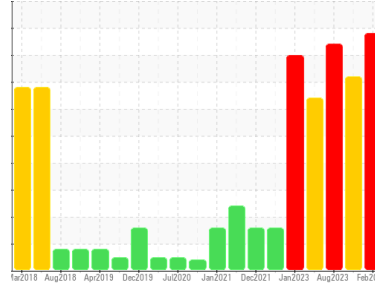


Area  
**KEMP QUARRIES / BCS - GRAVETTE [68277]**  
Machine Id  
**WL117**  
Component  
**Gear Drive**  
Fluid  
**PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)**



## DIAGNOSIS

### Recommendation

We advise that you check all areas where dirt can enter the system. We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. ( Customer Sample Comment: Pm3 )

### Wear

All component wear rates are normal.

### Contamination

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. There is a high concentration of water present in the oil.

### Fluid Condition

The oil is no longer serviceable due to the presence of contaminants.

## SAMPLE INFORMATION

| method        | limit/base  | current            | history1    | history2    |
|---------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | <b>PCA0069792</b>  | PCA0086536  | PCA0086418  |
| Sample Date   | Client Info | <b>06 Feb 2024</b> | 14 Sep 2023 | 01 Aug 2023 |
| Machine Age   | hrs         | <b>20058</b>       | 5691        | 5552        |
| Oil Age       | hrs         | <b>14367</b>       | 5691        | 5552        |
| Oil Changed   | Client Info | <b>Changed</b>     | Changed     | Changed     |
| Sample Status |             | <b>SEVERE</b>      | SEVERE      | SEVERE      |

## WEAR METALS

| method   | limit/base | current          | history1     | history2 |     |
|----------|------------|------------------|--------------|----------|-----|
| Iron     | ppm        | ASTM D5185m >500 | <b>311</b>   | 100      | 201 |
| Chromium | ppm        | ASTM D5185m >5   | <b>1</b>     | <1       | <1  |
| Nickel   | ppm        | ASTM D5185m >8   | <b>&lt;1</b> | <1       | <1  |
| Titanium | ppm        | ASTM D5185m      | <b>6</b>     | 2        | 1   |
| Silver   | ppm        | ASTM D5185m      | <b>&lt;1</b> | 0        | 0   |
| Aluminum | ppm        | ASTM D5185m >20  | <b>93</b>    | 36       | 20  |
| Lead     | ppm        | ASTM D5185m >20  | <b>&lt;1</b> | 0        | 0   |
| Copper   | ppm        | ASTM D5185m >500 | <b>&lt;1</b> | <1       | 0   |
| Tin      | ppm        | ASTM D5185m >75  | <b>&lt;1</b> | 0        | <1  |
| Vanadium | ppm        | ASTM D5185m      | <b>&lt;1</b> | <1       | 0   |
| Cadmium  | ppm        | ASTM D5185m      | <b>&lt;1</b> | <1       | <1  |

## ADDITIVES

| method     | limit/base | current          | history1     | history2 |       |
|------------|------------|------------------|--------------|----------|-------|
| Boron      | ppm        | ASTM D5185m 2    | <b>6</b>     | 32       | 194   |
| Barium     | ppm        | ASTM D5185m 0    | <b>&lt;1</b> | 0        | 0     |
| Molybdenum | ppm        | ASTM D5185m 0    | <b>&lt;1</b> | 1        | 0     |
| Manganese  | ppm        | ASTM D5185m 0    | <b>8</b>     | 2        | 3     |
| Magnesium  | ppm        | ASTM D5185m 9    | <b>72</b>    | 24       | 16    |
| Calcium    | ppm        | ASTM D5185m 3114 | <b>4043</b>  | 2836     | 386   |
| Phosphorus | ppm        | ASTM D5185m 1099 | <b>779</b>   | 895      | 960   |
| Zinc       | ppm        | ASTM D5185m 1245 | <b>1022</b>  | 999      | 53    |
| Sulfur     | ppm        | ASTM D5185m 7086 | <b>4083</b>  | 6341     | 21478 |

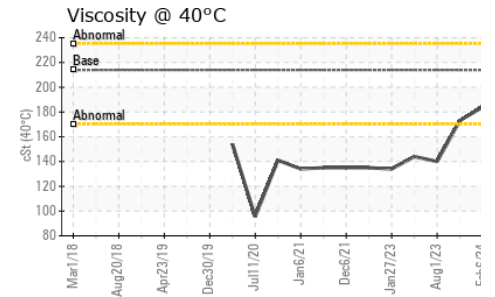
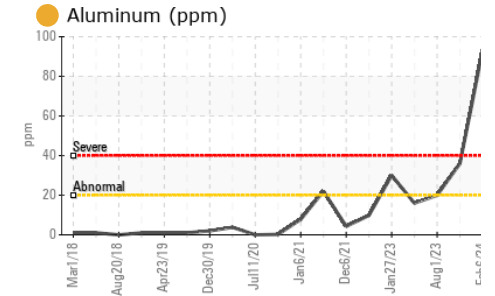
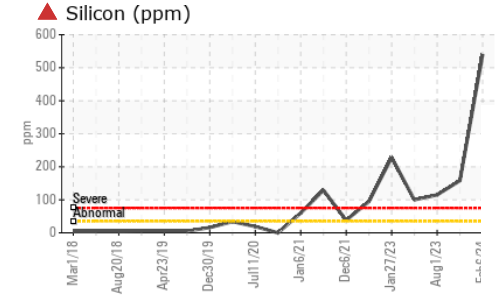
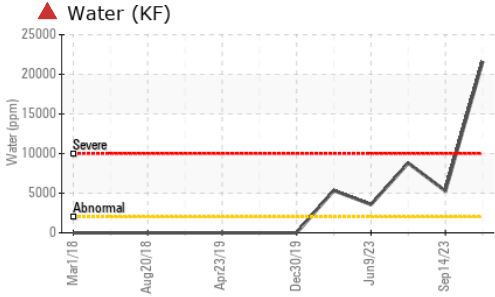
## CONTAMINANTS

| method    | limit/base | current          | history1       | history2 |         |
|-----------|------------|------------------|----------------|----------|---------|
| Silicon   | ppm        | ASTM D5185m >35  | <b>▲ 540</b>   | ▲ 158    | ▲ 115   |
| Sodium    | ppm        | ASTM D5185m      | <b>0</b>       | <1       | 1       |
| Potassium | ppm        | ASTM D5185m >20  | <b>42</b>      | 18       | 9       |
| Water     | %          | ASTM D6304 >0.2  | <b>▲ 2.16</b>  | ▲ 0.527  | ▲ 0.880 |
| ppm Water | ppm        | ASTM D6304 >2000 | <b>▲ 21600</b> | ▲ 5270   | ▲ 8800  |

## VISUAL

| method           | limit/base | current       | history1      | history2 |         |
|------------------|------------|---------------|---------------|----------|---------|
| White Metal      | scalar     | *Visual NONE  | <b>NONE</b>   | NONE     | 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     | ▲ MODER |
| Sand/Dirt        | scalar     | *Visual NONE  | <b>NONE</b>   | NONE     | NONE    |
| Appearance       | scalar     | *Visual NORML | <b>NORML</b>  | NORML    | ● MILKY |
| Odor             | scalar     | *Visual NORML | <b>NORML</b>  | NORML    | NORML   |
| Emulsified Water | scalar     | *Visual >0.2  | <b>▲ 0.2%</b> | 0.2%     | ▲ 0.2%  |
| Free Water       | scalar     | *Visual       | <b>NEG</b>    | NEG      | NEG     |

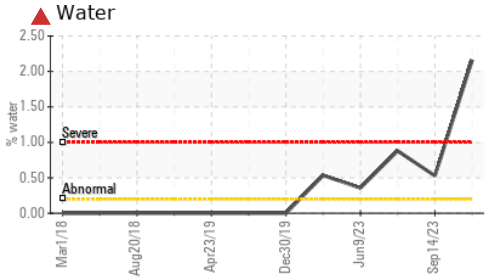
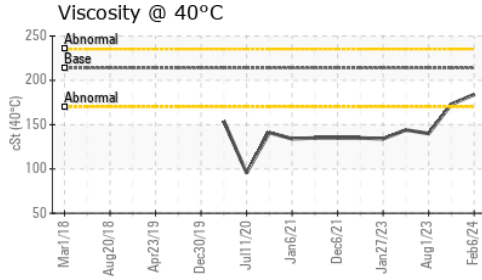
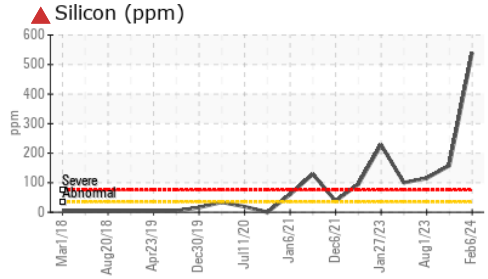
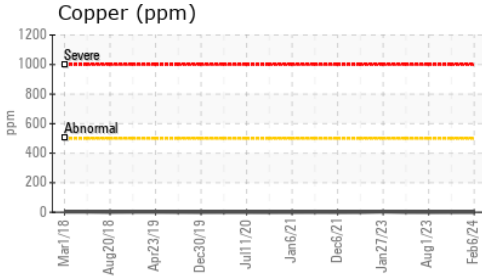
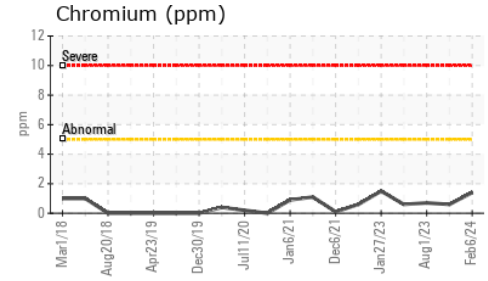
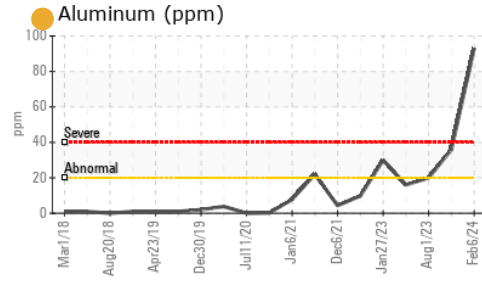
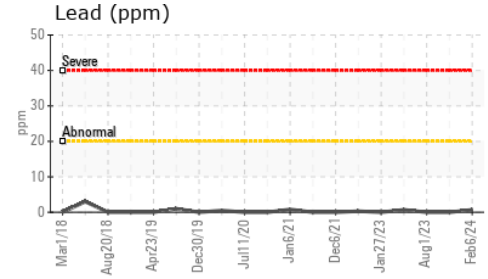
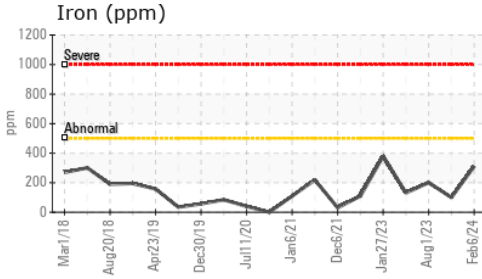
# OIL ANALYSIS REPORT



| FLUID PROPERTIES |     | method    | limit/base | current    | history1 | history2 |
|------------------|-----|-----------|------------|------------|----------|----------|
| Visc @ 40°C      | cSt | ASTM D445 | 213.9      | <b>184</b> | 173      | 140      |

| 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.** : PCA0069792 **Received** : 26 Feb 2024  
**Lab Number** : **06101205** **Tested** : 28 Feb 2024  
**Unique Number** : 10899435 **Diagnosed** : 28 Feb 2024 - Sean Felton  
**Test Package** : MOB 1 ( Additional Tests: KF )

**Kemp Quarries - Benton County Stone - Gravette**  
 15100 N Hwy 59  
 Sulphur Springs, AR  
 US 72768  
 Contact:  
 gravette@bentoncountystone.com

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: