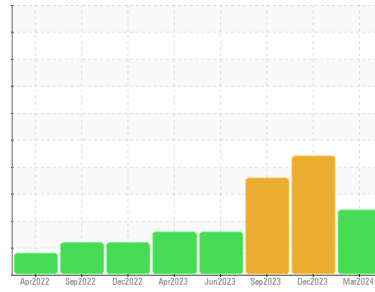




# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**



Machine Id

**B69392 (S/N 2203939)**

Component

**Hydraulic System**

Fluid

**PETRO CANADA PURITY FG AW HYDRAULIC 46 (--- GAL)**

## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

### Wear

The iron level is marginal.

### Contamination

There is a high amount of particulates present in the oil.

### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1    | history2    |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info |             | <b>WC0885414</b>   | WC0682713   | WC0842491   |
| Sample Date   | Client Info |             | <b>26 Mar 2024</b> | 14 Dec 2023 | 09 Sep 2023 |
| Machine Age   | hrs         | Client Info | <b>546</b>         | 2069        | 5712        |
| Oil Age       | hrs         | Client Info | <b>131</b>         | 37          | 1688        |
| Oil Changed   | Client Info |             | <b>Not Chngd</b>   | N/A         | Not Chngd   |
| Sample Status |             |             | <b>ABNORMAL</b>    | SEVERE      | SEVERE      |

## CONTAMINATION

|       | method    | limit/base | current    | history1 | history2 |
|-------|-----------|------------|------------|----------|----------|
| Water | WC Method | >0.05      | <b>NEG</b> | NEG      | NEG      |

## WEAR METALS

|          | method | limit/base  | current          | history1 | history2 |
|----------|--------|-------------|------------------|----------|----------|
| Iron     | ppm    | ASTM D5185m | >20 <b>▲ 15</b>  | 0        | 2        |
| Chromium | ppm    | ASTM D5185m | >20 <b>0</b>     | 0        | 0        |
| Nickel   | ppm    | ASTM D5185m | >20 <b>1</b>     | 0        | 0        |
| Titanium | ppm    | ASTM D5185m | <b>0</b>         | 0        | 0        |
| Silver   | ppm    | ASTM D5185m | <b>0</b>         | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m | >20 <b>&lt;1</b> | 0        | 1        |
| Lead     | ppm    | ASTM D5185m | >20 <b>0</b>     | 0        | 0        |
| Copper   | ppm    | ASTM D5185m | >20 <b>0</b>     | 0        | <1       |
| Tin      | ppm    | ASTM D5185m | >20 <b>&lt;1</b> | 0        | 0        |
| Vanadium | ppm    | ASTM D5185m | <b>0</b>         | <1       | 0        |
| Cadmium  | ppm    | ASTM D5185m | <b>0</b>         | 0        | 0        |

## ADDITIVES

|            | method | limit/base  | current      | history1 | history2 |
|------------|--------|-------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185m | <b>0</b>     | 0        | 0        |
| Barium     | ppm    | ASTM D5185m | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm    | ASTM D5185m | <b>0</b>     | 0        | 0        |
| Manganese  | ppm    | ASTM D5185m | <b>&lt;1</b> | 0        | 0        |
| Magnesium  | ppm    | ASTM D5185m | <b>&lt;1</b> | 0        | 2        |
| Calcium    | ppm    | ASTM D5185m | <b>3</b>     | <1       | 31       |
| Phosphorus | ppm    | ASTM D5185m | <b>469</b>   | 444      | 299      |
| Zinc       | ppm    | ASTM D5185m | <b>31</b>    | 19       | 197      |
| Sulfur     | ppm    | ASTM D5185m | <b>897</b>   | 699      | 8964     |

## CONTAMINANTS

|           | method | limit/base  | current      | history1 | history2 |
|-----------|--------|-------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m | >15 <b>3</b> | 3        | <1       |
| Sodium    | ppm    | ASTM D5185m | <b>13</b>    | 5        | 24       |
| Potassium | ppm    | ASTM D5185m | >20 <b>3</b> | 0        | 8        |

## FLUID CLEANLINESS

|                 | method       | limit/base | current           | history1   | history2   |
|-----------------|--------------|------------|-------------------|------------|------------|
| Particles >4µm  | ASTM D7647   | >10000     | <b>▲ 97680</b>    | ▲ 91731    | ▲ 87886    |
| Particles >6µm  | ASTM D7647   | >1300      | <b>▲ 22033</b>    | ▲ 21842    | ▲ 13275    |
| Particles >14µm | ASTM D7647   | >160       | <b>▲ 208</b>      | ▲ 609      | 138        |
| Particles >21µm | ASTM D7647   | >40        | <b>14</b>         | ▲ 94       | 20         |
| Particles >38µm | ASTM D7647   | >10        | <b>0</b>          | 2          | 1          |
| Particles >71µm | ASTM D7647   | >3         | <b>0</b>          | 0          | 0          |
| Oil Cleanliness | ISO 4406 (c) | >20/17/14  | <b>▲ 24/22/15</b> | ▲ 24/22/16 | ▲ 24/21/14 |

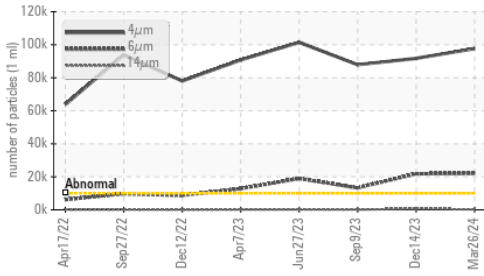
## FLUID DEGRADATION

|                  | method   | limit/base | current | history1    | history2 |      |
|------------------|----------|------------|---------|-------------|----------|------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.26    | <b>0.16</b> | 0.20     | 0.21 |

