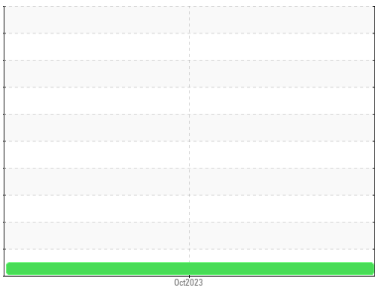
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
## CATERPILLAR 30-097 (S/N PAB07342)
Component
**Hydraulic System**
Fluid
**PETRO CANADA ENVIRON MV 46 (--- GAL)**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please contact your representative for information regarding the proper sampling kits for your service.

**Wear**
All component wear rates are normal.

**Contamination**
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

**Fluid Condition**
The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service (unconfirmed).

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **PC0069824** | --- | --- |
| Sample Date | | Client Info | | **02 Oct 2023** | --- | --- |
| Machine Age | hrs | Client Info | | **15484** | --- | --- |
| Oil Age | hrs | Client Info | | **5** | --- | --- |
| Oil Changed | | Client Info | | **Not Changd** | --- | --- |
| Sample Status | | | | **NORMAL** | --- | --- |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.05 | **NEG** | --- | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >20 | **0** | --- | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | **0** | --- | --- |
| Nickel | ppm | ASTM D5185(m) | >20 | **0** | --- | --- |
| Titanium | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Silver | ppm | ASTM D5185(m) | | **<1** | --- | --- |
| Aluminum | ppm | ASTM D5185(m) | >20 | **0** | --- | --- |
| Lead | ppm | ASTM D5185(m) | >20 | **0** | --- | --- |
| Copper | ppm | ASTM D5185(m) | >20 | **<1** | --- | --- |
| Tin | ppm | ASTM D5185(m) | >20 | **0** | --- | --- |
| Antimony | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Vanadium | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Beryllium | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Cadmium | ppm | ASTM D5185(m) | | **0** | --- | --- |

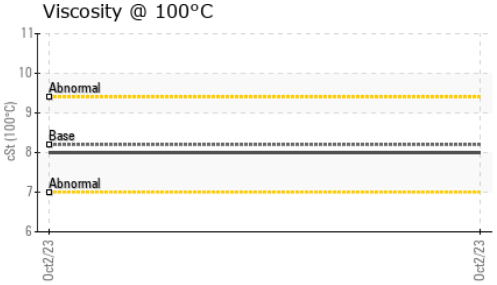
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 0 | **<1** | --- | --- |
| Barium | ppm | ASTM D5185(m) | 0 | **<1** | --- | --- |
| Molybdenum | ppm | ASTM D5185(m) | 0 | **0** | --- | --- |
| Manganese | ppm | ASTM D5185(m) | 0 | **0** | --- | --- |
| Magnesium | ppm | ASTM D5185(m) | 0 | **0** | --- | --- |
| Calcium | ppm | ASTM D5185(m) | 0 | **6** | --- | --- |
| Phosphorus | ppm | ASTM D5185(m) | 650 | **618** | --- | --- |
| Zinc | ppm | ASTM D5185(m) | 0 | **3** | --- | --- |
| Sulfur | ppm | ASTM D5185(m) | 1420 | **1341** | --- | --- |
| Lithium | ppm | ASTM D5185(m) | | **<1** | --- | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >15 | **0** | --- | --- |
| Sodium | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | **0** | --- | --- |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | **666** | --- | --- |
| Particles >6µm | | ASTM D7647 | >1300 | **232** | --- | --- |
| Particles >14µm | | ASTM D7647 | >160 | **20** | --- | --- |
| Particles >21µm | | ASTM D7647 | >40 | **5** | --- | --- |
| Particles >38µm | | ASTM D7647 | >10 | **0** | --- | --- |
| Particles >71µm | | ASTM D7647 | >3 | **0** | --- | --- |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | **17/15/11** | --- | --- |

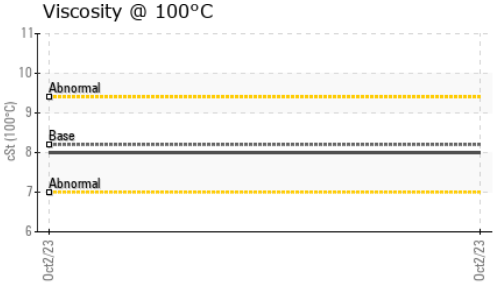
# OIL ANALYSIS REPORT

Viscosity @ 100°C

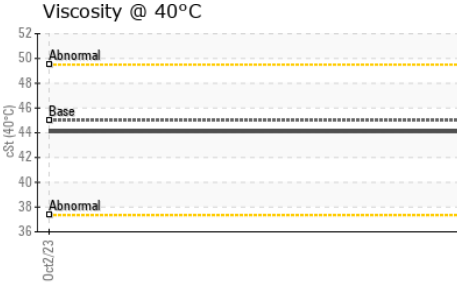



Particle Trend

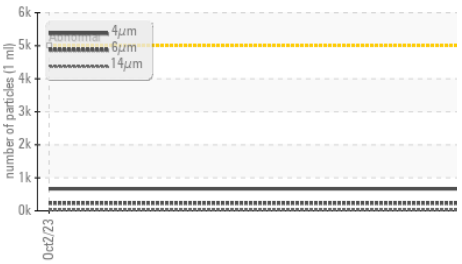

Viscosity @ 100°C




Viscosity @ 40°C



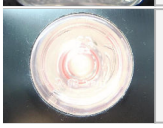

Particle Trend




| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.12 | **0.07** | --- | --- |

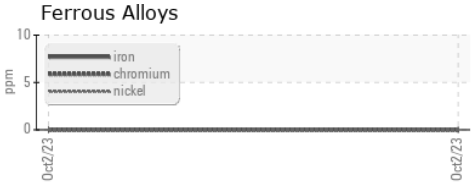
| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | Visual* | NONE | **NONE** | --- | --- |
| Yellow Metal | scalar | Visual* | NONE | **NONE** | --- | --- |
| Precipitate | scalar | Visual* | NONE | **NONE** | --- | --- |
| Silt | scalar | Visual* | NONE | **NONE** | --- | --- |
| Debris | scalar | Visual* | NONE | **NONE** | --- | --- |
| Sand/Dirt | scalar | Visual* | NONE | **NONE** | --- | --- |
| Appearance | scalar | Visual* | NORML | **NORML** | --- | --- |
| Odor | scalar | Visual* | NORML | **NORML** | --- | --- |
| Emulsified Water | scalar | Visual* | >0.05 | **NEG** | --- | --- |
| Free Water | scalar | Visual* | | **NEG** | --- | --- |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D7279(m) | 45.0 | **44.1** | --- | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 8.2 | **8** | --- | --- |
| Viscosity Index (VI) | Scale | ASTM D2270* | 158 | **155** | --- | --- |

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

## GRAPHS

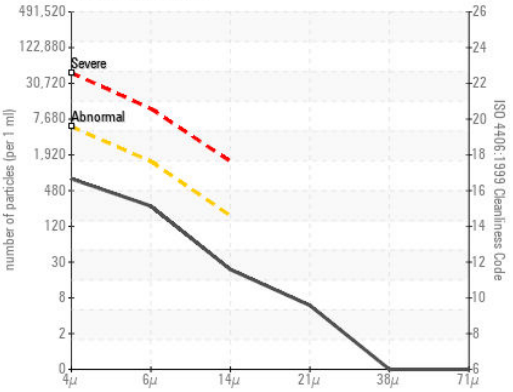
Ferrous Alloys



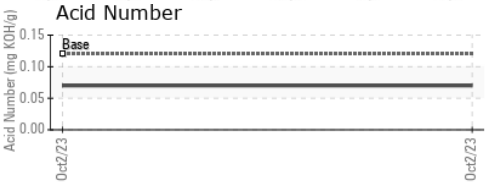

Non-ferrous Metals


Viscosity @ 40°C


Particle Count




Acid Number




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : PC0069824 **Received** : 04 Dec 2023
**Lab Number** : 02600478 **Diagnosed** : 05 Dec 2023
**Unique Number** : 5685558 **Diagnostician** : Kevin Marson
**Test Package** : IND 2 ( Additional Tests: KV100, VI )

*To discuss this sample report, contact Customer Service at 1-800-268-2131.*
*Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.*
*Validity of results and interpretation are based on the sample and information as supplied.*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