OIL
DIAGNOSTICS


## Component

## Natural Gas Engine

PETRO CANADA SENTRON LD 3000 (--- GAL)

## DIAGNOSIS

## Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

## 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 | limitbase | current | history1 | history2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sample Number |  | Client Info |  | PCA0103429 | PCA0103458 | PCA0092159 |
| Sample Date |  | Client Info |  | 01 Nov 2023 | 03 Oct 2023 | 05 Sep 2023 |
| Machine Age | hrs | Client Info |  | 94847 | 94172 | 93504 |
| Oil Age | hrs | Client Info |  | 1840 | 1165 | 497 |
| Oil Changed |  | Client Info |  | Not Changd | Not Changd | Not Changd |
| Sample Status |  |  |  | NORMAL | NORMAL | NORMAL |
| CONTAMINATION |  | method | limitbase | current | history 1 | history2 |
| Water |  | WC Method | >0.1 | NEG | NEG | NEG |
| WEAR METALS |  | method | limitbase | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >50 | 2 | 2 | 1 |
| Chromium | ppm | ASTM D5185m | >4 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | <1 | 0 |
| Titanium | ppm | ASTM D5185m |  | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >9 | <1 | 0 | <1 |
| Lead | ppm | ASTM D5185m | >30 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >35 | 0 | <1 | <1 |
| Tin | ppm | ASTM D5185m | >4 | 0 | <1 | 0 |
| 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 | 5 | <1 | <1 | 0 |
| Barium | ppm | ASTM D5185m | 1 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 2 | 1 | 2 | <1 |
| Manganese | ppm | ASTM D5185m | 1 | <1 | 0 | $<1$ |
| Magnesium | ppm | ASTM D5185m | 5 | 11 | 10 | 10 |
| Calcium | ppm | ASTM D5185m | 1220 | 1294 | 1263 | 1385 |
| Phosphorus | ppm | ASTM D5185m | 298 | 288 | 285 | 300 |
| Zinc | ppm | ASTM D5185m | 350 | 343 | 366 | 358 |
| Sulfur | ppm | ASTM D5185m | 1995 | 2426 | 2837 | 2927 |
| CONTAMINANTS |  | method | limit/base | current | history1 | history2 |
| Silicon | ppm | ASTM D5185m | >+100 | 4 | 2 | 2 |
| Sodium | ppm | ASTM D5185m |  | 4 | $<1$ | 4 |
| Potassium | ppm | ASTM D5185m | $>20$ | 18 | 15 | 16 |
| Fuel | \% | ASTM D3524 | >4.0 | 0.0 | 0.1 | 0.3 |
| INFRA-RED |  | method | limit/base | current | history1 | history2 |
| Soot \% | \% | *ASTM D7844 |  | 0 | 0 | 0 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 4.4 | 5.1 | 4.5 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 14.0 | 14.8 | 14.3 |
| FLUID DEGRAD | ATION | method | limit/base | current | history1 | history2 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 8.0 | 9.2 | 8.4 |
| Acid Number (AN) | $\mathrm{mg} \mathrm{KOH/g}$ | ASTM D8045 | 0.86 | 0.51 | 1.16 | 0.62 |
| Base Number (BN) | $\mathrm{mg} \mathrm{KOH/g}$ | ASTM D2896 | 3.85 | 3.69 | 3.93 | 3.61 |