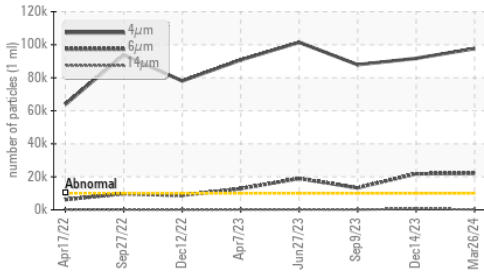


# OIL ANALYSIS REPORT

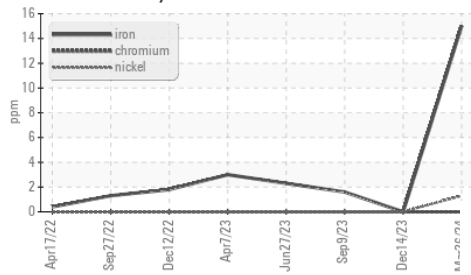
## ▲ Particle Trend



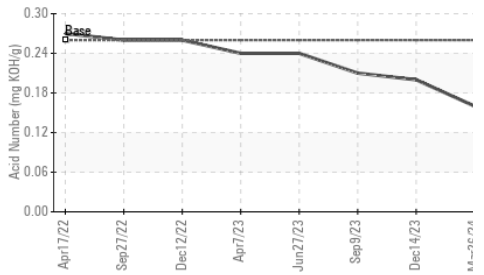
## ▲ Particle Trend



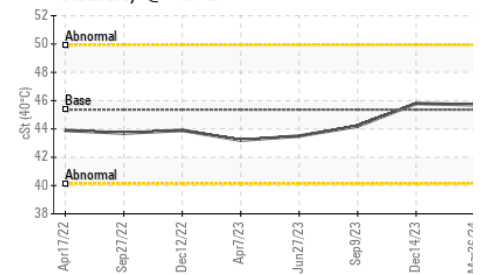
## ▲ Ferrous Alloys



## Acid Number



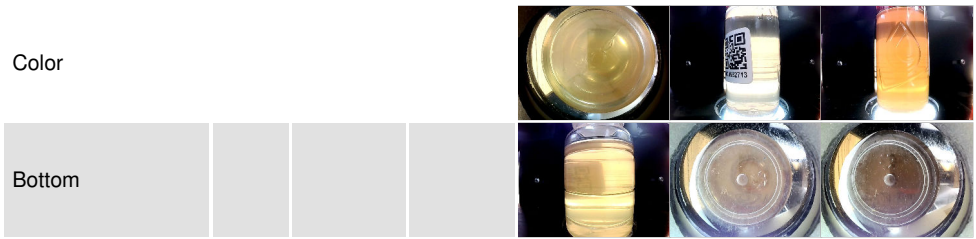
## Viscosity @ 40°C



| 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    | >0.05   | NEG      | NEG      |
| Free Water       | scalar | *Visual    |         | NEG      | NEG      |

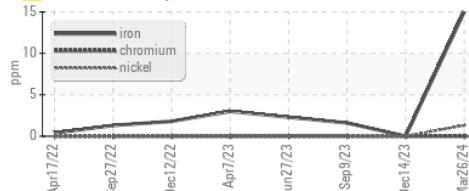
| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C      | cSt    | ASTM D445  | 45.36   | 45.7     | 45.8     |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
|---------------|--------|------------|---------|----------|----------|

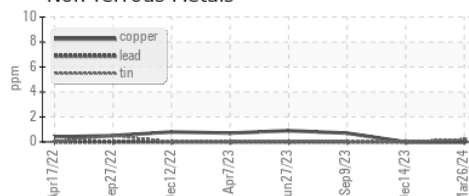


## GRAPHS

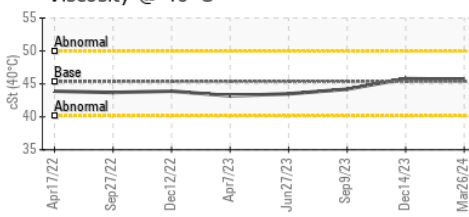
### ▲ Ferrous Alloys



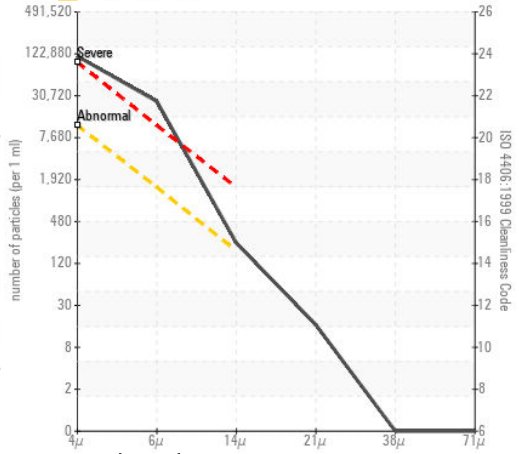
### Non-ferrous Metals



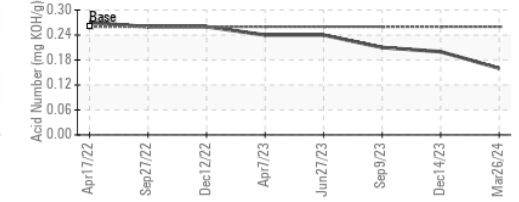
### Viscosity @ 40°C



### ▲ Particle Count



### Acid Number



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0885414 **Received** : 08 Apr 2024  
**Lab Number** : 06141278 **Tested** : 15 Apr 2024  
**Unique Number** : 10966086 **Diagnosed** : 15 Apr 2024 - Jonathan Hester  
**Test Package** : IND 2

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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)