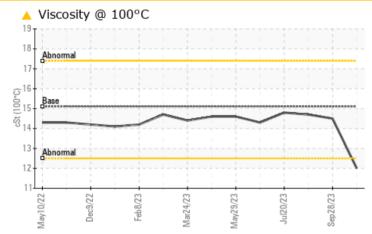


# CHECK

# Machine Id 731118

Component Natural Gas Engine Fluid PETRO CANADA DURON GEO LD 15W40 (--- GAL)

# COMPONENT CONDITION SUMMARY



# RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

| PROBLEMATIC   | C TEST | RESULT    | S    |           |        |        |
|---------------|--------|-----------|------|-----------|--------|--------|
| Sample Status |        |           |      | ATTENTION | NORMAL | NORMAL |
| Visc @ 100°C  | cSt    | ASTM D445 | 15.1 | <u> </u>  | 14.5   | 14.7   |

#### Customer Id: GFL836 Sample No.: GFL0095101 Lab Number: 05995257 Test Package: FLEET



To manage this report scan the QR code

*To discuss the diagnosis or test data:* Jonathan Hester +1 919-379-4092 x4092 <u>jhester@wearcheckusa.com</u>

*To change component or sample information:* Customer Service +1 1-800-237-1369 <u>customerservice@wearcheck.com</u>

# **RECOMMENDED ACTIONS**

There are no recommended actions for this sample.

### **HISTORICAL DIAGNOSIS**

### 28 Sep 2023 Diag: Wes Davis



Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

#### 04 Sep 2023 Diag: Wes Davis



Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

20 Jul 2023 Diag: Wes Davis

#### NORMAL



Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.







view report



# **OIL ANALYSIS REPORT**



VISCOSITY

# Machine Id 731118

Component Natural Gas Engine

Fluid

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

# DIAGNOSIS

### A Recommendation

No corrective action is recommended at this time. 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.

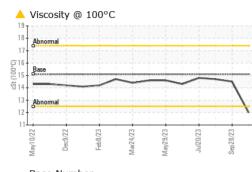
### Fluid Condition

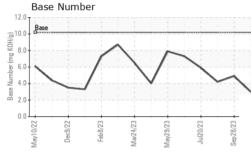
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

| SAMPLE INFOR   | MATION  | method   | limit/base   | current   | history1  | history2   |
|--|---|--|--|---|---|--|
| Sample Number  |   | Client Info  |  | GFL0095101  | GFL0090699  | GFL0090648   |
| Sample Date  |   | Client Info  |  | 26 Oct 2023   | 28 Sep 2023   | 04 Sep 2023  |
| Machine Age  | hrs   | Client Info  |  | 5714  | 5541  | 5395   |
| Oil Age  | hrs   | Client Info  |  | 0   | 0   | 0  |
| Oil Changed  |   | Client Info  |  | Not Changd  | Not Changd  | Not Changd   |
| Sample Status  |   |  |  | ATTENTION   | NORMAL  | NORMAL   |
| WEAR METAL   | S   | method   | limit/base   | current   | history1  | history2   |
| Iron   | ppm   | ASTM D5185m  | >50  | 29  | 8   | 10   |
| Chromium   | ppm   | ASTM D5185m  | >4   | 1   | <1  | 1  |
| Nickel   | ppm   | ASTM D5185m  | >2   | <1  | <1  | 0  |
| Titanium   | ppm   | ASTM D5185m  |  | <1  | <1  | 0  |
| Silver   | ppm   | ASTM D5185m  | >3   | 0   | 0   | 0  |
| Aluminum   | ppm   | ASTM D5185m  | >9   | 6   | <1  | 2  |
| Lead   | ppm   | ASTM D5185m  | >30  | 11  | 2   | <1   |
| Copper   | ppm   | ASTM D5185m  | >35  | 15  | 2   | <1   |
| Tin  | ppm   | ASTM D5185m  | >4   | 2   | <1  | <1   |
| Vanadium   | ppm   | ASTM D5185m  |  | 0   | <1  | 0  |
| Cadmium  | ppm   | ASTM D5185m  |  | 0   | <1  | 0  |
| ADDITIVES  |   | method   | limit/base   | current   | history1  | history2   |
| Boron  | nnm   | ASTM D5185m  | 50   | -   |   | 11   |
| DOIOII   | ppm   | ASTIVI DOTODITI  | 50   | 7   | 11  | 11   |
| Barium   | ppm   | ASTM D5185m  |  | 4   | 0   | 0  |
|  |   |  |  |   |   |  |
| Barium   | ppm   | ASTM D5185m  | 5<br>50  | 4   | 0   | 0  |
| Barium<br>Molybdenum   | ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m   | 5<br>50  | 4<br>51   | 0<br>52   | 0<br>54  |
| Barium<br>Molybdenum<br>Manganese  | ppm<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 5<br>50<br>0   | 4<br>51<br>4  | 0<br>52<br><1   | 0<br>54<br><1  |
| Barium<br>Molybdenum<br>Manganese<br>Magnesium   | ppm<br>ppm<br>ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 5<br>50<br>0<br>560  | 4<br>51<br>4<br>780   | 0<br>52<br><1<br>553  | 0<br>54<br><1<br>583   |
| Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium  | ppm<br>ppm<br>ppm<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 5<br>50<br>0<br>560<br>1510  | 4<br>51<br>4<br>780<br>1147   | 0<br>52<br><1<br>553<br>1633  | 0<br>54<br><1<br>583<br>1693   |
| Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 5<br>50<br>0<br>560<br>1510<br>780   | 4<br>51<br>4<br>780<br>1147<br>722  | 0<br>52<br><1<br>553<br>1633<br>685   | 0<br>54<br><1<br>583<br>1693<br>697  |
| Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 5<br>50<br>0<br>560<br>1510<br>780<br>870  | 4<br>51<br>4<br>780<br>1147<br>722<br>865   | 0<br>52<br><1<br>553<br>1633<br>685<br>937  | 0<br>54<br><1<br>583<br>1693<br>697<br>980   |
| Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 5<br>50<br>0<br>560<br>1510<br>780<br>870<br>2040  | 4<br>51<br>4<br>780<br>1147<br>722<br>865<br>2021   | 0<br>52<br><1<br>553<br>1633<br>685<br>937<br>2377  | 0<br>54<br><1<br>583<br>1693<br>697<br>980<br>2827   |
| Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 5<br>50<br>0<br>560<br>1510<br>780<br>870<br>2040<br>limit/base                                    | 4<br>51<br>4<br>780<br>1147<br>722<br>865<br>2021<br>current  | 0<br>52<br><1<br>553<br>1633<br>685<br>937<br>2377<br>history1  | 0<br>54<br><1<br>583<br>1693<br>697<br>980<br>2827<br>history2   |
| Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS                                    | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 5<br>50<br>0<br>560<br>1510<br>780<br>870<br>2040<br>Limit/base<br>>+100                           | 4<br>51<br>4<br>780<br>1147<br>722<br>865<br>2021<br>current<br>79  | 0<br>52<br><1<br>553<br>1633<br>685<br>937<br>2377<br>history1<br>4   | 0<br>54<br><1<br>583<br>1693<br>697<br>980<br>2827<br>history2<br>4  |
| Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS                                    | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>Method<br>ASTM D5185m<br>ASTM D5185m  | 5<br>50<br>0<br>560<br>1510<br>780<br>870<br>2040<br>Limit/base<br>>+100                           | 4<br>51<br>4<br>780<br>1147<br>722<br>865<br>2021<br>current<br>79<br>8   | 0<br>52<br><1<br>553<br>1633<br>685<br>937<br>2377<br>history1<br>4<br>8  | 0<br>54<br><1<br>583<br>1693<br>697<br>980<br>2827<br>history2<br>4<br>7   |
| Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS                                    | ASTM D5185m<br>ASTM D5185m  | 5<br>50<br>0<br>560<br>1510<br>780<br>870<br>2040<br><b>limit/base</b><br>>+100<br>>20             | 4<br>51<br>4<br>780<br>1147<br>722<br>865<br>2021<br>current<br>79<br>8<br>8<br>8   | 0<br>52<br><1<br>553<br>1633<br>685<br>937<br>2377<br>history1<br>4<br>8<br>1   | 0<br>54<br><1<br>583<br>1693<br>697<br>980<br>2827<br>history2<br>4<br>7<br>0  |
| Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED                                     | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS<br>ppm<br>ppm                      | ASTM D5185m<br>ASTM D5185m  | 5<br>50<br>0<br>560<br>1510<br>780<br>870<br>2040<br><b>limit/base</b><br>>+100<br>>20             | 4<br>51<br>4<br>780<br>1147<br>722<br>865<br>2021<br>current<br>79<br>8<br>8<br>8<br>8<br>202                                     | 0<br>52<br><1<br>553<br>1633<br>685<br>937<br>2377<br>history1<br>4<br>8<br>1<br>1<br>history1                                  | 0<br>54<br><1<br>583<br>1693<br>697<br>980<br>2827<br>history2<br>4<br>7<br>0<br>0   |
| Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED<br>Soot %                           | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br><b>TS</b><br>ppm<br>ppm               | ASTM D5185m<br>ASTM D5185m<br>*ASTM D7844   | 5<br>50<br>0<br>560<br>1510<br>780<br>870<br>2040<br>limit/base<br>>+100<br>}<br>200<br>limit/base | 4<br>51<br>4<br>780<br>1147<br>722<br>865<br>2021<br>current<br>79<br>8<br>8<br>8<br>8<br>2021                                    | 0<br>52<br><1<br>553<br>1633<br>685<br>937<br>2377<br>history1<br>4<br>8<br>1<br>1<br>history1<br>0                             | 0<br>54<br><1<br>583<br>697<br>980<br>2827<br>history2<br>4<br>7<br>0<br>0<br>history2<br>0.1                                |
| Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED<br>Soot %<br>Nitration              | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br><b>TS</b><br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D5185m               | 5<br>50<br>0<br>560<br>1510<br>780<br>870<br>2040<br>limit/base<br>>+100<br>>20<br>limit/base      | 4<br>51<br>4<br>780<br>1147<br>722<br>865<br>2021<br>current<br>79<br>8<br>8<br>8<br>8<br>current<br>0<br>13.0                    | 0<br>52<br><1<br>553<br>1633<br>685<br>937<br>2377<br>history1<br>4<br>8<br>1<br>1<br>history1<br>0<br>0<br>10.5                | 0<br>54<br><1<br>583<br>1693<br>697<br>980<br>2827<br>history2<br>4<br>7<br>0<br>0<br>history2<br>0.1<br>10.8                |
| Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED<br>Soot %<br>Nitration<br>Sulfation | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                            | ASTM D5185m<br>ASTM D5185m               | 5<br>50<br>0<br>560<br>1510<br>780<br>870<br>2040<br>Iimit/base<br>>+100<br>                       | 4<br>51<br>4<br>780<br>1147<br>722<br>865<br>2021<br>current<br>79<br>8<br>8<br>8<br>8<br>current<br>0<br>13.0<br>26.9<br>current | 0<br>52<br><1<br>553<br>1633<br>685<br>937<br>2377<br>history1<br>4<br>8<br>1<br>1<br>history1<br>0<br>10.5<br>21.0             | 0<br>54<br><1<br>583<br>1693<br>697<br>980<br>2827<br>history2<br>4<br>7<br>0<br>history2<br>0.1<br>10.8<br>21.9             |
| Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED<br>Soot %<br>Nitration<br>Sulfation | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br><b>TS</b><br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D7844<br>*ASTM D7624<br>*ASTM D7415 | 5<br>50<br>0<br>560<br>1510<br>780<br>870<br>2040<br>limit/base<br>>+100<br>                       | 4<br>51<br>4<br>780<br>1147<br>722<br>865<br>2021<br>current<br>79<br>8<br>8<br>8<br>8<br>8<br>current<br>0<br>13.0<br>26.9       | 0<br>52<br><1<br>553<br>1633<br>685<br>937<br>2377<br>history1<br>4<br>8<br>1<br>1<br>history1<br>0<br>10.5<br>21.0<br>history1 | 0<br>54<br><1<br>583<br>1693<br>697<br>980<br>2827<br>history2<br>4<br>7<br>0<br>history2<br>0.1<br>10.8<br>21.9<br>history2 |



# **OIL ANALYSIS REPORT**

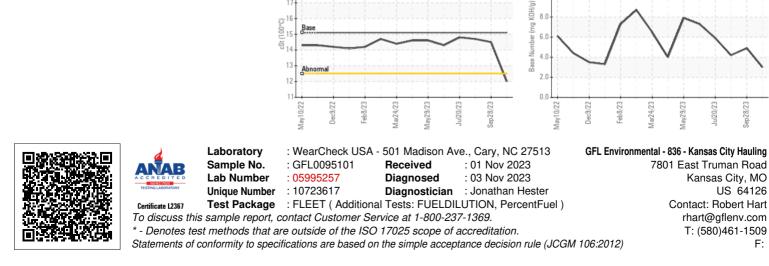




| VISUAL                         |          | method    | limit/base | current     | history1 | history2 |
|--------------------------------|----------|-----------|------------|-------------|----------|----------|
| White Metal                    | scalar   | *Visual   | NONE       | NONE        | NONE     | 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    |
| 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 @ 100°C                   | cSt      | ASTM D445 | 15.1       | <b>12.0</b> | 14.5     | 14.7     |
| GRAPHS                         |          |           |            |             |          |          |
| May10/22<br>Dec3/22<br>Feb8/23 | Mar24/23 | Jul20/23  | Sep28/23   |             |          |          |
| Non-ferrous Meta               | ls       |           |            |             |          |          |
| May10/22<br>Dec9/22<br>Feb8/23 | Mar24/23 | Jui2072a  | Sep28/23   |             |          |          |
| ≤<br>Viscosity @ 100°0         |          |           | 0          |             |          |          |
|                                |          |           |            | Base Number |          |          |

12.0

10



18

17

Contact/Location: See also GFL823, 834, 837, 840 - Robert Hart - GFL836

Sep28/23

Kansas City, MO

US 64126

F: