machine Age | hrs | Client Info | | **138** | 110 | 86 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **Not Changd** | Not Changd | Not Changd |
| Sample Status | | | | **SEVERE** | SEVERE | SEVERE |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.1 | **NEG** | NEG | NEG |
| Glycol | | WC Method | | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >80 | **2** | 3 | 4 |
| Chromium | ppm | ASTM D5185(m) | >6 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | >2 | **0** | 0 | 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 | **<1** | 1 | 1 |
| Lead | ppm | ASTM D5185(m) | >95 | **0** | 1 | <1 |
| Copper | ppm | ASTM D5185(m) | >85 | **4** | 16 | 8 |
| Tin | ppm | ASTM D5185(m) | >9 | **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** | <1 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 250 | **4** | 31 | 43 |
| Barium | ppm | ASTM D5185(m) | 10 | **0** | 0 | <1 |
| Molybdenum | ppm | ASTM D5185(m) | 100 | **2** | 39 | 52 |
| Manganese | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) | 450 | **9** | 8 | 10 |
| Calcium | ppm | ASTM D5185(m) | 3000 | **1608** | 1097 | 1430 |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | **614** | ▲ 520 | 683 |
| Zinc | ppm | ASTM D5185(m) | 1350 | **684** | ▲ 525 | 744 |
| Sulfur | ppm | ASTM D5185(m) | 4250 | **2135** | 1644 | 2171 |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >25 | **1** | 3 | 4 |
| Sodium | ppm | ASTM D5185(m) | >158 | **<1** | 2 | 2 |
| Potassium | ppm | ASTM D5185(m) | >20 | **<1** | <1 | 1 |
| Fuel | % | ASTM D7593* | >4.0 | ▲ **28** | ▲ 46.2 | ▲ 27.7 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | ASTM D7844* | | **0** | 0 | 0 |
| Nitration | Abs/cm | ASTM D7624* | >20 | **5.8** | 7.4 | 7.7 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | **14.1** | 14.1 | 17.0 |

# OIL ANALYSIS REPORT

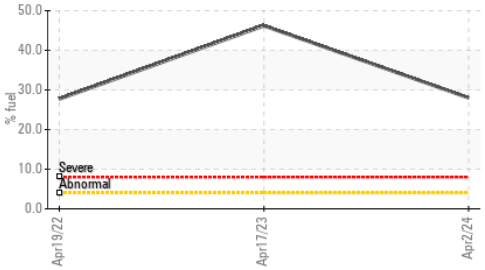
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | **7.8** | 9.1 | 10.5 |
| Base Number (BN) | mg KOH/g | ASTM D2896* | 8.5 | **6.55** | 4.00 | 5.80 |

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Emulsified Water | scalar | Visual* | >0.1 | **NEG** | NEG | NEG |
| Free Water | scalar | Visual* | | **NEG** | NEG | NEG |

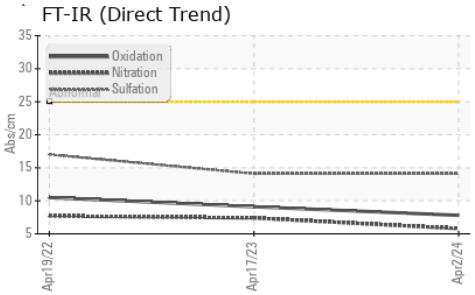
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D7279(m) | 14.4 | ▲ **6.9** | ▲ 0.9 | ▲ 6.2 |

## GRAPHS

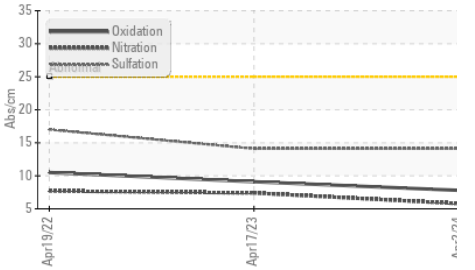
Fuel Dilution



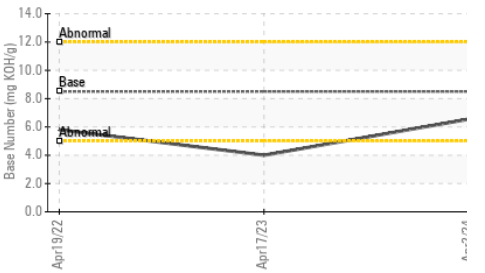

FT-IR (Direct Trend)



