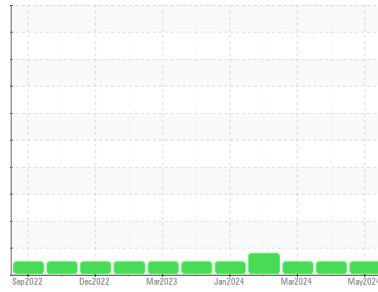


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
Liberty 1
 Component
Natural Gas Engine
 Fluid
PETRO CANADA SENTRON LD 3000 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Tests indicate that there is no fuel present in the oil. 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 | | PCA0112019 | PCA0111972 | PCA0117137 |
| Sample Date | Client Info | | 01 May 2024 | 02 Apr 2024 | 01 Mar 2024 |
| Machine Age | hrs | Client Info | 71644 | 70936 | 70196 |
| Oil Age | hrs | Client Info | 13434 | 12726 | 11986 |
| Oil Changed | Client Info | | N/A | N/A | N/A |
| Sample Status | | | NORMAL | NORMAL | NORMAL |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|-------|-----------|------------|------------|----------|----------|
| Water | WC Method | >0.1 | NEG | NEG | NEG |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|-----------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >50 | 2 | 2 | 0 |
| Chromium | ppm | ASTM D5185m >4 | <1 | 1 | 0 |
| Nickel | ppm | ASTM D5185m >2 | <1 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | <1 | <1 | 0 |
| Silver | ppm | ASTM D5185m >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >9 | <1 | 2 | 2 |
| Lead | ppm | ASTM D5185m >30 | 1 | 1 | <1 |
| Copper | ppm | ASTM D5185m >35 | <1 | <1 | 0 |
| Tin | ppm | ASTM D5185m >4 | 1 | 1 | <1 |
| Vanadium | ppm | ASTM D5185m | <1 | <1 | 0 |
| Cadmium | ppm | ASTM D5185m | <1 | 1 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|------------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m 5 | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m 1 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m 2 | 2 | 2 | <1 |
| Manganese | ppm | ASTM D5185m 1 | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m 5 | 8 | 10 | 9 |
| Calcium | ppm | ASTM D5185m 1220 | 1241 | 1716 | 1179 |
| Phosphorus | ppm | ASTM D5185m 298 | 288 | 395 | 270 |
| Zinc | ppm | ASTM D5185m 350 | 343 | 457 | 342 |
| Sulfur | ppm | ASTM D5185m 1995 | 2616 | 3448 | 2240 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|-------------------|------------|----------|----------|
| Silicon | ppm | ASTM D5185m >+100 | 2 | 3 | 1 |
| Sodium | ppm | ASTM D5185m | 0 | 0 | 1 |
| Potassium | ppm | ASTM D5185m >20 | 3 | 2 | 1 |
| Fuel | % | ASTM D3524 >4.0 | 0.0 | 0.0 | 0.2 |

INFRA-RED

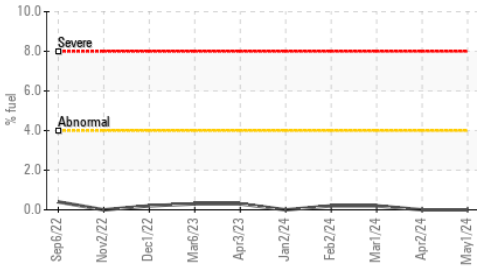
| | method | limit/base | current | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot % | % | *ASTM D7844 | 0 | 0 | 0 |
| Nitration | Abs/cm | *ASTM D7624 >20 | 3.5 | 3.5 | 3.3 |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | 13.6 | 13.8 | 13.8 |

FLUID DEGRADATION

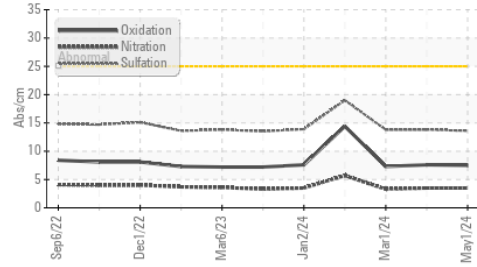
| | method | limit/base | current | history1 | history2 |
|------------------|----------|-----------------|--------------|----------|----------|
| Oxidation | Abs/.1mm | *ASTM D7414 >25 | 7.5 | 7.6 | 7.3 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 0.86 | 0.815 | 0.17 | 0.28 |
| Base Number (BN) | mg KOH/g | ASTM D2896 3.9 | 3.73 | 3.74 | 3.93 |

OIL ANALYSIS REPORT

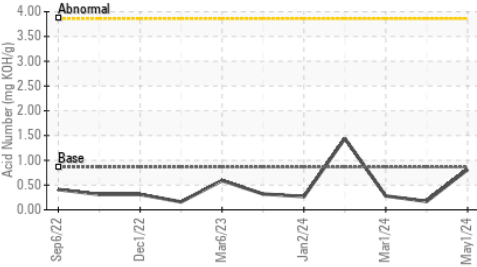
Fuel Dilution



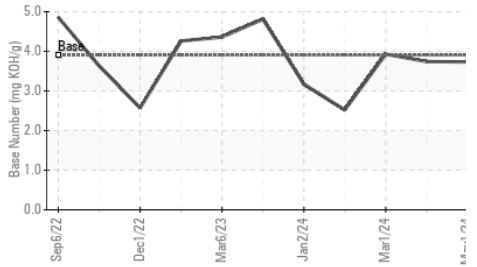
FT-IR (Direct Trend)



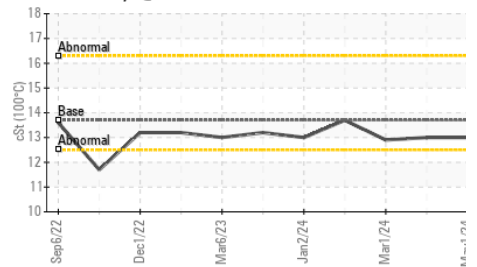
Acid Number



Base Number



Viscosity @ 100°C

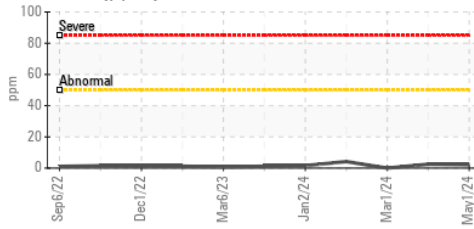


| PARAMETER | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | 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 |

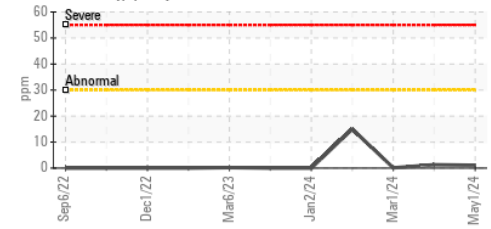
| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 13.7 | 13.0 | 12.9 |

GRAPHS

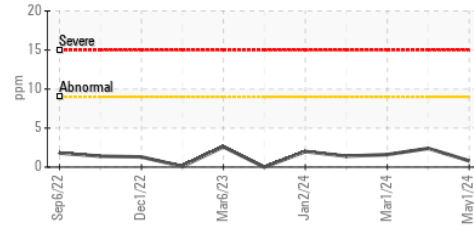
Iron (ppm)



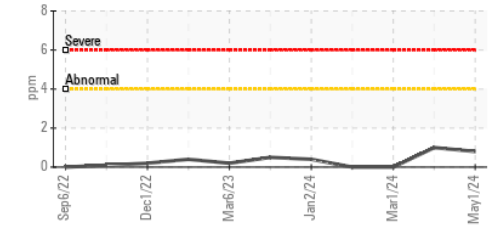
Lead (ppm)



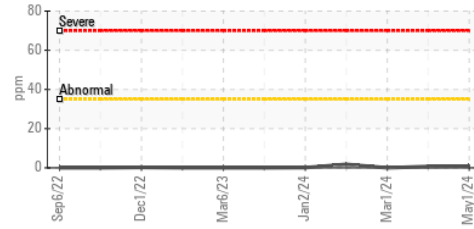
Aluminum (ppm)



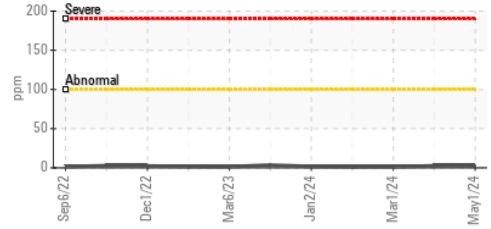
Chromium (ppm)



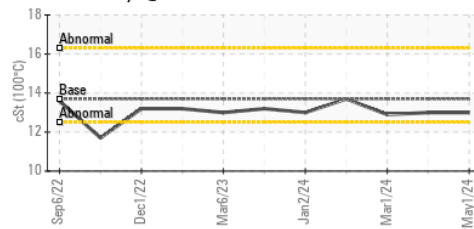
Copper (ppm)



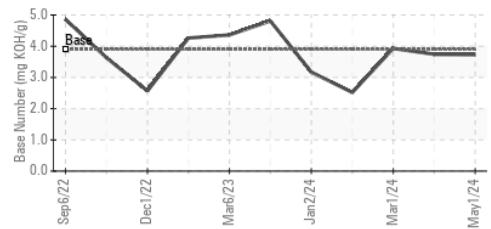
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : PCA0112019

Lab Number : 06174044

Unique Number : 11020097

Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

Received : 09 May 2024

Tested : 15 May 2024

Diagnosed : 15 May 2024 - Wes Davis

ENERVEST OPERATING - LIBERTY

318 SINGLETON ROAD

NORA, VA

US 24272

Contact: Service Manager

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)

T:

F: