



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

Machine Id
VPF8649
 Component
Diesel Engine
 Fluid
PETRO CANADA 15W40 (--- GAL)

RECOMMENDATION

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

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|----------|
| Sample Number | | Client Info | | PCA0120956 | PCA0120967 | --- |
| Sample Date | | Client Info | | 10 Jul 2024 | 06 May 2024 | --- |
| Machine Age | mls | Client Info | | 46221 | 25558 | --- |
| Oil Age | mls | Client Info | | 20663 | 25558 | --- |
| Filter Age | mls | Client Info | | 20663 | 25558 | --- |
| Oil Changed | | Client Info | | Changed | Changed | --- |
| Filter Changed | | Client Info | | Changed | Changed | --- |
| Sample Status | | | | NORMAL | ATTENTION | --- |

WEAR

Metal levels are typical for a new component breaking in.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|-----|
| Iron | ppm | ASTM D5185m | >100 | 21 | 63 | --- |
| Chromium | ppm | ASTM D5185m | >20 | <1 | 1 | --- |
| Nickel | ppm | ASTM D5185m | >4 | 0 | 0 | --- |
| Titanium | ppm | ASTM D5185m | | 2 | <1 | --- |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >20 | 22 | 62 | --- |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | --- |
| Copper | ppm | ASTM D5185m | >330 | 3 | 14 | --- |
| Tin | ppm | ASTM D5185m | >15 | 0 | 0 | --- |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | --- |
| White Metal | scalar | *Visual | NONE | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | --- |

CONTAMINATION

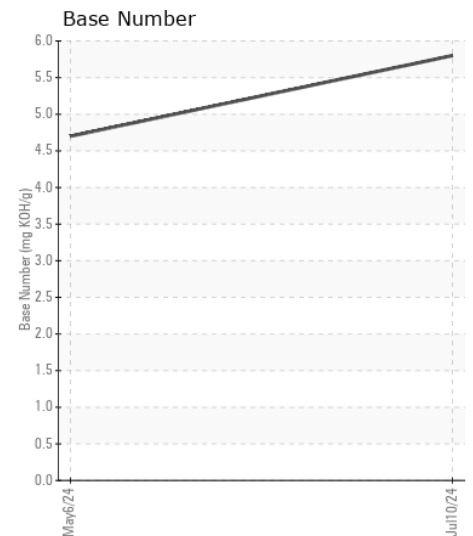
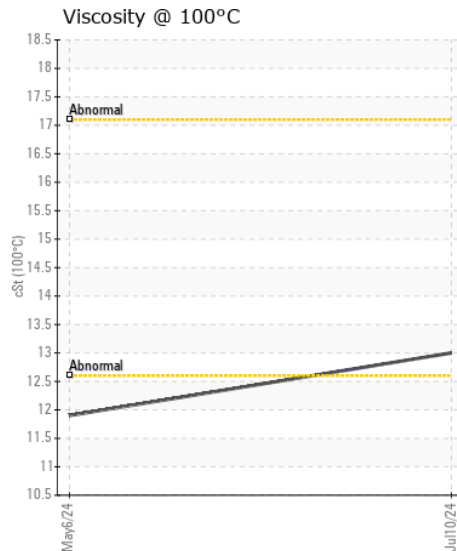
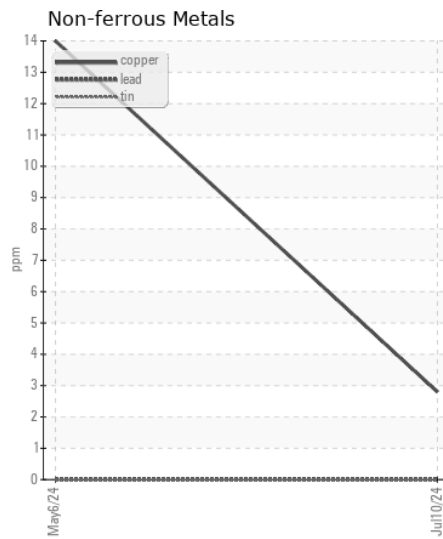
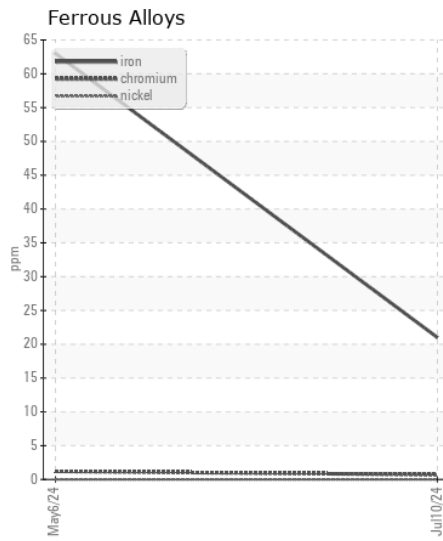
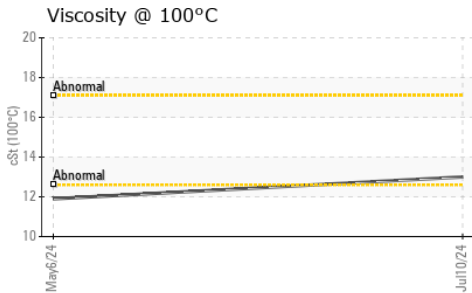
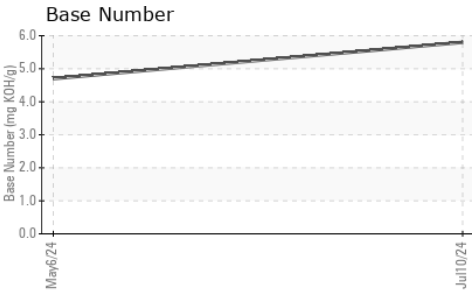
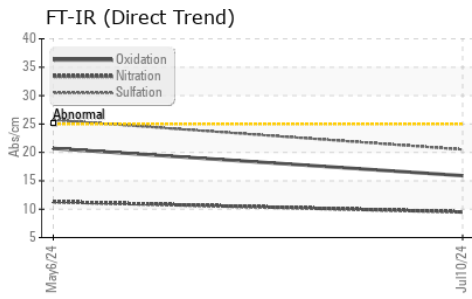
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-----|
| Silicon | ppm | ASTM D5185m | >25 | 6 | 11 | --- |
| Potassium | ppm | ASTM D5185m | >20 | 50 | 138 | --- |
| Fuel | | WC Method | >5 | <1.0 | 0.3 | --- |
| Water | | WC Method | >0.2 | NEG | NEG | --- |
| Glycol | | WC Method | | NEG | NEG | --- |
| Soot % | % | *ASTM D7844 | >3 | 0.3 | 0.4 | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 9.5 | 11.3 | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 20.5 | 25.7 | --- |
| 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 | >0.2 | NEG | NEG | --- |

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|-----|--------------|------|-----|
| Sodium | ppm | ASTM D5185m | | 3 | 4 | --- |
| Boron | ppm | ASTM D5185m | | 6 | 14 | --- |
| Barium | ppm | ASTM D5185m | | 0 | <1 | --- |
| Molybdenum | ppm | ASTM D5185m | | 53 | 5 | --- |
| Manganese | ppm | ASTM D5185m | | <1 | 3 | --- |
| Magnesium | ppm | ASTM D5185m | | 864 | 877 | --- |
| Calcium | ppm | ASTM D5185m | | 1133 | 1634 | --- |
| Phosphorus | ppm | ASTM D5185m | | 952 | 845 | --- |
| Zinc | ppm | ASTM D5185m | | 1120 | 1000 | --- |
| Sulfur | ppm | ASTM D5185m | | 3267 | 3728 | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 15.9 | 20.7 | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 5.8 | 4.7 | --- |
| Visc @ 100°C | cSt | ASTM D445 | | 13.0 | 11.9 | --- |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0120956 **Received** : 19 Jul 2024
Lab Number : 06241483 **Tested** : 20 Jul 2024
Unique Number : 11130317 **Diagnosed** : 20 Jul 2024 - Wes Davis
Test Package : FLEET

TROIL ENTERPRISES
 2485 E STATE RD
 TRENTON, NJ
 US 08619
 Contact: JOHN RUBLE

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: