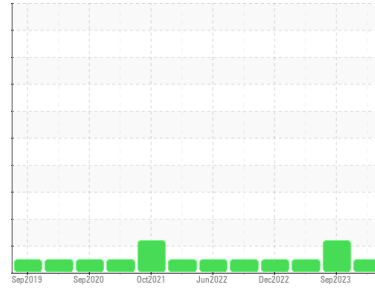




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
[43977982]

Machine Id
9477

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 10W30 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

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 | | | WC0924125 | WC0853356 | WC0796434 |
| Sample Date | Client Info | | | 30 Mar 2024 | 24 Sep 2023 | 16 May 2023 |
| Machine Age | kms | Client Info | | 471667 | 460000 | 441360 |
| Oil Age | kms | Client Info | | 0 | 0 | 0 |
| Oil Changed | Client Info | | | Not Changed | Changed | N/A |
| Sample Status | | | | NORMAL | ABNORMAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---------------|-----------|--------|------------|----------------|----------|----------|
| Fuel | WC Method | >3.0 | | <1.0 | <1.0 | <1.0 |
| Water | WC Method | >0.2 | | NEG | NEG | NEG |
| Glycol | WC Method | | | NEG | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|---------------|------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185(m) | >90 | 39 | 53 | 28 |
| Chromium | ppm | ASTM D5185(m) | >20 | 2 | 2 | 1 |
| Nickel | ppm | ASTM D5185(m) | >2 | 0 | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) | >2 | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185(m) | >2 | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >20 | 3 | 8 | 4 |
| Lead | ppm | ASTM D5185(m) | >40 | 4 | 7 | 5 |
| Copper | ppm | ASTM D5185(m) | >330 | 2 | 2 | 2 |
| Tin | ppm | ASTM D5185(m) | >15 | <1 | <1 | <1 |
| 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 |

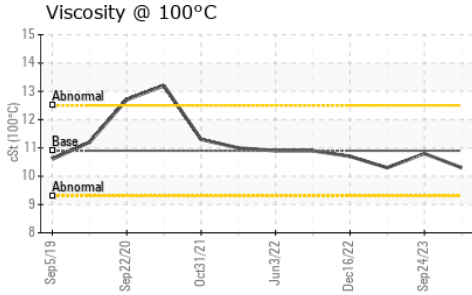
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|---------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185(m) | 250 | 29 | 31 | 39 |
| Barium | ppm | ASTM D5185(m) | 10 | 0 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 100 | <1 | 6 | 6 |
| Manganese | ppm | ASTM D5185(m) | | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 450 | 688 | 712 | 685 |
| Calcium | ppm | ASTM D5185(m) | 3000 | 1249 | 1290 | 1347 |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | 627 | 668 | 680 |
| Zinc | ppm | ASTM D5185(m) | 1350 | 718 | 758 | 727 |
| Sulfur | ppm | ASTM D5185(m) | 4250 | 2242 | 2359 | 2461 |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | <1 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|---------------|------------|----------|----------|----------|
| Silicon | ppm | ASTM D5185(m) | >25 | 4 | 6 | 5 |
| Sodium | ppm | ASTM D5185(m) | | 2 | 3 | 3 |
| Potassium | ppm | ASTM D5185(m) | >20 | 4 | 15 | 8 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|-----------|----------|-------------|------------|-------------|----------|----------|
| Soot % | % | ASTM D7844* | >6 | 0.6 | 0.6 | 0.3 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 12.5 | 14.4 | 12.9 |
| Sulfation | Abs./1mm | ASTM D7415* | >30 | 27.2 | 29.8 | 25.4 |



OIL ANALYSIS REPORT

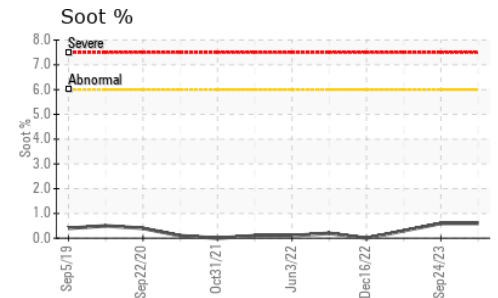
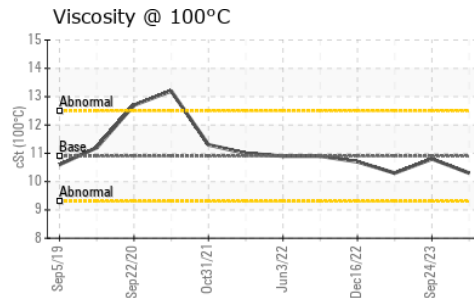
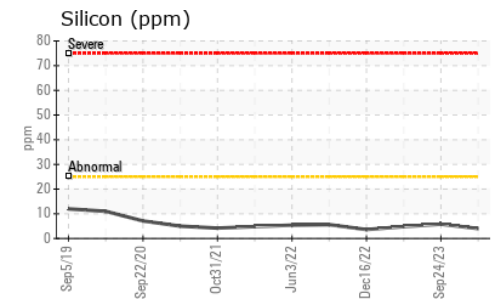
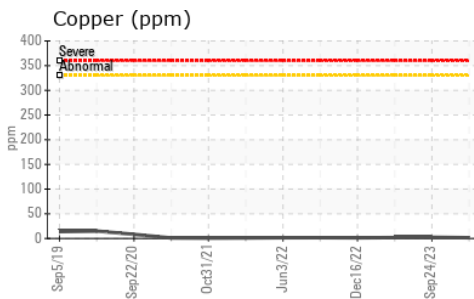
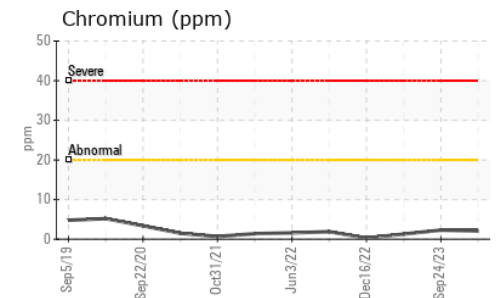
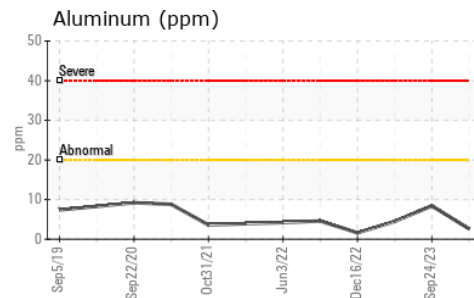
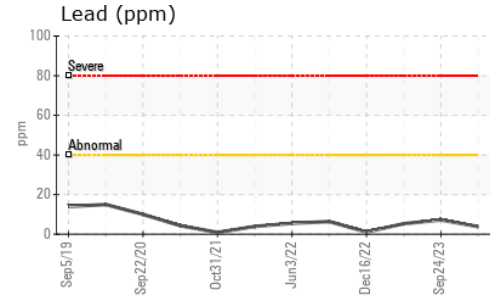
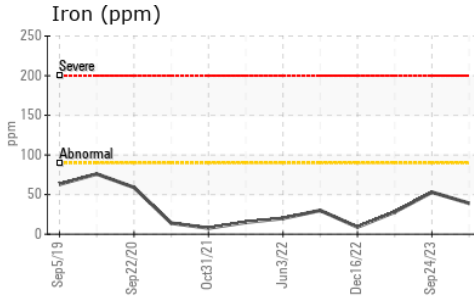


| FLUID DEGRADATION | method | limit/base | current | history1 | history2 | |
|-------------------|----------|-------------|---------|-------------|----------|------|
| Oxidation | Abs./1mm | ASTM D7414* | >25 | 27.2 | ▲ 30.6 | 23.2 |

| 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) | 10.9 | 10.3 | 10.8 | 10.3 |

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0924125 **Received** : 02 Apr 2024
Lab Number : **02626032** **Tested** : 02 Apr 2024
Unique Number : 5759164 **Diagnosed** : 03 Apr 2024 - Kevin Marson
Test Package : MOB 1

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 Mississauga, ON
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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.