

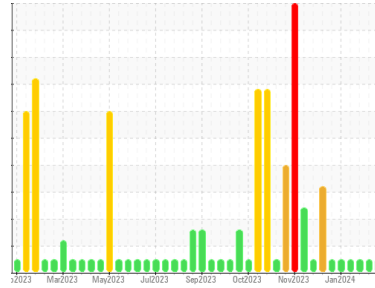


OIL ANALYSIS REPORT



Machine Id
Byron Center CAT 1 BYCM01BE
 Component
Biogas Engine
 Fluid
CHEVRON HDAX 9500 GAS ENGINE OIL 40 (--- GAL)

Sample Rating Trend



NORMAL



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 BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | WC0877031 | WC0640335 | WC0640336 |
| Sample Date | Client Info | | 30 Jan 2024 | 22 Jan 2024 | 16 Jan 2024 |
| Machine Age | hrs | Client Info | 85572 | 85380 | 0 |
| Oil Age | hrs | Client Info | 310 | 118 | 530 |
| Oil Changed | Client Info | | N/A | N/A | N/A |
| Sample Status | | | NORMAL | NORMAL | 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 |
|----------|--------|-----------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >15 | <1 | 1 | 0 |
| Chromium | ppm | ASTM D5185m >4 | 0 | <1 | 0 |
| Nickel | ppm | ASTM D5185m >2 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | 0 | <1 | 0 |
| Silver | ppm | ASTM D5185m >5 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >6 | 2 | 1 | 2 |
| Lead | ppm | ASTM D5185m >9 | <1 | <1 | 0 |
| Copper | ppm | ASTM D5185m >6 | <1 | <1 | 2 |
| Tin | ppm | ASTM D5185m >4 | 2 | 1 | 3 |
| Vanadium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|-------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | <1 | 1 | 0 |
| Barium | ppm | ASTM D5185m | <1 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | <1 | 2 | <1 |
| Manganese | ppm | ASTM D5185m | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 9 | 7 | 9 |
| Calcium | ppm | ASTM D5185m | 1779 | 1761 | 1827 |
| Phosphorus | ppm | ASTM D5185m | 269 | 266 | 277 |
| Zinc | ppm | ASTM D5185m | 330 | 318 | 348 |
| Sulfur | ppm | ASTM D5185m | 2433 | 2427 | 2592 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m >181 | 118 | 73 | 148 |
| Sodium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Potassium | ppm | ASTM D5185m >20 | <1 | 2 | 0 |

INFRA-RED

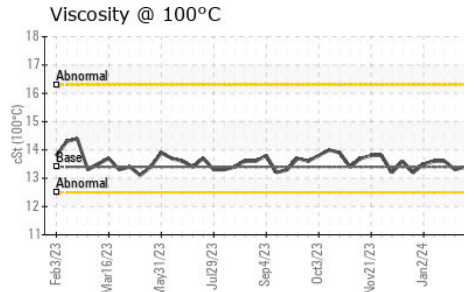
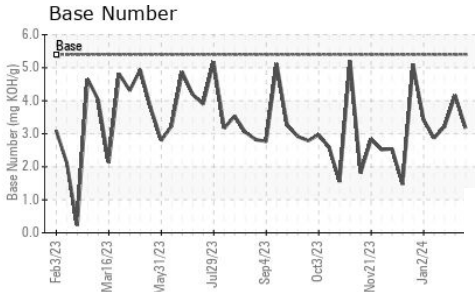
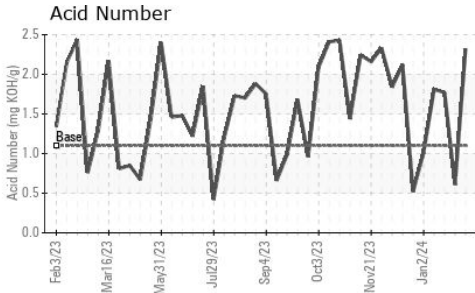
| | method | limit/base | current | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot % | % | *ASTM D7844 | 0 | 0 | 0 |
| Nitration | Abs/cm | *ASTM D7624 >20 | 6.0 | 5.5 | 6.0 |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | 21.9 | 18.2 | 22.5 |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation | Abs/.1mm | *ASTM D7414 >25 | 14.0 | 10.2 | 14.1 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 1.1 | 2.32 | 0.61 | 1.77 |
| Base Number (BN) | mg KOH/g | ASTM D2896 5.4 | 3.17 | 4.16 | 3.22 |



