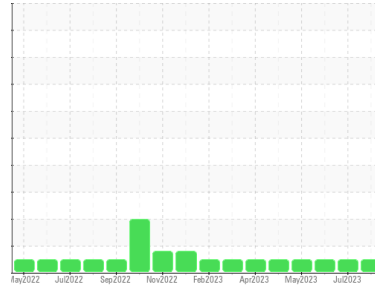


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
M1 (S/N 1457445)

Component
Biogas Engine

Fluid
PETRO CANADA SENTRON LD 8000 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. 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 | | PCA0096511 | PCA0096502 | PCA0096498 |
| Sample Date | Client Info | | 07 Sep 2023 | 19 Jul 2023 | 20 Jun 2023 |
| Machine Age | hrs | Client Info | 7924 | 6913 | 6412 |
| Oil Age | hrs | Client Info | 4458 | 3434 | 2974 |
| Oil Changed | Client Info | | Changed | N/A | N/A |
| Sample Status | | | NORMAL | NORMAL | NORMAL |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|--------|-----------|------------|------------|----------|----------|
| Glycol | WC Method | | NEG | NEG | NEG |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|-----------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >45 | 6 | 6 | 2 |
| Chromium | ppm | ASTM D5185m >2 | <1 | <1 | 0 |
| Nickel | ppm | ASTM D5185m >2 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m >5 | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185m >10 | 1 | 3 | 2 |
| Lead | ppm | ASTM D5185m >5 | 0 | 2 | 0 |
| Copper | ppm | ASTM D5185m >14 | 0 | <1 | <1 |
| Tin | ppm | ASTM D5185m >13 | 3 | 2 | <1 |
| Vanadium | ppm | ASTM D5185m | 0 | 0 | <1 |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|------------------|-------------|----------|----------|
| Boron | ppm | ASTM D5185m | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | 0 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | 1 | <1 |
| Manganese | ppm | ASTM D5185m | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 14 | 10 | 5 |
| Calcium | ppm | ASTM D5185m 1351 | 1691 | 1793 | 1143 |
| Phosphorus | ppm | ASTM D5185m 302 | 313 | 319 | 203 |
| Zinc | ppm | ASTM D5185m 358 | 417 | 444 | 256 |
| Sulfur | ppm | ASTM D5185m 2758 | 3459 | 3606 | 2271 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m >200 | 1 | 2 | <1 |
| Sodium | ppm | ASTM D5185m | 3 | <1 | 2 |
| Potassium | ppm | ASTM D5185m >20 | <1 | 2 | <1 |
| Fuel | % | ASTM D3524 >4.0 | 0.4 | 0.4 | 0.3 |

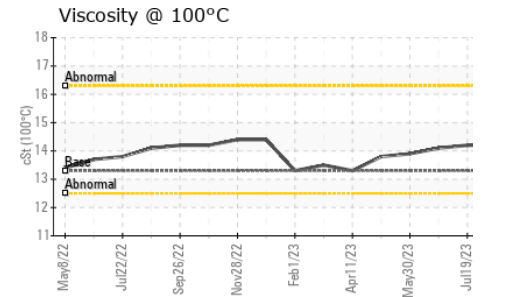
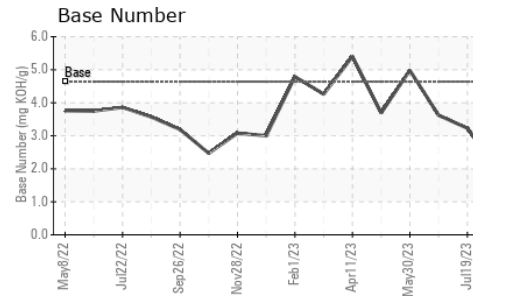
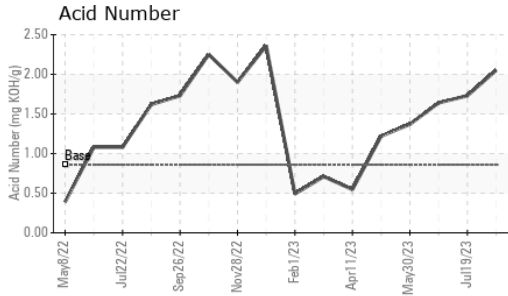
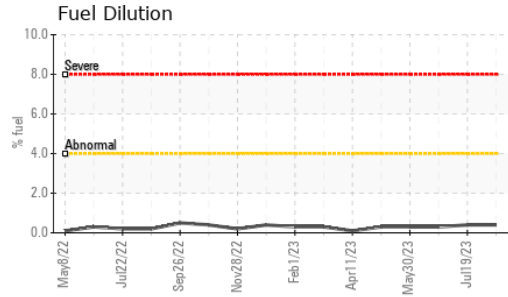
INFRA-RED

