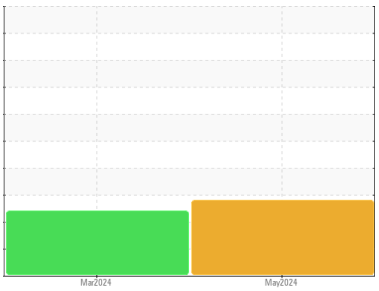
# OIL ANALYSIS REPORT

Sample Rating Trend




**ADDITIVES**

Machine Id
**113006**
Component
**Hydraulic System**
Fluid
**PETRO CANADA HYDREX AW 32 (--- GAL)**

## DIAGNOSIS

**Recommendation**
We recommend you service the filters on this component. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

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

**Contamination**
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

**Fluid Condition**
Additive levels indicate the addition of a different brand, or type of oil. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **GFL0118563** | GFL0107892 | --- |
| Sample Date | | Client Info | | **06 May 2024** | 19 Mar 2024 | --- |
| Machine Age | kms | Client Info | | **54783** | 50943 | --- |
| Oil Age | kms | Client Info | | **0** | 0 | --- |
| Oil Changed | | Client Info | | **N/A** | Not Changd | --- |
| Sample Status | | | | **ABNORMAL** | ATTENTION | --- |

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

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >20 | **2** | 2 | --- |
| Chromium | ppm | ASTM D5185(m) | >10 | **0** | 0 | --- |
| Nickel | ppm | ASTM D5185(m) | >10 | **0** | 0 | --- |
| Titanium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Silver | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Aluminum | ppm | ASTM D5185(m) | >10 | **<1** | <1 | --- |
| Lead | ppm | ASTM D5185(m) | >10 | **4** | 3 | --- |
| Copper | ppm | ASTM D5185(m) | >75 | **5** | 5 | --- |
| Tin | ppm | ASTM D5185(m) | >10 | **0** | 0 | --- |
| Antimony | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Vanadium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Beryllium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Cadmium | ppm | ASTM D5185(m) | | **0** | 0 | --- |

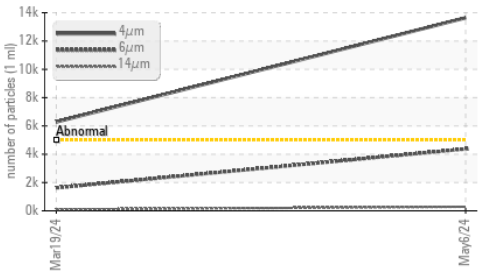
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 0 | **0** | <1 | --- |
| Barium | ppm | ASTM D5185(m) | 0 | **<1** | <1 | --- |
| Molybdenum | ppm | ASTM D5185(m) | 0 | **0** | 0 | --- |
| Manganese | ppm | ASTM D5185(m) | 0 | **0** | 0 | --- |
| Magnesium | ppm | ASTM D5185(m) | 0 | **<1** | <1 | --- |
| Calcium | ppm | ASTM D5185(m) | 50 | **3** | 1 | --- |
| Phosphorus | ppm | ASTM D5185(m) | 330 | **203** | 203 | --- |
| Zinc | ppm | ASTM D5185(m) | 430 | **62** | 61 | --- |
| Sulfur | ppm | ASTM D5185(m) | 760 | **313** | 300 | --- |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >20 | **4** | 3 | --- |
| Sodium | ppm | ASTM D5185(m) | | **2** | 2 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | **<1** | <1 | --- |

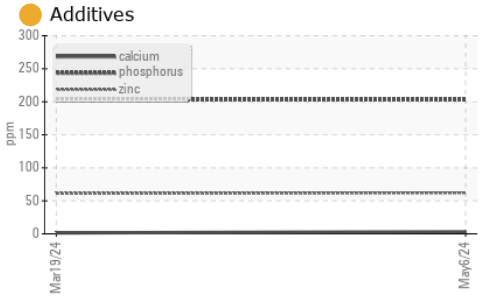
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | **13640** | 6280 | --- |
| Particles >6µm | | ASTM D7647 | >1300 | **4371** | 1624 | --- |
| Particles >14µm | | ASTM D7647 | >160 | **288** | 94 | --- |
| Particles >21µm | | ASTM D7647 | >40 | **56** | 19 | --- |
| Particles >38µm | | ASTM D7647 | >10 | **1** | 2 | --- |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 1 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | **21/19/15** | 20/18/14 | --- |

# OIL ANALYSIS REPORT

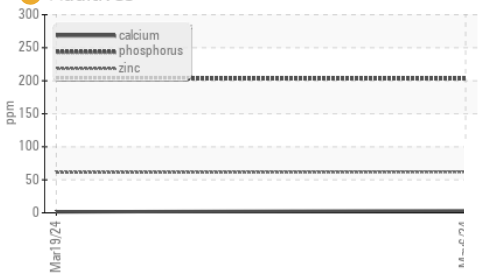
Particle Trend




Additives



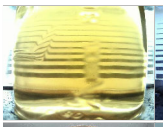
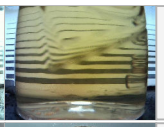

Additives




Viscosity @ 40°C


| 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 | **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 | --- |

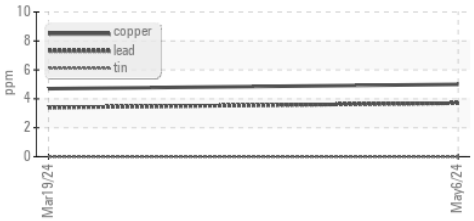
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D7279(m) | 31.5 | **32.8** | 32.6 | --- |

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

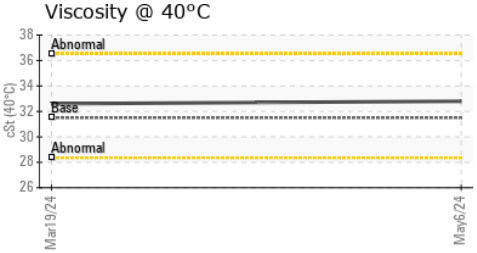
## GRAPHS

Ferrous Alloys

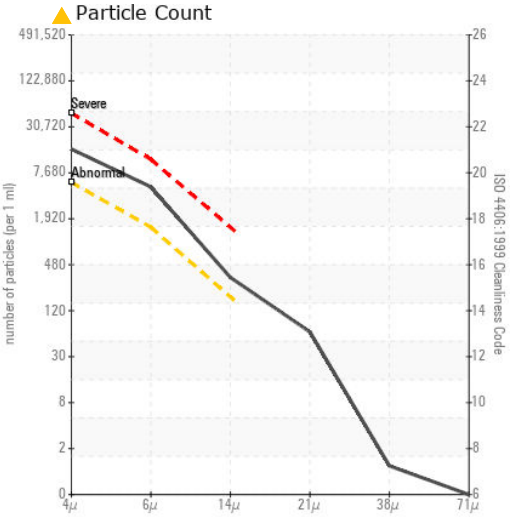

Non-ferrous Metals




Viscosity @ 40°C




Particle Count




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : GFL0118563
**Lab Number** : 02639662
**Unique Number** : 5788824
**Test Package** : MOB 1 ( Additional Tests: PrtCount )

**Received** : 04 Jun 2024
**Tested** : 05 Jun 2024
**Diagnosed** : 06 Jun 2024 - Kevin Marson

*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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