



OIL ANALYSIS REPORT

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

Machine Id
M7 (S/N 1457487)
 Component
Biogas Engine
 Fluid
PETRO CANADA SENTRON LD 8000 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | PCA0120737 | PCA0120728 | PCA0106206 |
| Sample Date | | Client Info | | 04 Apr 2024 | 14 Mar 2024 | 18 Feb 2024 |
| Machine Age | hrs | Client Info | | 11091 | 10591 | 10096 |
| Oil Age | hrs | Client Info | | 8082 | 7582 | 7087 |
| Filter Age | hrs | Client Info | | 0 | 7582 | 7087 |
| 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 D5185m | >45 | 16 | 17 | 17 |
| Chromium | ppm | ASTM D5185m | >2 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >5 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | 2 | 2 | 2 |
| Lead | ppm | ASTM D5185m | >5 | 5 | 3 | 3 |
| Copper | ppm | ASTM D5185m | >14 | <1 | <1 | <1 |
| Tin | ppm | ASTM D5185m | >13 | 2 | 2 | 2 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

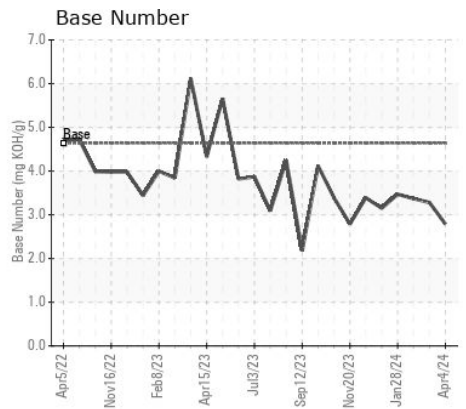
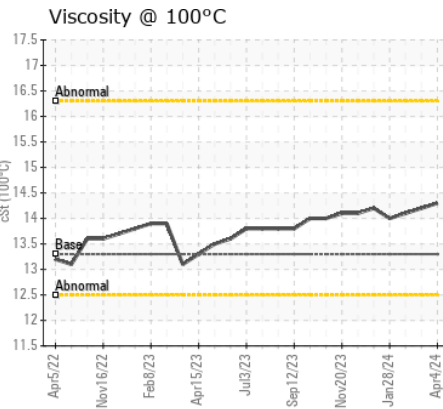
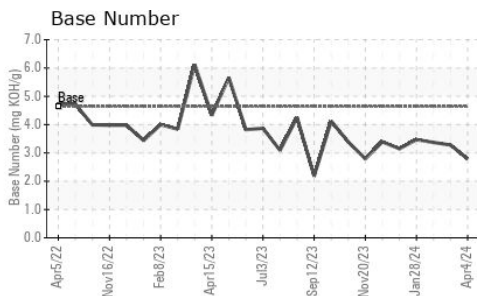
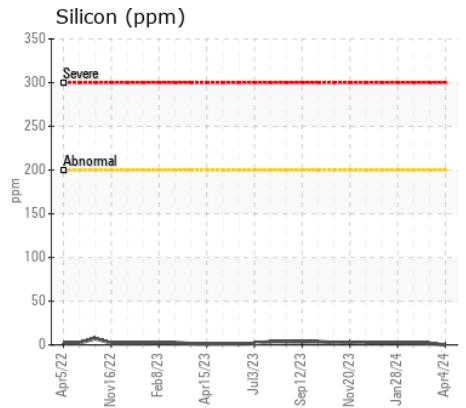
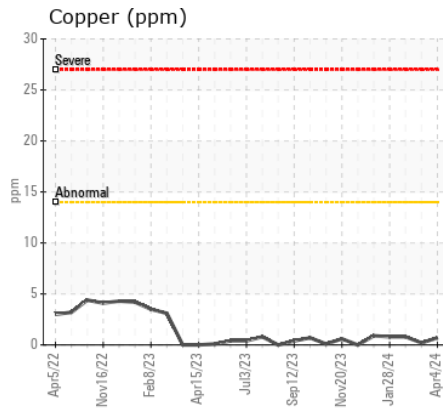
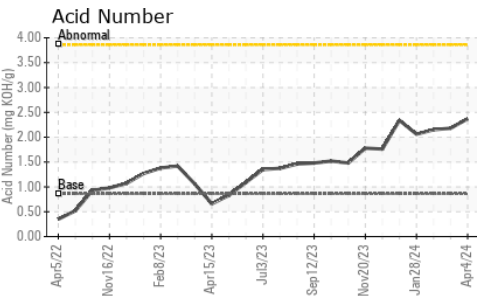
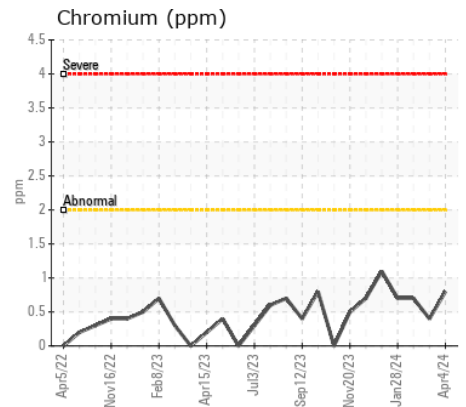
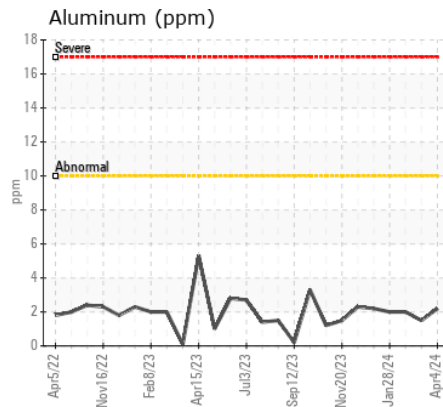
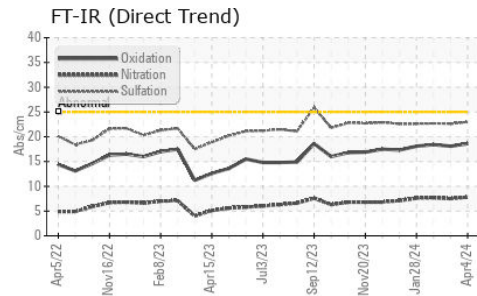
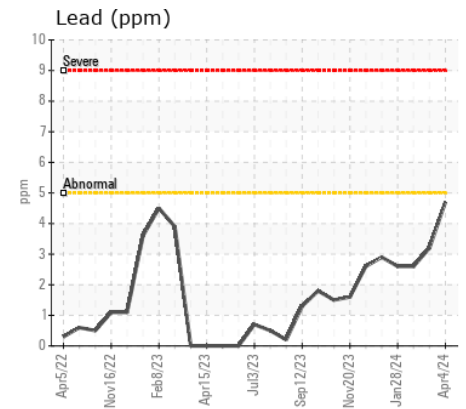
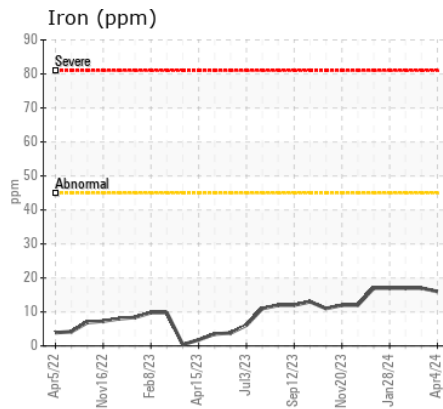
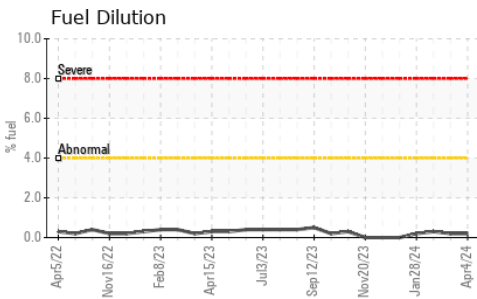
Fuel content negligible. There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >200 | 0 | 2 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | 0 | 3 |
| Fuel | % | ASTM D3524 | >4.0 | 0.2 | 0.2 | 0.3 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | | 0.1 | 0.1 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 7.8 | 7.5 | 7.7 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 23.0 | 22.6 | 22.7 |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.1 | NEG | NEG | NEG |

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.

| | | | | | | |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium | ppm | ASTM D5185m | | 10 | 11 | 10 |
| Boron | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | | 13 | 9 | 11 |
| Calcium | ppm | ASTM D5185m | 1351 | 2024 | 1897 | 1808 |
| Phosphorus | ppm | ASTM D5185m | 302 | 348 | 344 | 307 |
| Zinc | ppm | ASTM D5185m | 358 | 457 | 438 | 454 |
| Sulfur | ppm | ASTM D5185m | 2758 | 3967 | 3633 | 3264 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 18.6 | 18.1 | 18.4 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.86 | 2.37 | 2.18 | 2.15 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 4.64 | 2.79 | 3.28 | 3.37 |
| Visc @ 100°C | cSt | ASTM D445 | 13.3 | 14.3 | 14.2 | 14.1 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0120737
Lab Number : 06153265
Unique Number : 10983343
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

AMERICAN PETROLEUM
 CARR 865 KM 0.2 CAMPANILA
 TOA BAJA, PR
 US 00949
 Contact: NEFTALI ORTIZ
 nortiz@americanpetroleumpr.com
 T: (787)794-1985
 F:

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)