| | method | limit/base | current | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot % | % | *ASTM D7844 | 0.1 | 0 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 >20 | 7.2 | 6.8 | 6.5 |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | 20.7 | 20.6 | 20.7 |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation | Abs/.1mm | *ASTM D7414 >25 | 16.7 | 16.3 | 17.0 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 0.86 | 2.05 | 1.73 | 1.64 |
| Base Number (BN) | mg KOH/g | ASTM D2896 4.64 | 2.02 | 3.23 | 3.62 |

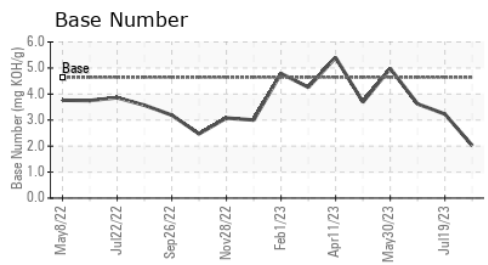
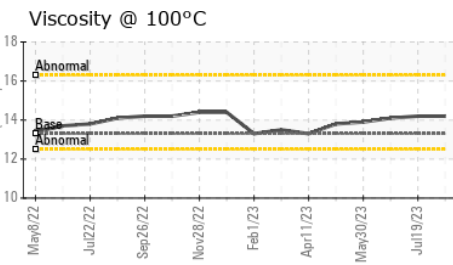
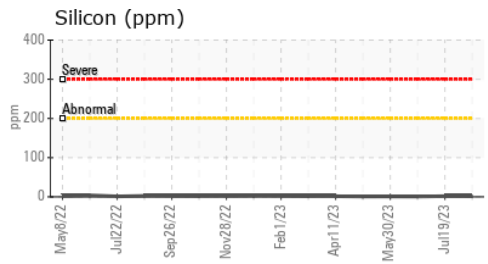
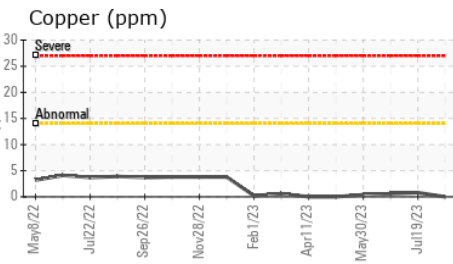
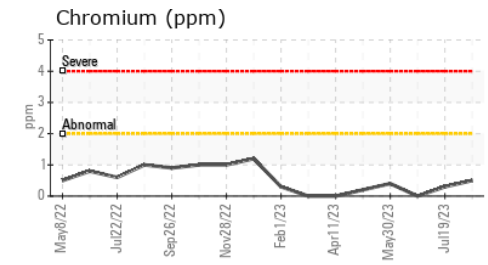
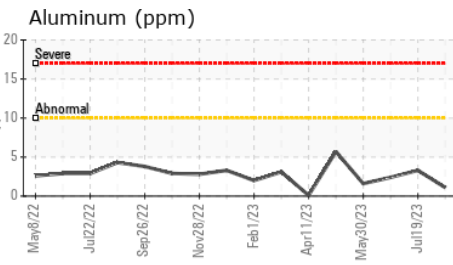
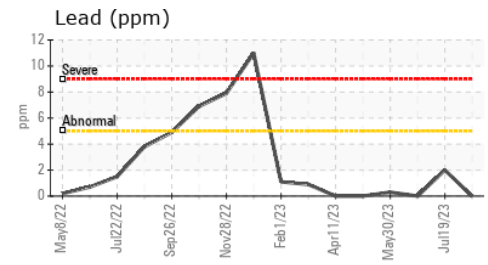
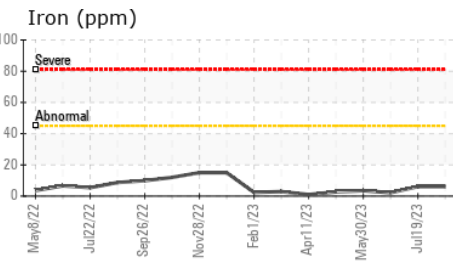
OIL ANALYSIS REPORT



| 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 | 13.3 | 14.2 | 14.1 |

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0096511 **Received** : 12 Sep 2023
Lab Number : 05949398 **Diagnosed** : 15 Sep 2023
Unique Number : 10645357 **Diagnostician** : Angela Borella
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

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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