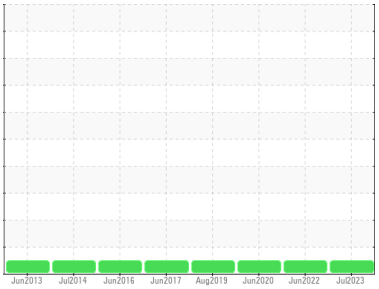
# OIL ANALYSIS REPORT

Sample Rating Trend




**NORMAL**

Machine Id
## PERKINS I0413
Component
**Diesel Engine**
Fluid
**KENDALL 15W40 (14 LTR)**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor.

**Wear**
Metal levels are typical for a new component breaking in.

**Contamination**
There is no indication of any contamination in the oil.

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

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0764050** | WC0634082 | WC0442642 |
| Sample Date | | Client Info | | **04 Jul 2023** | 16 Jun 2022 | 23 Jun 2020 |
| Machine Age | hrs | Client Info | | **349** | 346 | 299 |
| Oil Age | hrs | Client Info | | **36** | 33 | 28 |
| Oil Changed | | Client Info | | **Not Changd** | Not Changd | Not Changd |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >5 | **<1.0** | <1.0 | <1.0 |
| Glycol | | WC Method | | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >250 | **3** | 3 | 3 |
| Chromium | ppm | ASTM D5185(m) | >10 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | >5 | **<1** | 0 | 0 |
| Titanium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >3 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >35 | **<1** | <1 | <1 |
| Lead | ppm | ASTM D5185(m) | >100 | **0** | <1 | 0 |
| Copper | ppm | ASTM D5185(m) | >60 | **4** | 3 | 4 |
| Tin | ppm | ASTM D5185(m) | >5 | **0** | <1 | 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** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 6.3 | **4** | 4 | 6 |
| Barium | ppm | ASTM D5185(m) | 0.6 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 0.4 | **8** | 8 | 30 |
| Manganese | ppm | ASTM D5185(m) | | **0** | <1 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 277 | **134** | 141 | 645 |
| Calcium | ppm | ASTM D5185(m) | 1514 | **2077** | 2135 | 1291 |
| Phosphorus | ppm | ASTM D5185(m) | 634 | **958** | 895 | 997 |
| Zinc | ppm | ASTM D5185(m) | 743 | **1051** | 1046 | 1175 |
| Sulfur | ppm | ASTM D5185(m) | 2592 | **3116** | 3197 | 2915 |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >35 | **2** | 2 | 3 |
| Sodium | ppm | ASTM D5185(m) | | **2** | 2 | 1 |
| Potassium | ppm | ASTM D5185(m) | >20 | **1** | 2 | 2 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | ASTM D7844* | >3 | **0** | 0 | 0 |
| Nitration | Abs/cm | ASTM D7624* | >20 | **5.4** | 5.8 | 6.8 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | **15.5** | 15.9 | 20.5 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | **8.8** | 10.2 | 12.5 |

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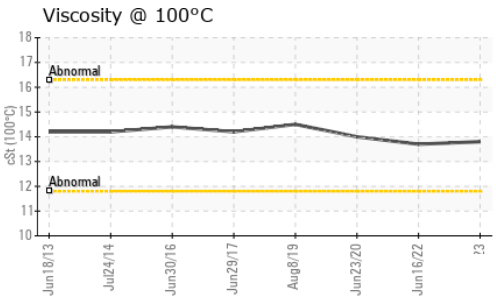
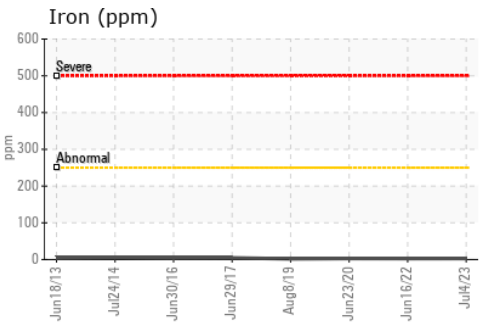
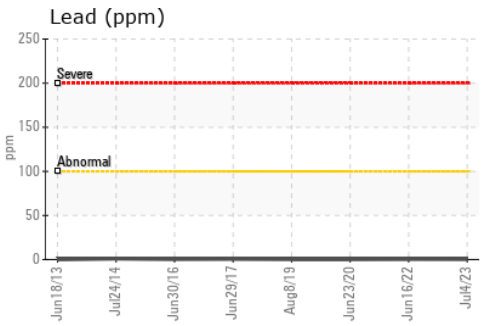


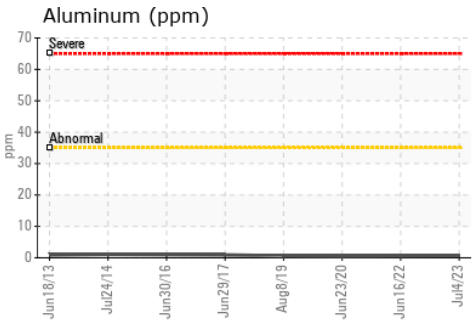

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Emulsified Water | scalar | Visual* | >0.2 | **NEG** | NEG | NEG |
| Free Water | scalar | Visual* | | **NEG** | NEG | NEG |

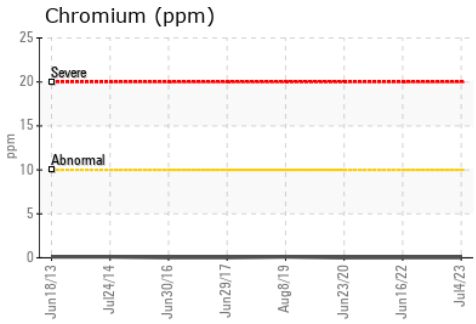
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D7279(m) | | **13.8** | 13.7 | 14.0 |

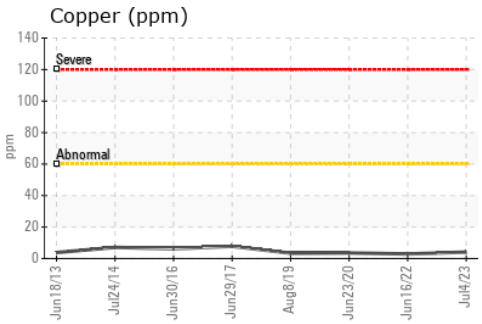
## GRAPHS

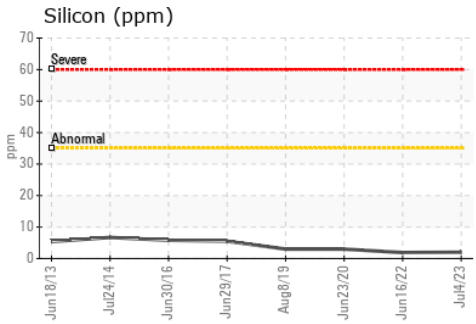


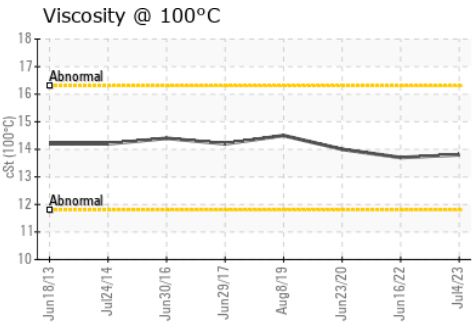



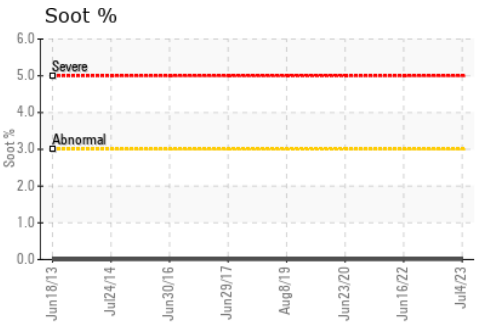




CALA Testing Accreditation No. 1005078
ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WC0764050 **Received** : 10 Aug 2023
**Lab Number** : 02575094 **Diagnosed** : 10 Aug 2023
**Unique Number** : 5620145 **Diagnostician** : 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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