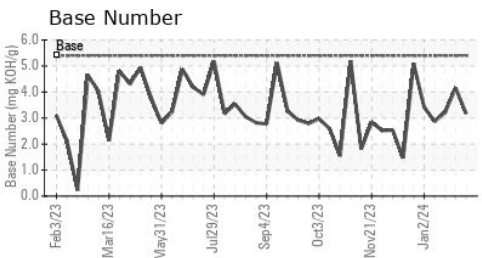
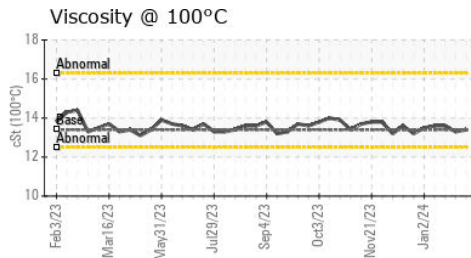
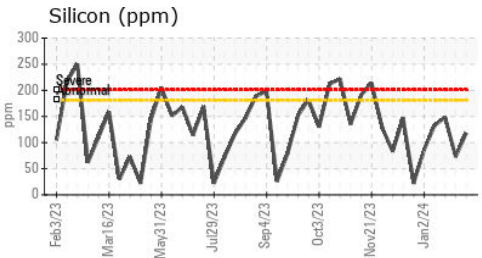
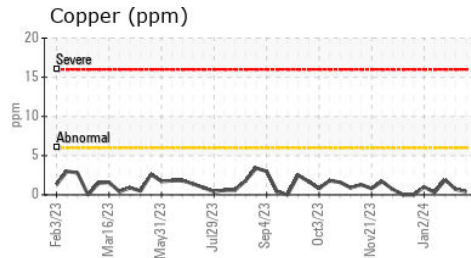
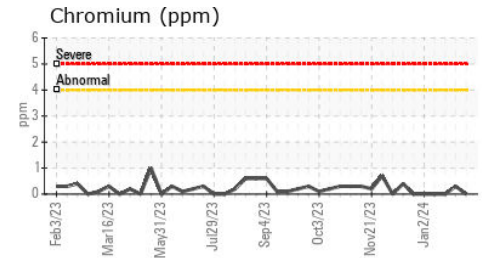
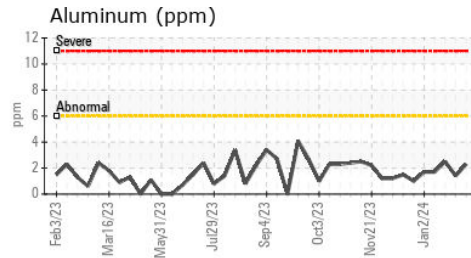
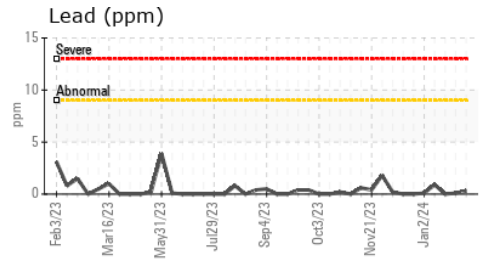
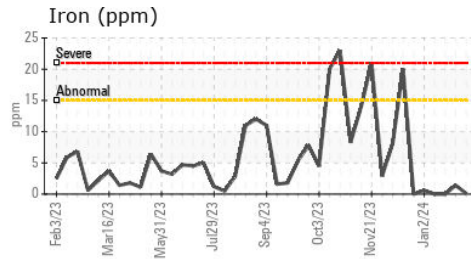
OIL ANALYSIS REPORT



| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.1 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 13.4 | 13.3 | 13.6 |

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0877031
Lab Number : 06077053
Unique Number : 10859144
Test Package : MOB 2

Received : 01 Feb 2024
Tested : 02 Feb 2024
Diagnosed : 02 Feb 2024 - Sean Felton

EDL NA Recips-Byron Center
 Byron Center Powerstation, 10310 South Kent Road
 Byron Center, MI
 US 49315
 Contact: Jake Ripke
 Jake.Ripke@edlenergy.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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F: