

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend

2022 Dec2022 Feb2023 Feb2023 Mar2023 Mar2023 Mar2023 Jun2023 Jun2023 A





Component Transmission (Auto)

Fluid

PETRO CANADA DuraDrive HD Synthetic 668 (--- 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.

## Fluid Condition

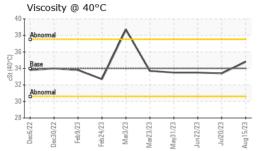
The condition of the oil is acceptable for the time in service.

| SAMPLE INFORM                  | MATION | method      | limit/base | current     | history1                 | history2            |
|--------------------------------|--------|-------------|------------|-------------|--------------------------|---------------------|
| Sample Number                  |        | Client Info |            | GFL0088770  | GFL0086114               | GFL0083186          |
| Sample Date                    |        | Client Info |            | 15 Aug 2023 | 20 Jul 2023              | 22 Jun 2023         |
| Machine Age                    | hrs    | Client Info |            | 4501        | 4749                     | 4200                |
| Oil Age                        | hrs    | Client Info |            | 4501        | 2302                     | 1753                |
| Oil Changed                    |        | Client Info |            | Not Changd  | Changed                  | Not Changd          |
| Sample Status                  |        |             |            | NORMAL      | NORMAL                   | NORMAL              |
| WEAR METAL                     | S      | method      | limit/base | current     | history1                 | history2            |
| Iron                           | ppm    | ASTM D5185m | >160       | 52          | 48                       | 50                  |
| Chromium                       | ppm    | ASTM D5185m | >5         | 0           | 0                        | 0                   |
| Nickel                         | ppm    | ASTM D5185m | >5         | 0           | 0                        | <1                  |
| Titanium                       | ppm    | ASTM D5185m |            | 0           | 0                        | 0                   |
| Silver                         | ppm    | ASTM D5185m | >5         | 0           | 0                        | 0                   |
| Aluminum                       | ppm    | ASTM D5185m | >50        | 21          | 20                       | 17                  |
| Lead                           | ppm    | ASTM D5185m | >50        | 11          | 10                       | 12                  |
| Copper                         | ppm    | ASTM D5185m | >225       | 16          | 16                       | 16                  |
| Tin                            | ppm    | ASTM D5185m | >10        | 3           | 2                        | 3                   |
| Vanadium                       | ppm    | ASTM D5185m |            | 0           | 0                        | 0                   |
| Cadmium                        | ppm    | ASTM D5185m |            | 0           | 0                        | 0                   |
| ADDITIVES                      |        | method      | limit/base | current     | history1                 | history2            |
| Boron                          | ppm    | ASTM D5185m |            | 73          | 67                       | 88                  |
| Barium                         | ppm    | ASTM D5185m |            | 2           | 0                        | 0                   |
| Molybdenum                     | ppm    | ASTM D5185m |            | <1          | <1                       | <1                  |
| Manganese                      | ppm    | ASTM D5185m |            | <1          | <1                       | <1                  |
| Magnesium                      | ppm    | ASTM D5185m |            | 1           | 0                        | 0                   |
| Calcium                        | ppm    | ASTM D5185m |            | 110         | 113                      | 106                 |
| Phosphorus                     | ppm    | ASTM D5185m |            | 224         | 227                      | 223                 |
| Zinc                           | ppm    | ASTM D5185m |            | 5           | 0                        | 0                   |
| Sulfur                         | ppm    | ASTM D5185m |            | 2537        | 1841                     | 1519                |
| CONTAMINAN                     | TS     | method      | limit/base | current     | history1                 | history2            |
| Silicon                        | ppm    | ASTM D5185m | >20        | 4           | 3                        | 4                   |
| Sodium                         | ppm    | ASTM D5185m |            | 0           | 4                        | 0                   |
| Potassium                      | ppm    | ASTM D5185m | >20        | 3           | 1                        | 2                   |
| 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               |
| Emulsified Water               | scalar | *Visual     | >0.1       | NEG         | NEG                      | NEG                 |
| Free Water                     | scalar | *Visual     |            | NEG         | NEG                      | NEG                 |
| FLUID PROPE                    | RTIES  | method      | limit/base | current     | history1                 | history2            |
| Visc @ 40°C<br>5:04:35) Rev: 1 | cSt    | ASTM D445   | 34         | 34.8        | 33.4<br>Submitted By: JC | 33.5<br>SHUA TINKER |

Report Id: GFL010 [WUSCAR] 05927626 (Generated: 08/18/2023 15:04:35) Rev: 1

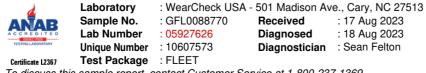


# **OIL ANALYSIS REPORT**



| SAMPLE IMAGES   | method                           | limit/base | current  | history1 | histo  |
|---|----------------------------------|------------|----------|----------|--------|
| Color   |                                  |            | no image | no image | no ima |
| Bottom  |                                  |            | no image | no image | no ima |
| GRAPHS  |                                  |            |          |          |        |
| Ferrous Alloys  |                                  |            |          |          |        |
| 80 - chromium   |                                  |            |          |          |        |
| 70  |                                  |            |          |          |        |
| 50  | $\sim$                           | _          |          |          |        |
|   |                                  |            |          |          |        |
| 20 -  |                                  |            |          |          |        |
|   | 3 3                              |            |          |          |        |
| Dec6/22<br>Dec5/22<br>Feb9/23<br>Feb2/23<br>Mar3/23<br>Mar23/23   | May31/23<br>Jun22/23<br>Jul20/23 | Aug15/23 . |          |          |        |
| Non-ferrous Metals  |                                  |            |          |          |        |
| 14- copper<br>lead  |                                  |            |          |          |        |
| 12  | A                                | areas and  |          |          |        |
|   |                                  |            |          |          |        |
|   |                                  |            |          |          |        |
| 4   |                                  |            |          |          |        |
| 0   | 3 3 3                            |            |          |          |        |
| bec6/22<br>Dec30/22<br>Feb9/23<br>Feb24/23<br>Mar3/23<br>Mar23/23 | May31/23<br>Jun22/23<br>Ju120/23 | Aug15/23 - |          |          |        |
| Viscosity @ 40°C  |                                  |            |          |          |        |
| 39-   |                                  |            |          |          |        |
| 37-   |                                  |            |          |          |        |
| 36<br>35<br>34 Base   |                                  |            |          |          |        |
| 34 Base   |                                  |            |          |          |        |
| 32 -  |                                  |            |          |          |        |
| 30  |                                  |            |          |          |        |
| Dec6/22 +   | May31/23 +                       | Aug15/23   |          |          |        |





Received : 17 Aug 2023 Diagnosed : 18 Aug 2023 Diagnostician : Sean Felton 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)

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