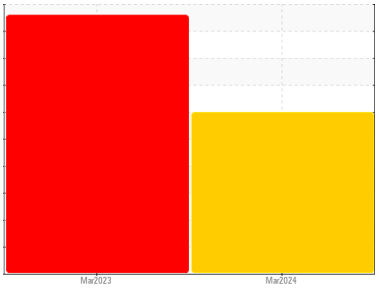
OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

Sample Rating Trend




**WATER**

Machine Id
## CC-7
Component
**Chain Case**
Fluid
**PETRO CANADA GEARLUBE TOS 80W90 (--- LTR)**

## DIAGNOSIS

**Recommendation**
We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

**Wear**
Bearing and/or bushing wear is indicated.

**Contamination**
There is a very high concentration of water present in the oil.

**Fluid Condition**
The oil viscosity is higher than normal. The oil is no longer serviceable due to the presence of contaminants.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **PCA0113916** | PCA0083705 | --- |
| Sample Date | | Client Info | | **11 Mar 2024** | 15 Mar 2023 | --- |
| Machine Age | hrs | Client Info | | **0** | 2863 | --- |
| Oil Age | hrs | Client Info | | **0** | 500 | --- |
| Oil Changed | | Client Info | | **Changed** | Changed | --- |
| Sample Status | | | | **SEVERE** | SEVERE | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >632 | **170** | ▲ 1222 | --- |
| Chromium | ppm | ASTM D5185m | >3 | **1** | ▲ 5 | --- |
| Nickel | ppm | ASTM D5185m | >3 | **2** | 2 | --- |
| Titanium | ppm | ASTM D5185m | | **<1** | 1 | --- |
| Silver | ppm | ASTM D5185m | | **<1** | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >19 | **10** | 9 | --- |
| Lead | ppm | ASTM D5185m | >6 | ▲ **14** | 0 | --- |
| Copper | ppm | ASTM D5185m | >46 | ▲ **83** | 10 | --- |
| Tin | ppm | ASTM D5185m | >3 | ▲ **10** | 0 | --- |
| Vanadium | ppm | ASTM D5185m | | **<1** | 0 | --- |
| Cadmium | ppm | ASTM D5185m | | **<1** | <1 | --- |

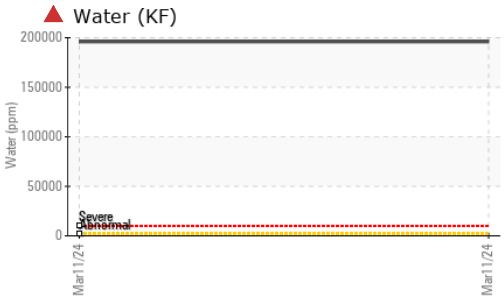
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 274 | **141** | ● 13 | --- |
| Barium | ppm | ASTM D5185m | 0.0 | **13** | 2 | --- |
| Molybdenum | ppm | ASTM D5185m | 0.0 | **13** | ● 61 | --- |
| Manganese | ppm | ASTM D5185m | | **4** | 12 | --- |
| Magnesium | ppm | ASTM D5185m | 5.5 | **132** | ● 952 | --- |
| Calcium | ppm | ASTM D5185m | 9.9 | **210** | ● 1134 | --- |
| Phosphorus | ppm | ASTM D5185m | 855 | **793** | 1069 | --- |
| Zinc | ppm | ASTM D5185m | 10 | **91** | ● 1272 | --- |
| Sulfur | ppm | ASTM D5185m | 14849 | **16809** | ● 3981 | --- |

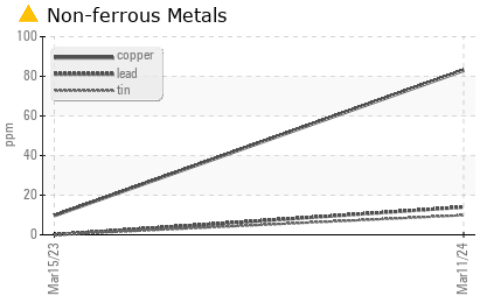
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >82 | **36** | 69 | --- |
| Sodium | ppm | ASTM D5185m | | **<1** | 3 | --- |
| Potassium | ppm | ASTM D5185m | >20 | **4** | 1 | --- |
| Water | % | ASTM D6304 | >0.2 | ▲ **19.6** | --- | --- |
| ppm Water | ppm | ASTM D6304 | >2000 | ▲ **196000** | --- | --- |