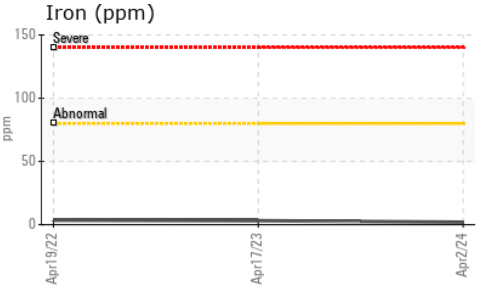

FT-IR (Direct Trend)



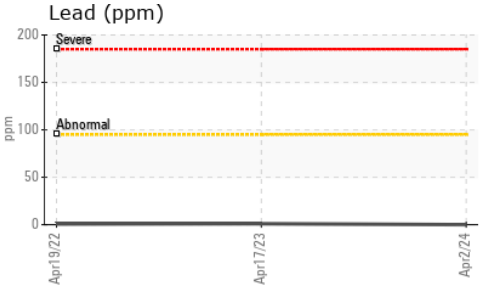

Base Number



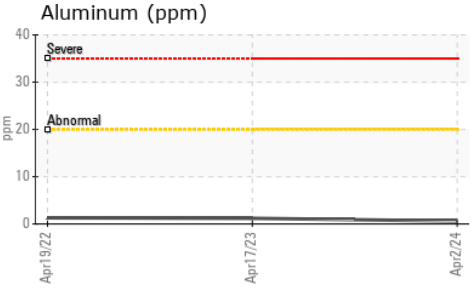

Iron (ppm)



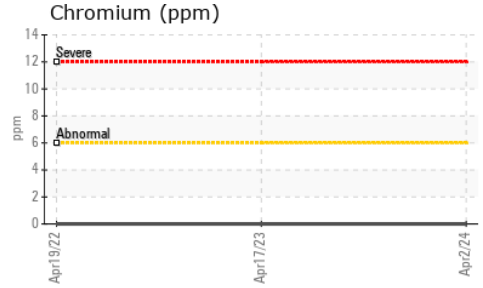

Lead (ppm)



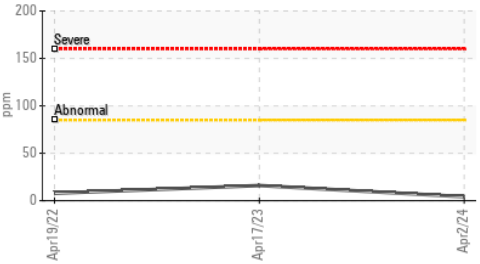

Aluminum (ppm)



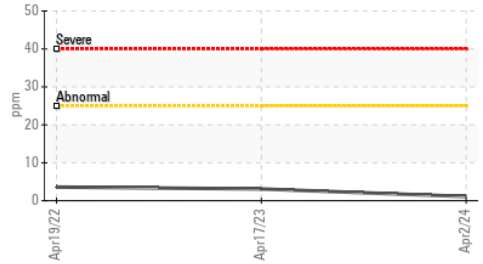

Chromium (ppm)



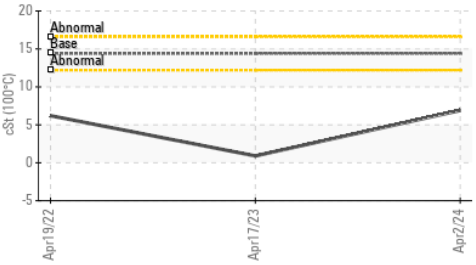

Copper (ppm)



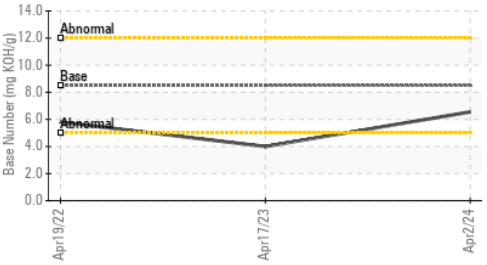

Silicon (ppm)




Viscosity @ 100°C




Base Number




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WC0919651 **Received** : 15 Apr 2024
**Lab Number** : 02628681 **Tested** : 16 Apr 2024
**Unique Number** : 5761813 **Diagnosed** : 16 Apr 2024 - Wes Davis
**Test Package** : MOB 2 ( Additional Tests: PercentFuel )

*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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