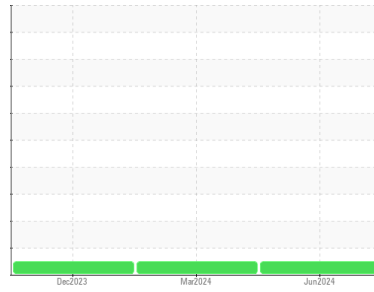


# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Area  
**[70473]**  
 Machine Id  
**TTH038**  
 Component  
**Right Final Drive**  
 Fluid  
**PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: PM-3 sampled fluid )

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

The condition of the oil is acceptable for the time in service.

## SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1    | history2    |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info |             | <b>PCA0109205</b>  | PCA0109001  | PCA0070656  |
| Sample Date   | Client Info |             | <b>13 Jun 2024</b> | 13 Mar 2024 | 05 Dec 2023 |
| Machine Age   | hrs         | Client Info | <b>1473</b>        | 942         | 453         |
| Oil Age       | hrs         | Client Info | <b>1473</b>        | 942         | 453         |
| Oil Changed   |             | Client Info | <b>N/A</b>         | N/A         | N/A         |
| Sample Status |             |             | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## CONTAMINATION

|       | method    | limit/base | current    | history1 | history2 |
|-------|-----------|------------|------------|----------|----------|
| Water | WC Method | >0.2       | <b>NEG</b> | NEG      | NEG      |

## WEAR METALS

|          | method | limit/base       | current      | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >500 | <b>133</b>   | 105      | 79       |
| Chromium | ppm    | ASTM D5185m >10  | <b>2</b>     | 2        | 1        |
| Nickel   | ppm    | ASTM D5185m >10  | <b>0</b>     | <1       | 0        |
| Titanium | ppm    | ASTM D5185m      | <b>0</b>     | 0        | 0        |
| Silver   | ppm    | ASTM D5185m      | <b>0</b>     | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m >25  | <b>&lt;1</b> | <1       | 1        |
| Lead     | ppm    | ASTM D5185m >25  | <b>0</b>     | <1       | 0        |
| Copper   | ppm    | ASTM D5185m >50  | <b>&lt;1</b> | 1        | <1       |
| Tin      | ppm    | ASTM D5185m >10  | <b>&lt;1</b> | <1       | 0        |
| Vanadium | ppm    | ASTM D5185m      | <b>0</b>     | 0        | 0        |
| Cadmium  | ppm    | ASTM D5185m      | <b>0</b>     | 0        | 0        |

## ADDITIVES

|            | method | limit/base       | current      | history1 | history2 |
|------------|--------|------------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185m 2    | <b>0</b>     | 4        | 0        |
| Barium     | ppm    | ASTM D5185m 0    | <b>8</b>     | 7        | 0        |
| Molybdenum | ppm    | ASTM D5185m 0    | <b>0</b>     | 0        | 0        |
| Manganese  | ppm    | ASTM D5185m 0    | <b>2</b>     | 2        | <1       |
| Magnesium  | ppm    | ASTM D5185m 9    | <b>2</b>     | 1        | <1       |
| Calcium    | ppm    | ASTM D5185m 3114 | <b>220</b>   | 192      | 193      |
| Phosphorus | ppm    | ASTM D5185m 1099 | <b>191</b>   | 186      | 146      |
| Zinc       | ppm    | ASTM D5185m 1245 | <b>79</b>    | 62       | 54       |
| Sulfur     | ppm    | ASTM D5185m 7086 | <b>16059</b> | 16519    | 13987    |

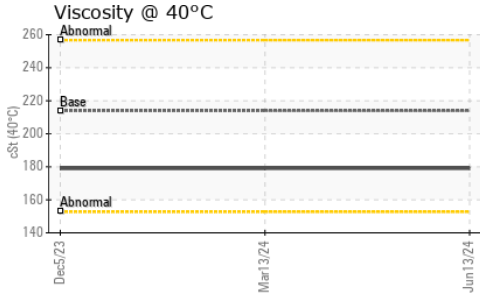
## CONTAMINANTS

|           | method | limit/base      | current   | history1 | history2 |
|-----------|--------|-----------------|-----------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >75 | <b>11</b> | 10       | 6        |
| Sodium    | ppm    | ASTM D5185m     | <b>4</b>  | 4        | 0        |
| Potassium | ppm    | ASTM D5185m >20 | <b>3</b>  | 3        | 2        |

## VISUAL

|                  | method | limit/base    | current      | history1 | history2 |
|------------------|--------|---------------|--------------|----------|----------|
| White Metal      | scalar | *Visual NONE  | <b>NONE</b>  | MODER    | NONE     |
| Yellow Metal     | scalar | *Visual NONE  | <b>NONE</b>  | NONE     | NONE     |
| Precipitate      | scalar | *Visual NONE  | <b>NONE</b>  | NONE     | NONE     |
| Silt             | scalar | *Visual NONE  | <b>NONE</b>  | NONE     | NONE     |
| Debris           | scalar | *Visual NONE  | <b>NONE</b>  | NONE     | NONE     |
| Sand/Dirt        | scalar | *Visual NONE  | <b>NONE</b>  | NONE     | NONE     |
| Appearance       | scalar | *Visual NORML | <b>NORML</b> | NORML    | NORML    |
| Odor             | scalar | *Visual NORML | <b>NORML</b> | NORML    | NORML    |
| Emulsified Water | scalar | *Visual >0.2  | <b>NEG</b>   | NEG      | NEG      |
| Free Water       | scalar | *Visual       | <b>NEG</b>   | NEG      | NEG      |

# OIL ANALYSIS REPORT

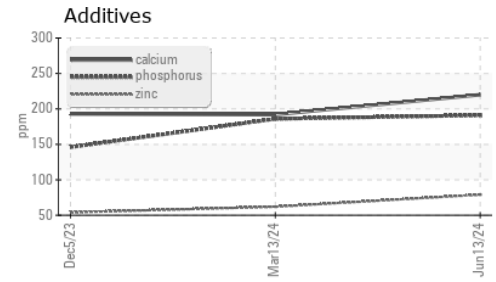
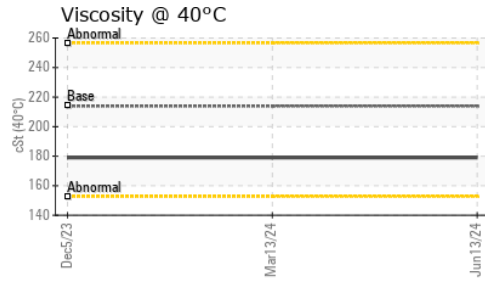
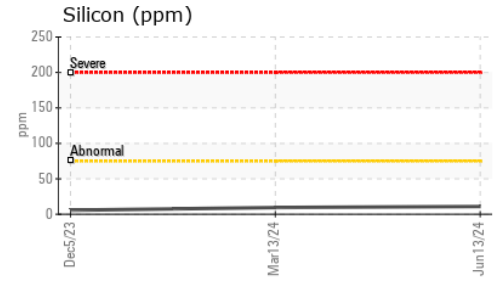
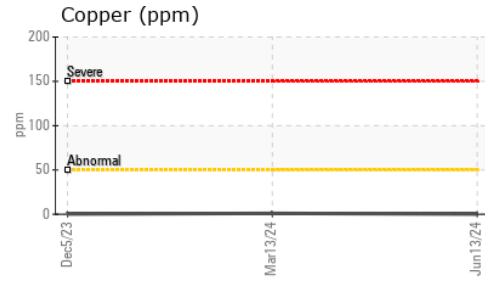
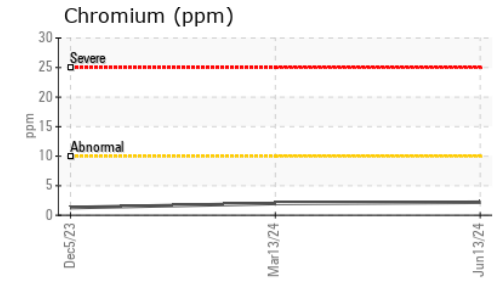
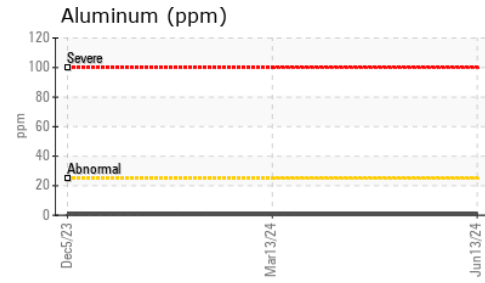
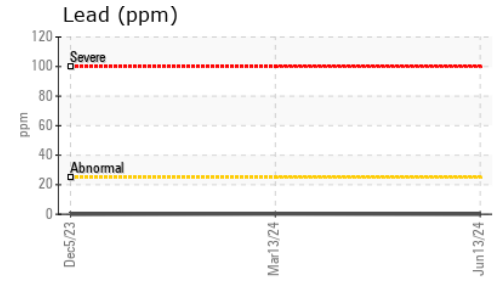
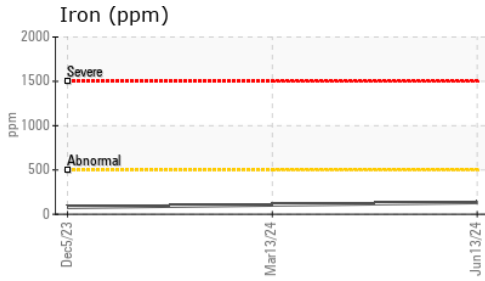


| FLUID PROPERTIES | method | limit/base | current | history1   | history2 |     |
|------------------|--------|------------|---------|------------|----------|-----|
| Visc @ 40°C      | cSt    | ASTM D445  | 213.9   | <b>179</b> | 179      | 179 |

| 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.** : PCA0109205  
**Lab Number** : **06216399**  
**Unique Number** : 11089263  
**Test Package** : MOB 1

**Received** : 20 Jun 2024  
**Tested** : 22 Jun 2024  
**Diagnosed** : 23 Jun 2024 - Don Baldrige

**Kemp Quarries - Muskogee Sand**  
 3395 W 50th St N  
 Porter, OK  
 US 74454  
 Contact:

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)

muskogee@muskogeessand.com

T:

F: