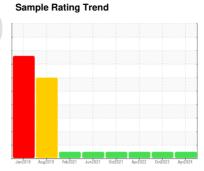


# **OIL ANALYSIS REPORT**



Front Transmission (Manual)

PETRO CANADA PRODURO TO-4 SAE 30 (--- GAL)





## DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: PM-1 sampled fluid)

#### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the fluid.

### **Fluid Condition**

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

| RO TO-4 SAE 30  | ( GAL)   | Jan 2019 A  |                                     |   |   |                               |
|---|--|---|-------------------------------------|---|---|-------------------------------|
| SAMPLE INFOR  | RMATION  | method  | limit/base                          | current                                 | history1  | history2                      |
| Sample Number   |  | Client Info   |                                     | PCA0109335                              | PCA0084714                                      | PCA0062495                    |
| Sample Date   |  | Client Info   |                                     | 04 Apr 2024                             | 19 Oct 2023                                     | 05 Apr 2022                   |
| Machine Age   | hrs  | Client Info   |                                     | 17749                                   | 17273   | 16935                         |
| Oil Age   | hrs  | Client Info   |                                     | 17749                                   | 17273   | 16717                         |
| Oil Changed   |  | Client Info   |                                     | N/A                                     | Changed   | Changed                       |
| Sample Status   |  |   |                                     | NORMAL                                  | NORMAL  | NORMAL                        |
| CONTAMINA   | TION   | method  | limit/base                          | current                                 | history1  | history2                      |
| Water   |  | WC Method   | >0.1                                | NEG                                     | NEG   | NEG                           |
| WEAR META   | LS   | method  | limit/base                          | current                                 | history1  | history2                      |
| ron   | ppm  | ASTM D5185m   | >200                                | 26                                      | 21  | 11                            |
| Chromium  | ppm  | ASTM D5185m   |                                     | 0                                       | <1  | 0                             |
| Vickel  | ppm  | ASTM D5185m   | >5                                  | 0                                       | 0   | 0                             |
| Titanium  | ppm  | ASTM D5185m   |                                     | 0                                       | <1  | <1                            |
| Silver  | ppm  | ASTM D5185m   | >7                                  | 0                                       | 0   | <1                            |
| Aluminum  | ppm  | ASTM D5185m   |                                     | 2                                       | <1  | 0                             |
| Lead  | ppm  | ASTM D5185m   | >45                                 | 2                                       | <1  | 4                             |
| Copper  | ppm  | ASTM D5185m   | >225                                | 121                                     | 117   | 99                            |
| Гin   | ppm  | ASTM D5185m   | >10                                 | 0                                       | 1   | 2                             |
| Antimony  | ppm  | ASTM D5185m   | 710                                 |   |   |                               |
| √anadium  | ppm  | ASTM D5185m   |                                     | 0                                       | 0   | 0                             |
| Cadmium   | ppm  | ASTM D5185m   |                                     | 0                                       | 0   | 0                             |
| ADDITIVES   |  | method  | limit/base                          | current                                 | history1  | history2                      |
| Boron   | ppm  | ASTM D5185m   | 2                                   | <1                                      | 4   | 7                             |
| Barium  | ppm  |   | 0                                   | 0                                       | 19  | 0                             |
| Molybdenum  | ppm  | ASTM D5185m   | 0                                   | 1                                       | 2   | 6                             |
| Manganese   | ppm  |   | 9                                   | 0                                       | <1  | <1                            |
| Magnesium   | ppm  | ASTM D5185m   | 1                                   | 17                                      | 32  | 81                            |
| Calcium   | ppm  | ASTM D5185m   | 3131                                | 2363                                    | 2641  | 2412                          |
| Phosphorus  |  | ASTM D5185m   | 1194                                | 830                                     | 963   | 965                           |
| Zinc  | ppm  | ASTM D5185m   | 1281                                | 900                                     | 1161  | 979                           |
| Sulfur  | ppm<br>ppm                                     | ASTM D5185m   | 3811                                | 3517                                    | 5539  | 3014                          |
| CONTAMINAL  | NTS  | method  | limit/base                          | current                                 | history1  | history2                      |
| Silicon   | ppm  | ASTM D5185m   | >125                                | 10                                      | 13  | 5                             |
|   |  |   |                                     |   |   | -                             |
| Sodium  | ppm  | ASTM D5185m   |                                     | 3                                       | 3   | 0                             |
|   | ppm<br>ppm                                     | ASTM D5185m<br>ASTM D5185m  | >20                                 | 3<br>0                                  | 3   | 0                             |
|   |  |   | >20<br>limit/base                   |   |   |                               |
| Potassium<br>VISUAL   |  | ASTM D5185m   |                                     | 0                                       | 3   | 0                             |
| Potassium  VISUAL  White Metal  | ppm  | ASTM D5185m<br>method<br>*Visual  | limit/base                          | 0<br>current<br>NONE                    | 3<br>history1                                   | 0<br>history2<br>NONE         |
| Potassium VISUAL White Metal Yellow Metal   | ppm<br>scalar<br>scalar                        | method  *Visual  *Visual  | limit/base NONE NONE                | <b>0</b> current                        | 3 history1 NONE NONE                            | 0<br>history2<br>NONE<br>NONE |
| Potassium  VISUAL  White Metal  Yellow Metal  Precipitate                                       | scalar scalar scalar                           | method  *Visual  *Visual  *Visual   | limit/base NONE NONE NONE           | 0 current NONE NONE NONE                | history1  NONE  NONE  NONE                      | 0 history2 NONE NONE NONE     |
| Potassium  VISUAL  White Metal  Yellow Metal  Precipitate  Silt                                 | scalar<br>scalar<br>scalar<br>scalar           | method  *Visual  *Visual  *Visual  *Visual                                | limit/base NONE NONE NONE NONE      | 0 current NONE NONE NONE NONE           | history1 NONE NONE NONE NONE                    | none None None None           |
| Potassium  VISUAL  White Metal  Yellow Metal  Precipitate  Silt  Debris                         | scalar<br>scalar<br>scalar<br>scalar<br>scalar | astm D5185m  method  *Visual  *Visual  *Visual  *Visual  *Visual  *Visual | limit/base NONE NONE NONE NONE NONE | O current NONE NONE NONE NONE NONE NONE | 3  history1  NONE  NONE  NONE  NONE  NONE  NONE | NONE NONE NONE NONE NONE NONE |
| Sodium Potassium  VISUAL  White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance | scalar<br>scalar<br>scalar<br>scalar           | method  *Visual  *Visual  *Visual  *Visual                                | limit/base NONE NONE NONE NONE      | 0 current NONE NONE NONE NONE           | history1 NONE NONE NONE NONE                    | none None None None           |

NORML

>0.1

scalar

scalar

\*Visual

\*Visual

scalar \*Visual

**NORML** 

NEG

**NEG** 

NORML

NEG

NEG

Odor

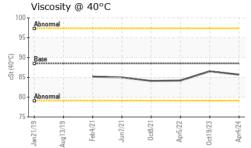
**Emulsified Water** 

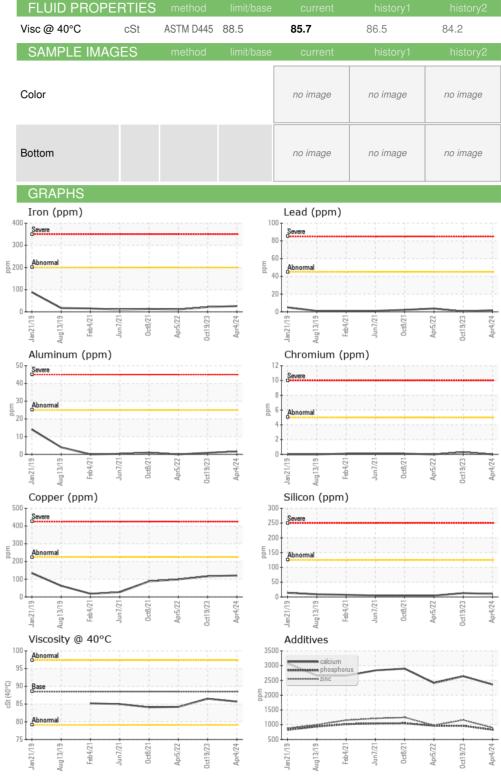
NORML

NEG



## **OIL ANALYSIS REPORT**







Certificate 12367

Sample No.

Lab Number : 06149186 Unique Number : 10979264

: PCA0109335

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 15 Apr 2024

**Tested** : 16 Apr 2024 Diagnosed : 17 Apr 2024 - Sean Felton

Test Package : MOB 1 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.

Contact: muskogee@muskogeesand.com

Kemp Quarries - Muskogee Sand

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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