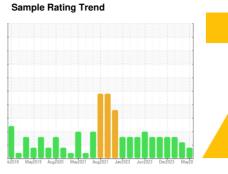


# **OIL ANALYSIS REPORT**

# **NORTH KETTLE ROOM B25151 - KETTLE 1**

Gearbox

PETRO CANADA PURITY FG SYN GEAR ISO 220 (--- GAL)





## **DIAGNOSIS**

#### Recommendation

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the component make and model with your next sample.

#### Wear

All component wear rates are normal.

## Contamination

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

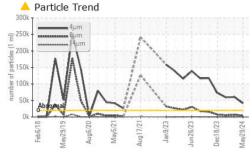
### **Fluid Condition**

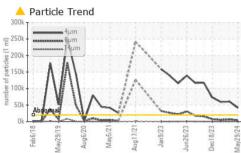
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

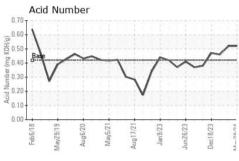
| SAMPLE INFORM            | MATION | method       | limit/base | current         | history1          | history2          |
|--------------------------|--------|--------------|------------|-----------------|-------------------|-------------------|
| Sample Number            |        | Client Info  |            | WC0943491       | WC0885457         | WC0885420         |
| Sample Date              |        | Client Info  |            | 29 May 2024     | 02 Apr 2024       | 06 Feb 2024       |
| Machine Age              | hrs    | Client Info  |            | 0               | 0                 | 0                 |
| Oil Age                  | hrs    | Client Info  |            | 0               | 0                 | 0                 |
| Oil Changed              |        | Client Info  |            | N/A             | N/A               | N/A               |
| Sample Status            |        |              |            | ABNORMAL        | ABNORMAL          | ABNORMAL          |
| CONTAMINATION            | V      | method       | limit/base | current         | history1          | history2          |
| Water                    |        | WC Method    | >0.2       | NEG             | NEG               | NEG               |
| WEAR METALS              |        | method       | limit/base | current         | history1          | history2          |
| Iron                     | ppm    | ASTM D5185m  | >200       | 6               | 5                 | 3                 |
| Chromium                 | ppm    | ASTM D5185m  | >10        | <1              | 0                 | 0                 |
| Nickel                   | ppm    | ASTM D5185m  | >10        | 0               | 0                 | <1                |
| Titanium                 | ppm    | ASTM D5185m  |            | <1              | <1                | 0                 |
| Silver                   | ppm    | ASTM D5185m  |            | 0               | 0                 | 0                 |
| Aluminum                 | ppm    | ASTM D5185m  | >25        | 7               | 7                 | 7                 |
| Lead                     | ppm    | ASTM D5185m  | >50        | 0               | 0                 | 0                 |
| Copper                   | ppm    | ASTM D5185m  | >200       | 0               | 0                 | 0                 |
| Tin                      | ppm    | ASTM D5185m  | >10        | <1              | <1                | 0                 |
| Vanadium                 | ppm    | ASTM D5185m  |            | 0               | <1                | 0                 |
| Cadmium                  | ppm    | ASTM D5185m  |            | 0               | 0                 | 0                 |
| ADDITIVES                |        | method       | limit/base | current         | history1          | history2          |
| Boron                    | ppm    | ASTM D5185m  |            | 0               | 0                 | 0                 |
| Barium                   | ppm    | ASTM D5185m  |            | 0               | 0                 | 0                 |
| Molybdenum               | ppm    | ASTM D5185m  |            | 0               | 3                 | 0                 |
| Manganese                | ppm    | ASTM D5185m  |            | 0               | <1                | 0                 |
| Magnesium                | ppm    | ASTM D5185m  |            | <1              | <1                | 0                 |
| Calcium                  | ppm    | ASTM D5185m  |            | <1              | 9                 | 6                 |
| Phosphorus               | ppm    | ASTM D5185m  |            | 189             | 227               | 241               |
| Zinc                     | ppm    | ASTM D5185m  |            | 0               | 6                 | 0                 |
| Sulfur                   | ppm    | ASTM D5185m  |            | 660             | 973               | 721               |
| CONTAMINANTS             |        | method       | limit/base | current         | history1          | history2          |
| Silicon                  | ppm    | ASTM D5185m  | >50        | 9               | 9                 | 8                 |
| Sodium                   | ppm    | ASTM D5185m  |            | 3               | 5                 | 5                 |
| Potassium                | ppm    | ASTM D5185m  | >20        | <1              | 0                 | 0                 |
| FLUID CLEANLIN           | IESS   | method       | limit/base | current         | history1          | history2          |
| Particles >4μm           |        | ASTM D7647   | >20000     | <b>41320</b>    | ▲ 60376           | ▲ 59225           |
| Particles >6µm           |        | ASTM D7647   | >5000      | 4123            | 6684              | 5126              |
| Particles >14µm          |        | ASTM D7647   | >640       | 28              | 94                | 74                |
| Particles >21µm          |        | ASTM D7647   | >160       | 3               | 12                | 9                 |
| Particles >38µm          |        | ASTM D7647   | >40        | 0               | 0                 | 0                 |
| Particles >71µm          |        | ASTM D7647   | >10        | 0               | 0                 | 0                 |
| Oil Cleanliness          |        | ISO 4406 (c) | >21/19/16  | <b>23/19/12</b> | <b>△</b> 23/20/14 | <b>△</b> 23/20/13 |
| FLUID DEGRADA            | TION   | method       | limit/base | current         | history1          | history2          |
| A = ! =   N     (A N   ) | 1/011/ | ACTM D0045   | 0.40       | 0.50            | 0.50              | 0.40              |

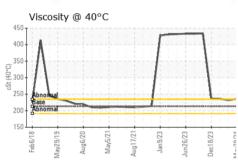


# **OIL ANALYSIS REPORT**



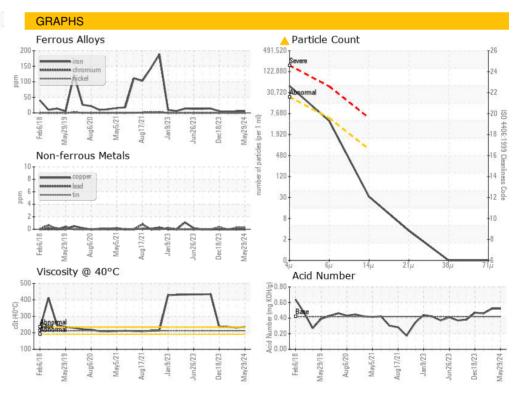






| VISUAL                  |        | method    | limit/base | current | history1 | history2 |
|-------------------------|--------|-----------|------------|---------|----------|----------|
| White Metal             | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Yellow Metal            | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Precipitate             | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Silt                    | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Debris                  | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Sand/Dirt               | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Appearance              | scalar | *Visual   | NORML      | NORML   | NORML    | NORML    |
| Odor                    | scalar | *Visual   | NORML      | NORML   | NORML    | NORML    |
| <b>Emulsified Water</b> | scalar | *Visual   | >0.2       | NEG     | NEG      | NEG      |
| Free Water              | scalar | *Visual   |            | NEG     | NEG      | NEG      |
| FLUID PROPERTIES        |        | method    | limit/base | current | history1 | history2 |
| Visc @ 40°C             | cSt    | ASTM D445 | 213        | 236     | 232      | 236      |
| SAMPLE IMAGES           |        | method    | limit/base | current | historv1 | history2 |

Color **Bottom** 







Certificate 12367

Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0943491 Lab Number : 06207760

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Unique Number : 11075221

Received **Tested** Diagnosed

: 12 Jun 2024 : 13 Jun 2024

: 13 Jun 2024 - Wes Davis

Test Package : IND 2 ( Additional Tests: PrtCount )

US 61068 Contact: JAMES ROBINSON III

jrobinson3@hormel.com T:

1001 South Main, P.O. Box 45

**Rochelle Foods - PRE** 

\* - 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)

F: (815)562-4147

Rochelle, IL