

## **OIL ANALYSIS REPORT**

Area [10-1513027] EAST VANDEBERG 18A

Component Gearbox

Fluid PETRO CANADA PURITY FG EP GEAR OIL 220 (--- GAL)

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

### Fluid Condition

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

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|------------------|---------------|--------------|------------|-------------|----------|----------|
| SAMPLE INFORM    | <b>IATION</b> | method       | limit/base | current     | history1 | history2 |
| Sample Number    |               | Client Info  |            | USP0012454  |          |          |
| Sample Date      |               | Client Info  |            | 31 May 2024 |          |          |
| Machine Age      | hrs           | Client Info  |            | 0           |          |          |
| Oil Age          | hrs           | Client Info  |            | 0           |          |          |
| Oil Changed      |               | Client Info  |            | N/A         |          |          |
| Sample Status    |               |              |            | NORMAL      |          |          |
| WEAR METALS      |               | method       | limit/base | current     | history1 | history2 |
| Iron             | ppm           | ASTM D5185m  | >200       | 2           |          |          |
| Chromium         | ppm           | ASTM D5185m  | >15        | 0           |          |          |
| Nickel           | ppm           | ASTM D5185m  | >15        | 0           |          |          |
| Titanium         | ppm           | ASTM D5185m  |            | <1          |          |          |
| Silver           | ppm           | ASTM D5185m  |            | 0           |          |          |
| Aluminum         | ppm           | ASTM D5185m  | >25        | 0           |          |          |
| Lead             | ppm           | ASTM D5185m  | >100       | <1          |          |          |
| Copper           | ppm           | ASTM D5185m  | >200       | <1          |          |          |
| Tin              | ppm           | ASTM D5185m  | >25        | 0           |          |          |
| Vanadium         | ppm           | ASTM D5185m  |            | <1          |          |          |
| Cadmium          | ppm           | ASTM D5185m  |            | 0           |          |          |
| ADDITIVES        |               | method       | limit/base | current     | history1 | history2 |
| Boron            | ppm           | ASTM D5185m  |            | 0           |          |          |
| Barium           | ppm           | ASTM D5185m  |            | 0           |          |          |
| Molybdenum       | ppm           | ASTM D5185m  |            | 0           |          |          |
| Manganese        | ppm           | ASTM D5185m  |            | <1          |          |          |
| Magnesium        | ppm           | ASTM D5185m  |            | 0           |          |          |
| Calcium          | ppm           | ASTM D5185m  |            | 0           |          |          |
| Phosphorus       | ppm           | ASTM D5185m  |            | 604         |          |          |
| Zinc             | ppm           | ASTM D5185m  |            | 0           |          |          |
| Sulfur           | ppm           | ASTM D5185m  |            | 757         |          |          |
| CONTAMINANTS     |               | method       | limit/base | current     | history1 | history2 |
| Silicon          | ppm           | ASTM D5185m  | >50        | 2           |          |          |
| Sodium           | ppm           | ASTM D5185m  |            | 1           |          |          |
| Potassium        | ppm           | ASTM D5185m  | >20        | 1           |          |          |
| Water            | %             | ASTM D6304   | >0.2       | 0.001       |          |          |
| ppm Water        | ppm           | ASTM D6304   | >2000      | 12          |          |          |
| FLUID CLEANLIN   | ESS           | method       | limit/base | current     | history1 | history2 |
| Particles >4µm   |               | ASTM D7647   | >20000     | 2578        |          |          |
| Particles >6µm   |               | ASTM D7647   | >5000      | 690         |          |          |
| Particles >14µm  |               | ASTM D7647   | >640       | 27          |          |          |
| Particles >21µm  |               | ASTM D7647   |            | 4           |          |          |
| Particles >38µm  |               | ASTM D7647   | >40        | 1           |          |          |
| Particles >71µm  |               | ASTM D7647   |            | 0           |          |          |
| Oil Cleanliness  |               | ISO 4406 (c) | >21/19/16  | 19/17/12    |          |          |
| FLUID DEGRADA    | TION          | method       | limit/base | current     | history1 | history2 |
| Acid Number (AN) | mg KOH/g      | ASTM D8045   | 0.51       | 0.72        |          |          |

Mag2024

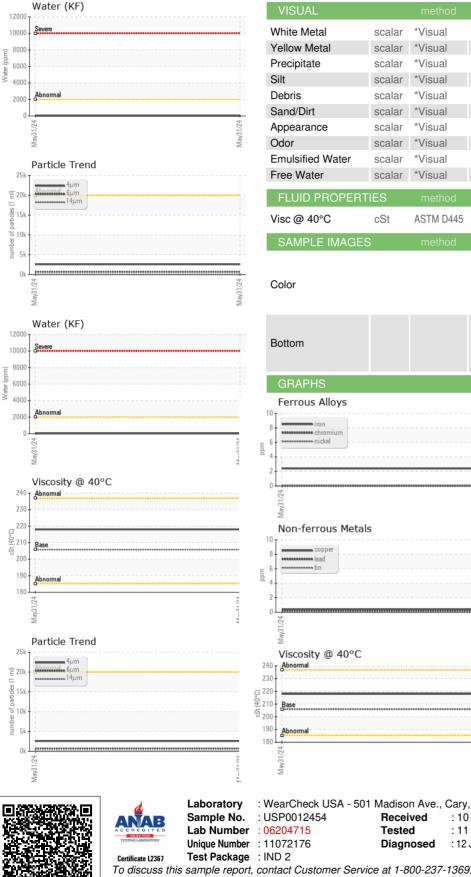
Sample Rating Trend

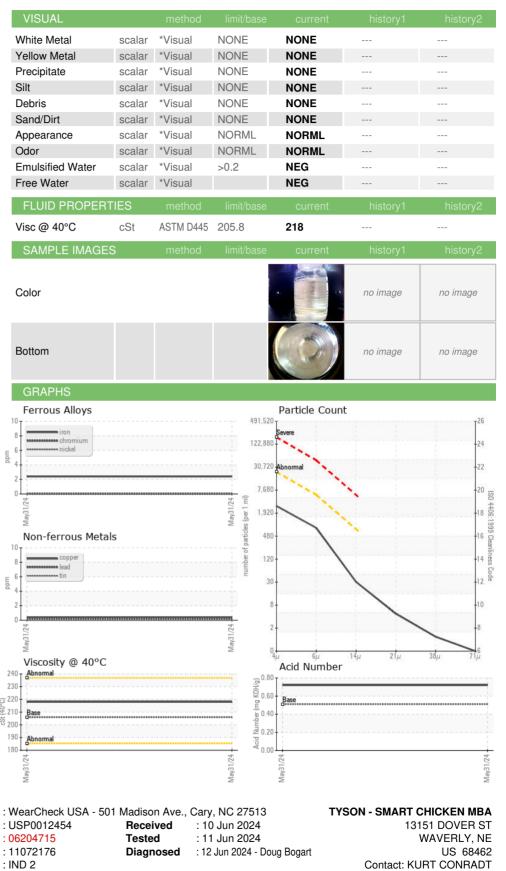


NORMAL



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\* - 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)

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