



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

Machine Id
1230
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 5W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | PC0089366 | PC0083655 | PC0071577 |
| Sample Date | | Client Info | | 26 Jun 2024 | 04 Feb 2024 | 17 Oct 2023 |
| Machine Age | hrs | Client Info | | 3018 | 2515 | 2024 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|----------|-----|---------------|------|--------------|----|----|
| Iron | ppm | ASTM D5185(m) | >100 | 25 | 19 | 17 |
| Chromium | ppm | ASTM D5185(m) | >20 | <1 | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | >4 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >3 | <1 | 0 | <1 |
| Aluminum | ppm | ASTM D5185(m) | >20 | 9 | 11 | 16 |
| Lead | ppm | ASTM D5185(m) | >40 | 0 | <1 | <1 |
| Copper | ppm | ASTM D5185(m) | >330 | 2 | 2 | 3 |
| Tin | ppm | ASTM D5185(m) | >15 | 0 | <1 | <1 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |

CONTAMINATION

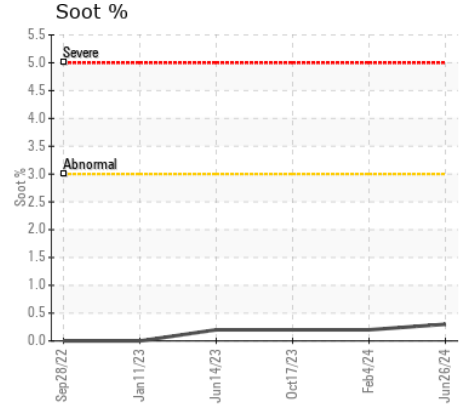
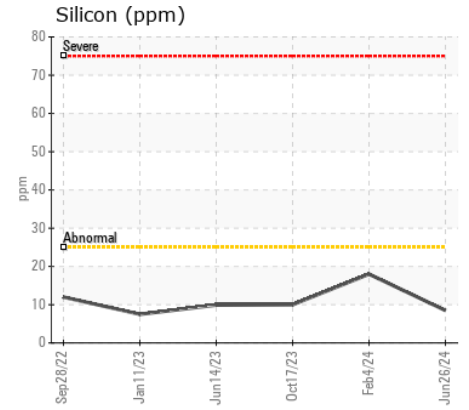
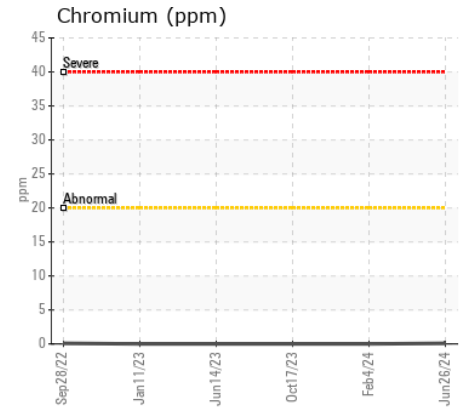
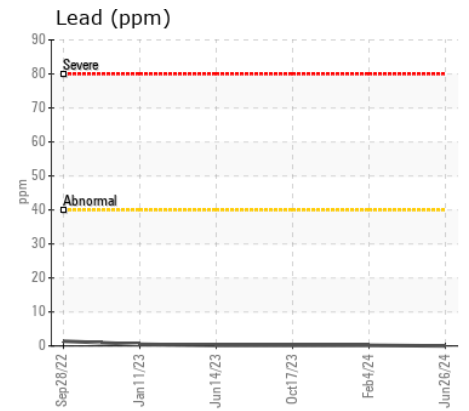
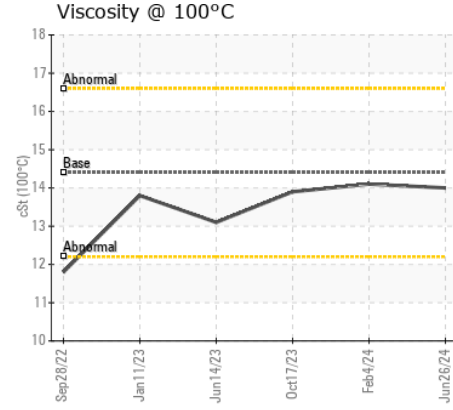
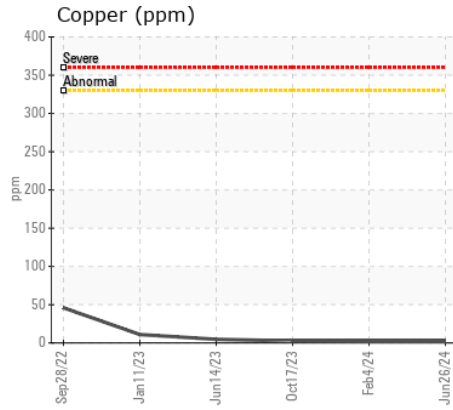
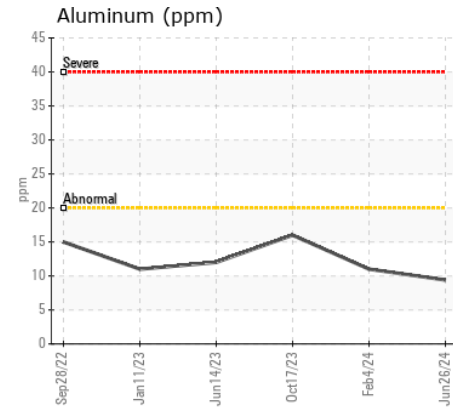
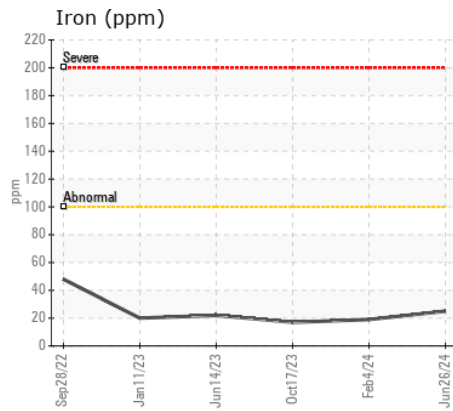
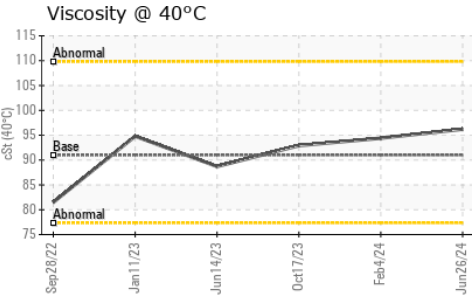
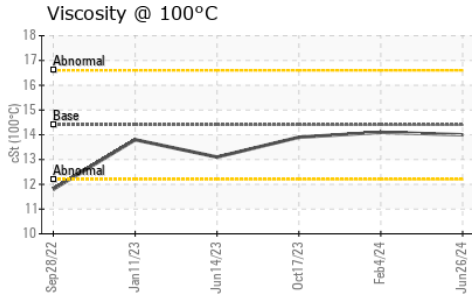
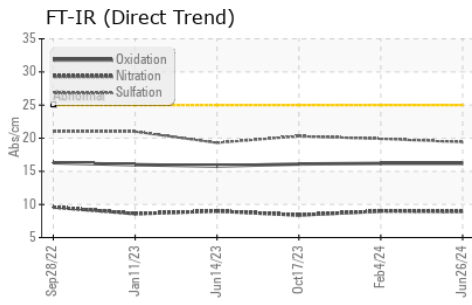
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|---------------|------|----------------|------|------|
| Silicon | ppm | ASTM D5185(m) | >25 | 8 | 18 | 10 |
| Potassium | ppm | ASTM D5185(m) | >20 | 19 | 22 | 33 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | ASTM D7844* | >3 | 0.3 | 0.2 | 0.2 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 8.9 | 9.0 | 8.4 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 19.4 | 19.9 | 20.3 |
| Emulsified Water | scalar | Visual* | >0.2 | NEG | NEG | NEG |

FLUID CONDITION

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

| | | | | | | |
|----------------------|----------|---------------|------|--------------|------|------|
| Sodium | ppm | ASTM D5185(m) | >44 | 1 | 1 | 2 |
| Boron | ppm | ASTM D5185(m) | 250 | 1 | 1 | 2 |
| Barium | ppm | ASTM D5185(m) | 10 | 0 | 0 | <1 |
| Molybdenum | ppm | ASTM D5185(m) | 100 | 59 | 59 | 57 |
| Manganese | ppm | ASTM D5185(m) | | <1 | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) | 450 | 964 | 972 | 943 |
| Calcium | ppm | ASTM D5185(m) | 3000 | 1080 | 1112 | 1174 |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | 1015 | 1026 | 1025 |
| Zinc | ppm | ASTM D5185(m) | 1350 | 1219 | 1208 | 1227 |
| Sulfur | ppm | ASTM D5185(m) | 4250 | 2541 | 2710 | 2595 |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 16.2 | 16.2 | 16.1 |
| Visc @ 40°C | cSt | ASTM D7279(m) | 91 | 96.2 | 94.4 | 92.9 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 14.4 | 14.0 | 14.1 | 13.9 |
| Viscosity Index (VI) | Scale | ASTM D2270* | 164 | 148 | 153 | 152 |



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0089366
Lab Number : 02644321
Unique Number : 5801860
Test Package : MOB 1 (Additional Tests: KV40, VI)

LES ENTREPRISES MICHAUVILLE INC.
 270 RUE BRUNET
 MONT ST-HILAIRE, QC
 CA J3H 0M6
 Contact: Martin Trudel
 mtrudel@michaudville.com

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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F: