MOB I

WEAR CHECK

# OIL ANALYSIS REPORT

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

Area
**[97623013]**
Machine Id
**Hatz 11561731**
Component
**Front Diesel Engine**
Fluid
**SAE 5W40 (2 LTR)**

## RECOMMENDATION

We advise that you check the fuel injection system. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil from the component if this has not already been done. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. ( Customer Sample Comment: Oil Level High )

## WEAR

All component wear rates are normal.

## CONTAMINATION

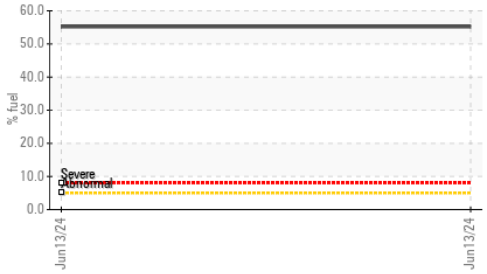
There is a high amount of fuel present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The water content is negligible. Tests confirm the presence of fuel in the oil.

## FLUID CONDITION

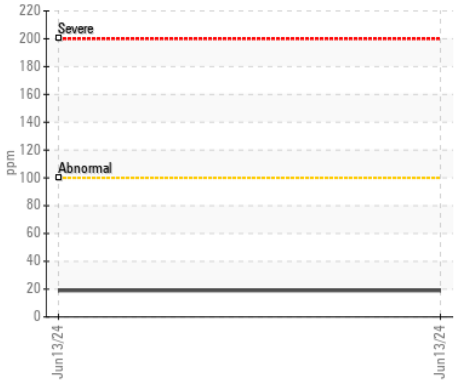
Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | WC0866078 | --- | --- |
| Sample Date | | Client Info | | 13 Jun 2024 | --- | --- |
| Machine Age | hrs | Client Info | | 0 | --- | --- |
| Oil Age | hrs | Client Info | | 71 | --- | --- |
| Filter Age | hrs | Client Info | | 71 | --- | --- |
| Oil Changed | | Client Info | | Not Changd | --- | --- |
| Filter Changed | | Client Info | | N/A | --- | --- |
| Sample Status | | | | SEVERE | --- | --- |
| Iron | ppm | ASTM D5185(m) | >100 | 19 | --- | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | 1 | --- | --- |
| Nickel | ppm | ASTM D5185(m) | >4 | <1 | --- | --- |
| Titanium | ppm | ASTM D5185(m) | | <1 | --- | --- |
| Silver | ppm | ASTM D5185(m) | >3 | 0 | --- | --- |
| Aluminum | ppm | ASTM D5185(m) | >20 | 9 | --- | --- |
| Lead | ppm | ASTM D5185(m) | >40 | 0 | --- | --- |
| Copper | ppm | ASTM D5185(m) | >330 | 2 | --- | --- |
| Tin | ppm | ASTM D5185(m) | >15 | 0 | --- | --- |
| Vanadium | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Silicon | ppm | ASTM D5185(m) | >25 | ▲ 37 | --- | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | 1 | --- | --- |
| Fuel | % | ASTM D7593* | >5 | ▲ 55.2 | --- | --- |
| Water | % | ASTM D6304* | >0.2 | 0.068 | --- | --- |
| ppm Water | ppm | ASTM D6304* | >2000 | 685 | --- | --- |
| Glycol | % | ASTM D7922* | | 0.0 | --- | --- |
| Soot % | % | ASTM D7844* | >3 | 0 | --- | --- |
| Nitration | Abs/cm | ASTM D7624* | >20 | 8.1 | --- | --- |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 18.2 | --- | --- |
| Emulsified Water | scalar | Visual* | >0.2 | .2% | --- | --- |
| Sodium | ppm | ASTM D5185(m) | | 2 | --- | --- |
| Boron | ppm | ASTM D5185(m) | | 207 | --- | --- |
| Barium | ppm | ASTM D5185(m) | | <1 | --- | --- |
| Molybdenum | ppm | ASTM D5185(m) | | 23 | --- | --- |
| Manganese | ppm | ASTM D5185(m) | | 2 | --- | --- |
| Magnesium | ppm | ASTM D5185(m) | | 7 | --- | --- |
| Calcium | ppm | ASTM D5185(m) | | 1932 | --- | --- |
| Phosphorus | ppm | ASTM D5185(m) | | 518 | --- | --- |
| Zinc | ppm | ASTM D5185(m) | | 575 | --- | --- |
| Sulfur | ppm | ASTM D5185(m) | | 2430 | --- | --- |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 12.9 | --- | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | | ▲ 3.8 | --- | --- |

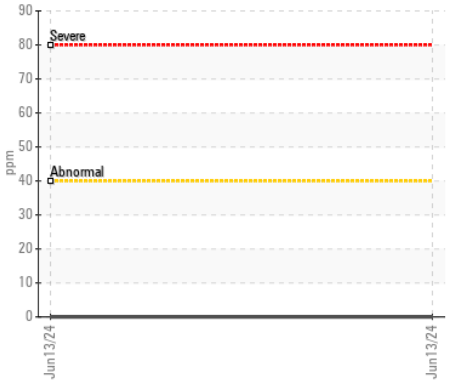
Fuel Dilution



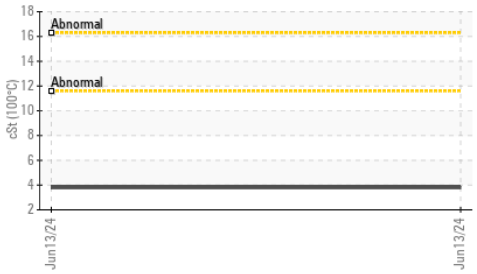

Iron (ppm)