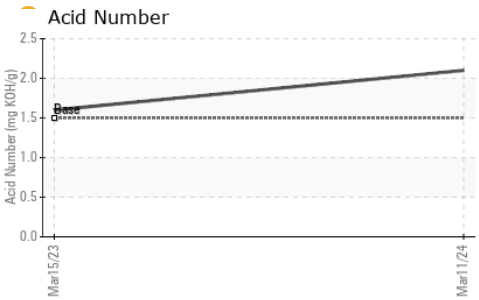
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.5 | **2.10** | 1.60 | --- |

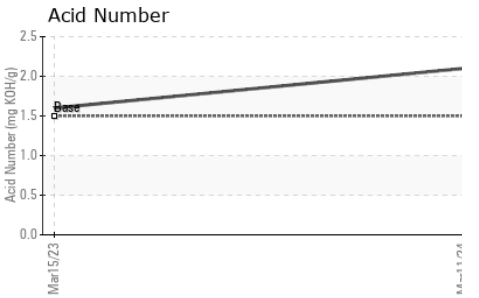
# OIL ANALYSIS REPORT

OIL DIAGNOSTICS



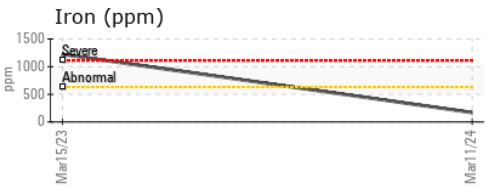



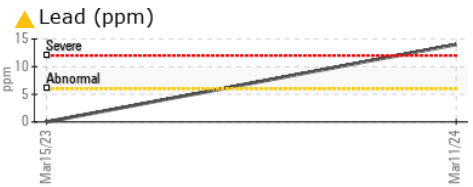

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Silt | scalar | *Visual | NONE | **MODER** | 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 | >0.2 | ▲ **0.2%** | NEG | --- |
| Free Water | scalar | *Visual | | **NEG** | NEG | --- |

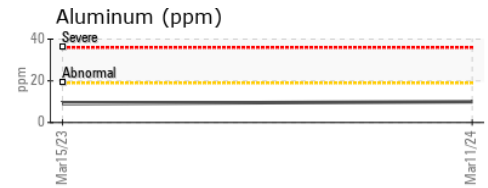
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 149 | ● **236** | ● 67.82 | --- |

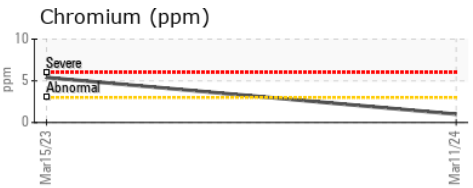
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | | *no image* | *no image* | *no image* |
| Bottom | | | *no image* | *no image* | *no image* |

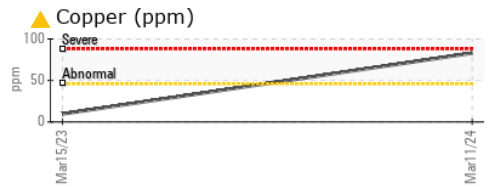
## GRAPHS

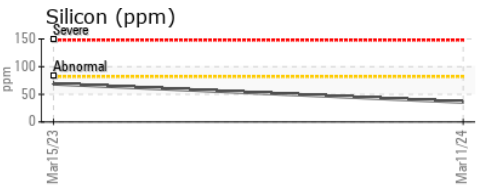


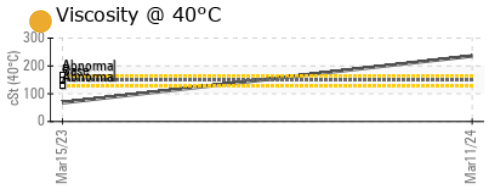





Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PCA0113916
**Lab Number** : 06129534
**Unique Number** : 10943685
**Test Package** : MOB 2 ( Additional Tests: KF )

**Received** : 26 Mar 2024
**Tested** : 27 Mar 2024
**Diagnosed** : 29 Mar 2024 - Don Baldridge

*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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