

# **OIL ANALYSIS REPORT**









Machine Id **703M** Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- GAL)

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the

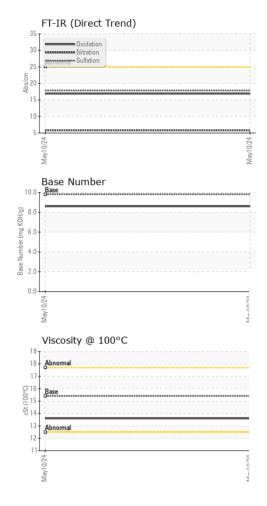
### **Fluid Condition**

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

| N SHP 15W40 (    | - GAL)   | <u> </u>    |            | May2024     |          |          |
|------------------|----------|-------------|------------|-------------|----------|----------|
| SAMPLE INFORI    | MATION   | method      | limit/base | current     | history1 | history2 |
| Sample Number    |          | Client Info |            | GFL0077737  |          |          |
| Sample Date      |          | Client Info |            | 10 May 2024 |          |          |
| Machine Age      | mls      | Client Info |            | 609379      |          |          |
| Oil Age          | mls      | Client Info |            | 0           |          |          |
| Oil Changed      |          | Client Info |            | Not Changd  |          |          |
| Sample Status    |          |             |            | NORMAL      |          |          |
| CONTAMINAT       | ION      | method      | limit/base | current     | history1 | history2 |
| Fuel             |          | WC Method   | >3.0       | <1.0        |          |          |
| Water            |          | WC Method   | >0.2       | NEG         |          |          |
| Glycol           |          | WC Method   |            | NEG         |          |          |
| WEAR METAL       | S        | method      | limit/base | current     | history1 | history2 |
| Iron             | ppm      | ASTM D5185m | >90        | 4           |          |          |
| Chromium         | ppm      | ASTM D5185m | >20        | <1          |          |          |
| Nickel           | ppm      | ASTM D5185m | >2         | <1          |          |          |
| Titanium         | ppm      | ASTM D5185m | >2         | <1          |          |          |
| Silver           | ppm      | ASTM D5185m | >2         | 0           |          |          |
| Aluminum         | ppm      | ASTM D5185m | >20        | 2           |          |          |
| Lead             | ppm      | ASTM D5185m | >40        | <1          |          |          |
| Copper           | ppm      | ASTM D5185m | >330       | 1           |          |          |
| Tin              | ppm      | ASTM D5185m | >15        | <1          |          |          |
| Vanadium         | ppm      | ASTM D5185m |            | <1          |          |          |
| Cadmium          | ppm      | ASTM D5185m |            | <1          |          |          |
| ADDITIVES        |          | method      | limit/base | current     | history1 | history2 |
| Boron            | ppm      | ASTM D5185m | 0          | 4           |          |          |
| Barium           | ppm      | ASTM D5185m | 0          | <1          |          |          |
| Molybdenum       | ppm      | ASTM D5185m | 60         | 84          |          |          |
| Manganese        | ppm      | ASTM D5185m | 0          | <1          |          |          |
| Magnesium        | ppm      | ASTM D5185m | 1010       | 1363        |          |          |
| Calcium          | ppm      | ASTM D5185m | 1070       | 1470        |          |          |
| Phosphorus       | ppm      | ASTM D5185m | 1150       | 1519        |          |          |
| Zinc<br>Sulfur   | ppm      | ASTM D5185m | 1270       | 1787        |          |          |
|                  | ppm      | ASTM D5185m | 2060       | 5395        |          |          |
| CONTAMINAN       |          | method      | limit/base | current     | history1 | history2 |
| Silicon          | ppm      | ASTM D5185m | >25        | 5           |          |          |
| Sodium           | ppm      | ASTM D5185m | 00         | 4           |          |          |
| Potassium        | ppm      | ASTM D5185m |            | 8           |          |          |
| INFRA-RED        |          | method      | limit/base | current     | history1 | history2 |
| Soot %           | %        | *ASTM D7844 | >6         | 0.1         |          |          |
| Nitration        | Abs/cm   | *ASTM D7624 | >20        | 5.8         |          |          |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30        | 17.8        |          |          |
| FLUID DEGRA      | DATION   | method      | limit/base | current     | history1 | history2 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25        | 16.9        |          |          |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 9.8        | 8.6         |          |          |



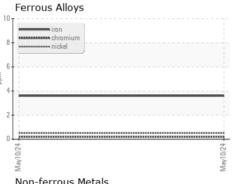
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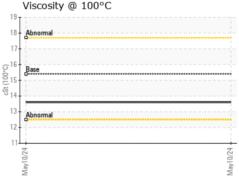
| VISUAL                  |        | method  | limit/base | current | history1 | history2 |
|-------------------------|--------|---------|------------|---------|----------|----------|
| White Metal             | scalar | *Visual | NONE       | NONE    |          |          |
| Yellow Metal            | scalar | *Visual | NONE       | NONE    |          |          |
| Precipitate             | scalar | *Visual | NONE       | NONE    |          |          |
| Silt                    | scalar | *Visual | NONE       | NONE    |          |          |
| Debris                  | scalar | *Visual | NONE       | NONE    |          |          |
| Sand/Dirt               | scalar | *Visual | NONE       | NONE    |          |          |
| Appearance              | scalar | *Visual | NORML      | NORML   |          |          |
| Odor                    | scalar | *Visual | NORML      | NORML   |          |          |
| <b>Emulsified Water</b> | scalar | *Visual | >0.2       | NEG     |          |          |
| Free Water              | scalar | *Visual |            | NEG     |          |          |
| FLUID PROPE             | DTIES  | method  | limit/hase | current | history1 | history2 |

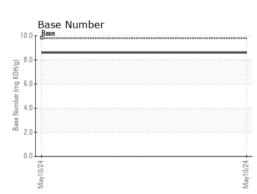
| FLUID FROFT  |     | method    |      |      | HISTOLAL | HISTOLYZ |  |
|--------------|-----|-----------|------|------|----------|----------|--|
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.6 |          |          |  |

### **GRAPHS**



| <sup>10</sup> T | copper                                 |          |
|-----------------|--|----------|
| 8               | ************************************** |          |
| 6 -             |  |          |
| 4-              |  |          |
| 2               |  | ŀ        |
| 0               |  | -        |
|                 | May10/24                               | May10/24 |
|                 | Viscosity @ 100°C                      |          |









Certificate 12367

Laboratory Sample No.

: GFL0077737 Lab Number : 06178190 Unique Number : 11029516

Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received : 13 May 2024 **Tested** : 15 May 2024 Diagnosed

: 15 May 2024 - Sean Felton

GFL Environmental - 650 - West Point Hauling 7825 Parham Landing Road

West Point, VA US 23181

Contact: Jason Smith jasonsmith@gflenv.com T: (804)843-9288

\* - 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)

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

Contact/Location: Jason Smith - GFL650