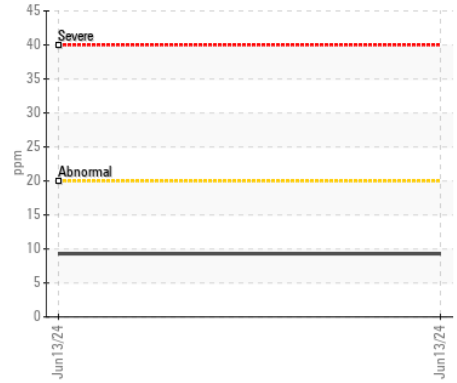

Lead (ppm)



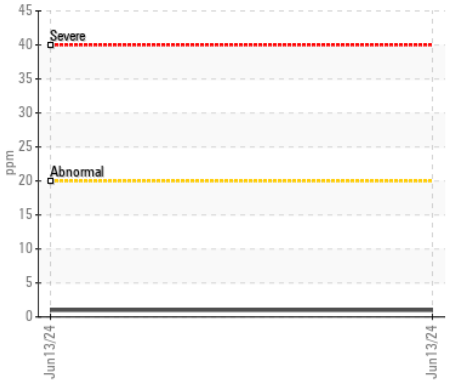

Viscosity @ 100°C



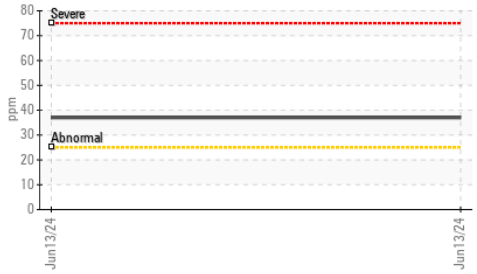

Aluminum (ppm)



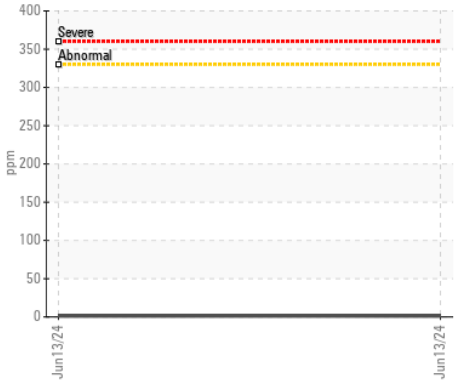

Chromium (ppm)



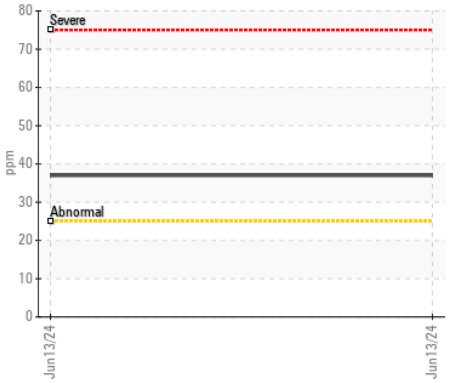

Silicon (ppm)



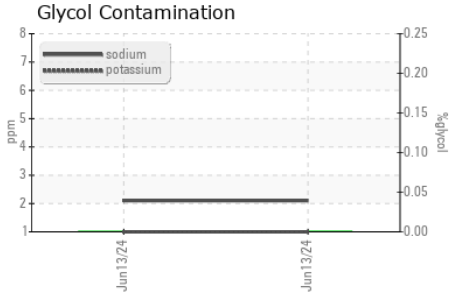

Copper (ppm)



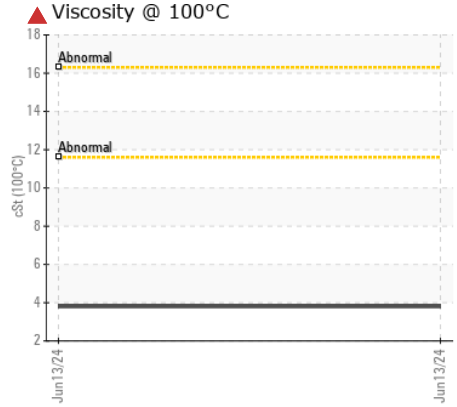

Silicon (ppm)



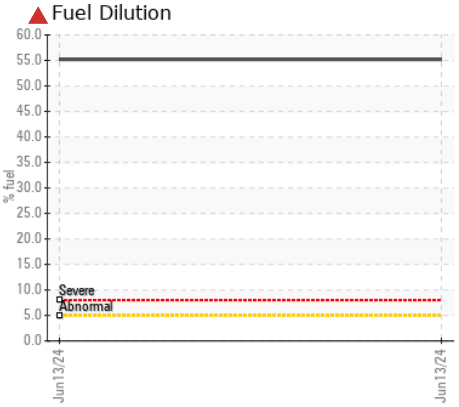

Glycol Contamination



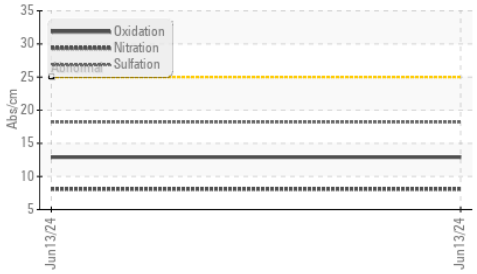

Viscosity @ 100°C




Fuel Dilution




FT-IR (Direct Trend)




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WC0866078
**Lab Number** : 02642284
**Unique Number** : 5799823
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, Glycol, KF, PercentFuel )

**Received** : 17 Jun 2024
**Tested** : 18 Jun 2024
**Diagnosed** : 19 Jun 2024 - Kevin Marson

*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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