

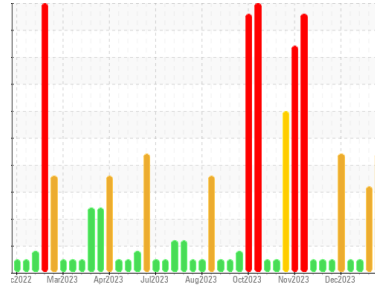


OIL ANALYSIS REPORT



Machine Id
LIDM01BE (S/N GZJ-00169)
 Component
Biogas Engine
 Fluid
CHEVRON HDAX 9500 GAS ENGINE OIL 40 (540 LTR)

Sample Rating Trend



PH



DIAGNOSIS

Recommendation

Nous vous recommandons de vidanger l'huile de ce composant si vous ne l'avez pas déjà fait. Nous vous recommandons d'échantillonner de nouveau dès que possible afin de contrôler la situation.

Wear

Usure de cylindre, de vilebrequin ou d'arbre à cames.

Contamination

Il n'y a aucun indice de contamination dans l'huile.

Fluid Condition

Le niveau de i-pH est anormalement bas. Le niveau de AN est supérieur à la limite recommandée. Le niveau de BN est inférieur à la normale. l'huile ne peut plus être utilisée.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | WC0874491 | WC0874456 | WC0874467 |
| Sample Date | Client Info | | 22 Jan 2024 | 15 Jan 2024 | 08 Jan 2024 |
| Machine Age | Client Info | | 114657 | 3850 | 3704 |
| Oil Age | Client Info | | 597 | 433 | 287 |
| Oil Changed | Client Info | | Not Chngd | Not Chngd | Not Chngd |
| Sample Status | | | ABNORMAL | ABNORMAL | NORMAL |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|--------|-----------|------------|----------------|----------|----------|
| Fuel | WC Method | >4.0 | <1.0 | <1.0 | <1.0 |
| Water | WC Method | >0.1 | NEG | NEG | NEG |
| Glycol | WC Method | | NEG | NEG | NEG |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|-----------|-------------------|------------|--------------|----------|----------|
| PQ | ASTM D8184* | | 0 | --- | --- |
| Iron | ppm ASTM D5185(m) | >15 | ▲ 17 | ▲ 13 | 6 |
| Chromium | ppm ASTM D5185(m) | >4 | <1 | <1 | 0 |
| Nickel | ppm ASTM D5185(m) | >2 | <1 | <1 | 0 |
| Titanium | ppm ASTM D5185(m) | | 0 | 0 | 0 |
| Silver | ppm ASTM D5185(m) | >5 | 0 | 0 | 0 |
| Aluminum | ppm ASTM D5185(m) | >6 | 3 | 3 | 2 |
| Lead | ppm ASTM D5185(m) | >9 | <1 | <1 | <1 |
| Copper | ppm ASTM D5185(m) | >6 | 3 | 2 | 1 |
| Tin | ppm ASTM D5185(m) | >4 | 3 | 3 | 1 |
| Antimony | ppm ASTM D5185(m) | | 4 | 3 | 1 |
| 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) | | 4 | 4 | 4 |
| Barium | ppm ASTM D5185(m) | | 0 | 0 | 0 |
| Molybdenum | ppm ASTM D5185(m) | | 2 | 2 | 1 |
| Manganese | ppm ASTM D5185(m) | | 0 | 0 | 0 |
| Magnesium | ppm ASTM D5185(m) | | 18 | 18 | 17 |
| Calcium | ppm ASTM D5185(m) | | 1761 | 1747 | 1686 |
| Phosphorus | ppm ASTM D5185(m) | | 259 | 260 | 245 |
| Zinc | ppm ASTM D5185(m) | | 306 | 301 | 289 |
| Sulfur | ppm ASTM D5185(m) | | 3441 | 3078 | 2416 |
| Lithium | ppm ASTM D5185(m) | | <1 | <1 | <1 |

CONTAMINANTS

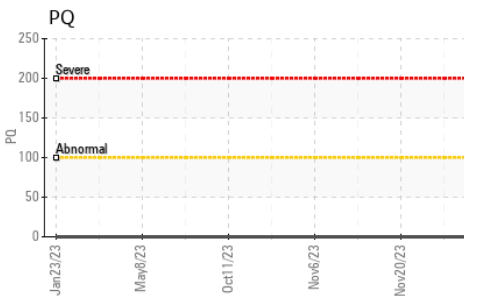
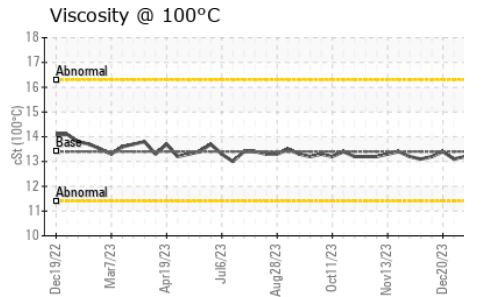
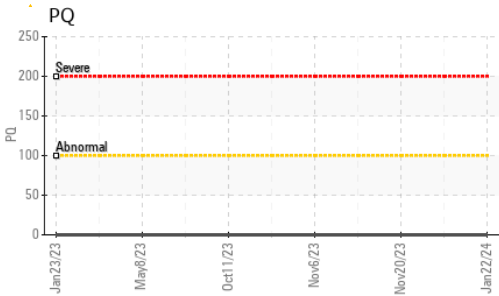
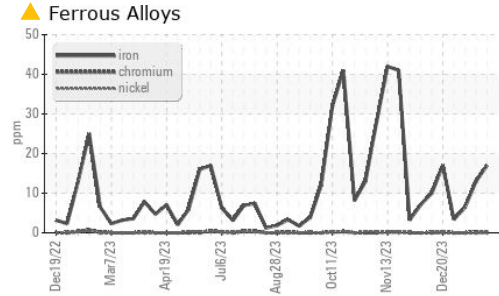
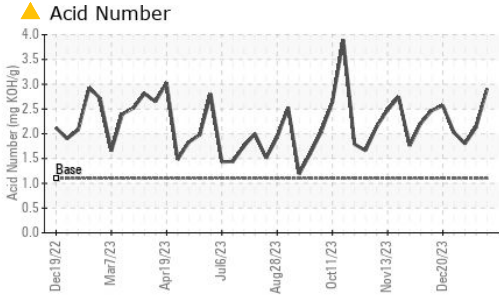
| | method | limit/base | current | history1 | history2 |
|-----------|-------------------|------------|--------------|----------|----------|
| Silicon | ppm ASTM D5185(m) | >181 | 143 | 113 | 70 |
| Sodium | ppm ASTM D5185(m) | | <1 | <1 | <1 |
| Potassium | ppm ASTM D5185(m) | >20 | 2 | 2 | 2 |

INFRA-RED

| | method | limit/base | current | history1 | history2 |
|-----------|----------------------|------------|-------------|----------|----------|
| Soot % | % ASTM D7844* | | 0 | 0 | 0 |
| Nitration | Abs/cm ASTM D7624* | >20 | 4.9 | 4.9 | 4.9 |
| Sulfation | Abs./1mm ASTM D7415* | >30 | 23.8 | 22.1 | 19.9 |



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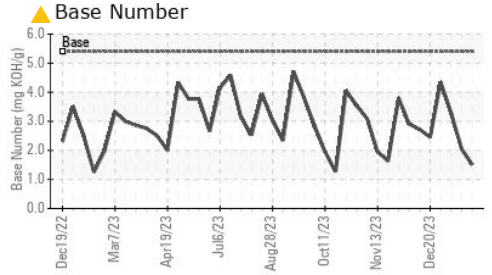
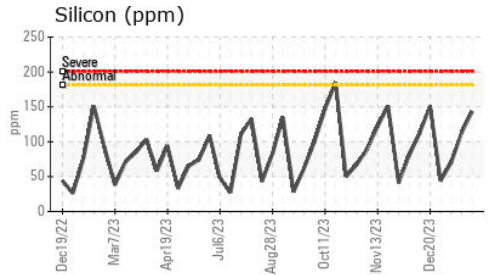
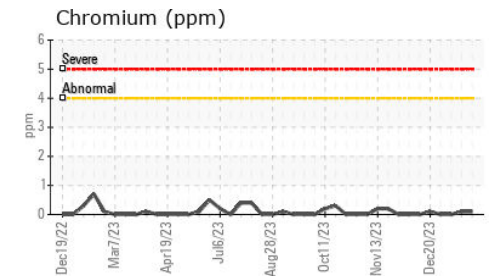
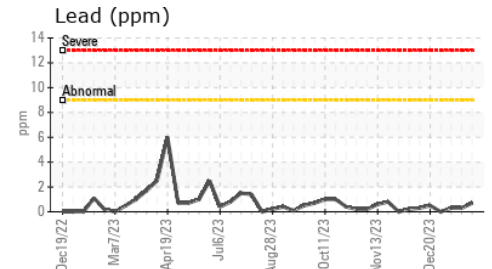
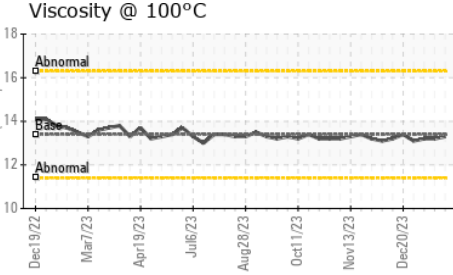
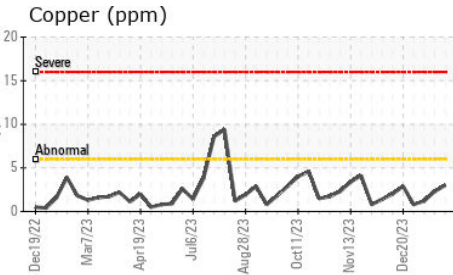
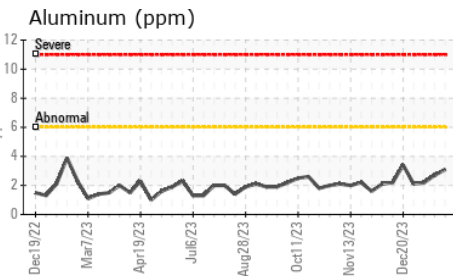
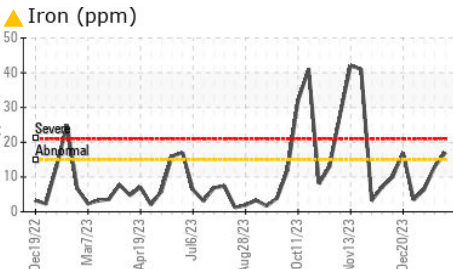


| FLUID DEGRADATION | method | limit/base | current | history1 | history2 | |
|-------------------|------------|-------------|---------|---------------|----------|------|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 11.6 | 10.7 | 9.6 |
| Acid Number (AN) | mg KOH/g | ASTM D974* | 1.1 | ▲ 2.91 | ▲ 2.13 | 1.80 |
| Base Number (BN) | mg KOH/g | ASTM D2896* | 5.4 | ▲ 1.51 | ▲ 2.05 | 3.28 |
| i-pH | Scale 0-14 | ASTM D7946* | <4.5 | ▲ 3.92 | 4.76 | 4.68 |

| 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) | 13.4 | 13.3 | 13.2 | 13.2 |

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0874491 **Received** : 23 Jan 2024
Lab Number : 02610549 **Diagnosed** : 26 Jan 2024
Unique Number : 5711635 **Diagnostician** : Kevin Marson
Test Package : MOB 2 (Additional Tests: i-pH, PQ, TAN Auto, TAN Man)

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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.