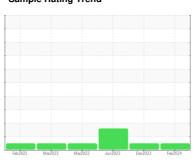


# **OIL ANALYSIS REPORT**

Sample Rating Trend



NORMAL



Machine Id 945021-260279

Component

**Natural Gas Engine** 

PETRO CANADA DURON GEO LD 15W40 (--- GAL)

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

#### Wear

Metal levels are typical for a new component breaking in.

### Contamination

There is no indication of any contamination in the oil.

### **Fluid Condition**

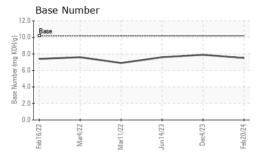
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

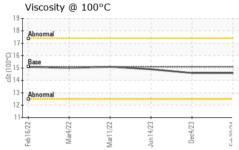
| GAL)          |          | Feb 2022            | Mar2022 Mar2022 | Jun2023 Dec2023 | Feb 2024    |             |
|---------------|----------|---------------------|-----------------|-----------------|-------------|-------------|
| SAMPLE INFOR  | MATION   | method              | limit/base      | current         | history1    | history2    |
| Sample Number |          | Client Info         |                 | GFL0092059      | GFL0092031  | GFL0084724  |
| Sample Date   |          | Client Info         |                 | 20 Feb 2024     | 04 Dec 2023 | 14 Jun 2023 |
| Machine Age   | hrs      | Client Info         |                 | 28597           | 28017       | 26739       |
| Oil Age       | hrs      | Client Info         |                 | 600             | 600         | 0           |
| Oil Changed   |          | Client Info         |                 | Changed         | Changed     | Changed     |
| Sample Status |          |                     |                 | NORMAL          | NORMAL      | ABNORMAL    |
| CONTAMINAT    | TION     | method              | limit/base      | current         | history1    | history2    |
| Water         |          | WC Method           | >0.1            | NEG             | NEG         | NEG         |
| WEAR METAL    | _S       | method              | limit/base      | current         | history1    | history2    |
| Iron          | ppm      | ASTM D5185m         | >50             | 6               | 6           | <b>△</b> 73 |
| Chromium      | ppm      | ASTM D5185m         | >4              | <1              | <1          | 4           |
| Nickel        | ppm      | ASTM D5185m         | >2              | 0               | <1          | <1          |
| Titanium      | ppm      | ASTM D5185m         |                 | 0               | 0           | <1          |
| Silver        | ppm      | ASTM D5185m         | >3              | 0               | 0           | 0           |
| Aluminum      | ppm      | ASTM D5185m         |                 | 1               | 2           | <u> 14</u>  |
| Lead          | ppm      | ASTM D5185m         | >30             | -<br><1         | 0           | 0           |
| Copper        | ppm      | ASTM D5185m         |                 | <1              | <1          | 3           |
| Tin           | ppm      | ASTM D5185m         | >4              | <1              | 0           | <1          |
| Vanadium      | ppm      | ASTM D5185m         |                 | <1              | 0           | <1          |
| Cadmium       | ppm      | ASTM D5185m         |                 | 0               | 0           | <1          |
| ADDITIVES     | Pp       | method              | limit/base      | current         | history1    | history2    |
| Boron         | ppm      | ASTM D5185m         | 50              | 28              | 30          | 29          |
| Barium        | ppm      | ASTM D5185m         |                 | 0               | 0           | 0           |
| Molybdenum    | ppm      | ASTM D5185m         | 50              | 47              | 48          | 54          |
| Manganese     | ppm      | ASTM D5185m         |                 | <1              | 0           | 1           |
| Magnesium     | ppm      | ASTM D5185m         | 560             | 530             | 657         | 595         |
| Calcium       | ppm      |                     | 1510            | 1453            | 1722        | 1741        |
| Phosphorus    | ppm      | ASTM D5185m         | 780             | 720             | 918         | 793         |
| Zinc          |          |                     | 870             | 878             | 1099        | 955         |
| Sulfur        | ppm      | ASTM D5185m         | 2040            | 2277            | 2779        | 2893        |
| CONTAMINAN    | NTS      | method              | limit/base      | current         | history1    | history2    |
| Silicon       | ppm      | ASTM D5185m         | >+100           | 6               | 5           | 17          |
| Sodium        | ppm      | ASTM D5185m         |                 | 3               | 3           | 4           |
| Potassium     | ppm      | ASTM D5185m         | >20             | 0               | 9           | <1          |
| INFRA-RED     |          | method              | limit/base      | current         | history1    | history2    |
| Soot %        | %        | *ASTM D7844         |                 | 0.1             | 0           | 0.1         |
| Nitration     | Abs/cm   | *ASTM D7624         | >20             | 7.9             | 7.1         | 8.8         |
| Sulfation     | Abs/.1mm | *ASTM D7415         |                 | 19.3            | 18.9        | 19.8        |
| FLUID DEGRA   | DATION   | method              | limit/base      | current         | history1    | history2    |
| Oxidation     | Abs/.1mm | *ASTM D7414         | >25             | 16.5            | 15.9        | 16.4        |
| D 11 (21)     | 1/011/   | 4 O T   4 D O O O O | 100             |                 | - 0         |             |

Base Number (BN) mg KOH/g ASTM D2896 10.2 7.5



# **OIL ANALYSIS REPORT**

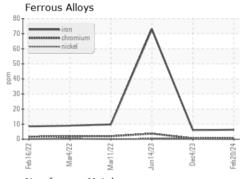


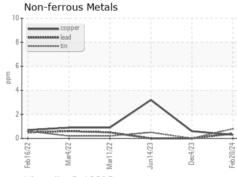


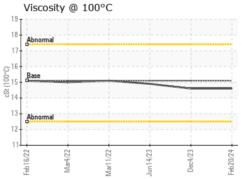
| VISUAL                  |        | method  | limit/base | current | history1 | history2 |
|-------------------------|--------|---------|------------|---------|----------|----------|
| White Metal             | scalar | *Visual | NONE       | NONE    | NONE     | NONE     |
| Yellow Metal            | 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 | >0.1       | NEG     | NEG      | NEG      |
| Free Water              | scalar | *Visual |            | NEG     | NEG      | NEG      |

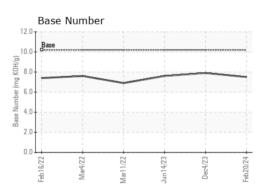
| FLUID PROP   | ERTIES | method    |      |      |      | history2 |
|--------------|--------|-----------|------|------|------|----------|
| Visc @ 100°C | cSt    | ASTM D445 | 15.1 | 14.6 | 14.6 | 14.9     |

## **GRAPHS**













Laboratory Sample No.

: GFL0092059 Lab Number : 06097494 Unique Number: 10890347

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 22 Feb 2024

**Tested** : 23 Feb 2024 Diagnosed : 23 Feb 2024 - Wes Davis

GFL Environmental - 856 - Houston South

8515 Highway 6 South Houston, TX

US 77083 Contact: Apolinar Zacarias

Test Package : FLEET Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. pzacariascano@gflenv.com

\* - 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:

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