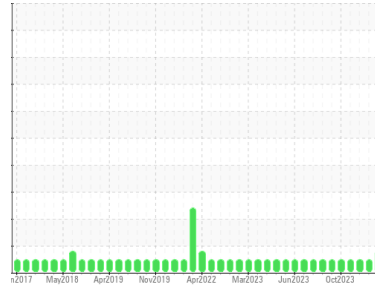




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area
(DXE795)

Machine Id
10590

Component
Diesel Engine

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

DIAGNOSIS

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

Light fuel dilution occurring. No other contaminants were detected 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.

SAMPLE INFORMATION

| method | limit/base | current | history1 | history2 |
|---------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | GFL0068907 | GFL0097152 | GFL0097143 |
| Sample Date | Client Info | 01 Mar 2024 | 22 Dec 2023 | 05 Dec 2023 |
| Machine Age | hrs | 17907 | 17557 | 17435 |
| Oil Age | hrs | 0 | 0 | 0 |
| Oil Changed | Client Info | Not Chngd | Changed | Not Chngd |
| Sample Status | | MARGINAL | NORMAL | NORMAL |

CONTAMINATION

| method | limit/base | current | history1 | history2 |
|--------|----------------|------------|----------|----------|
| Water | WC Method >0.2 | NEG | NEG | NEG |
| Glycol | WC Method | NEG | NEG | NEG |

WEAR METALS

| method | limit/base | current | history1 | history2 |
|----------|----------------------|--------------|----------|----------|
| Iron | ppm ASTM D5185m >100 | 16 | 16 | 13 |
| Chromium | ppm ASTM D5185m >20 | <1 | <1 | <1 |
| Nickel | ppm ASTM D5185m >4 | 0 | 0 | <1 |
| Titanium | ppm ASTM D5185m | 0 | 0 | 0 |
| Silver | ppm ASTM D5185m >3 | 0 | 0 | 0 |
| Aluminum | ppm ASTM D5185m >20 | 3 | 3 | 3 |
| Lead | ppm ASTM D5185m >40 | 0 | 0 | 0 |
| Copper | ppm ASTM D5185m >330 | <1 | <1 | 1 |
| Tin | ppm ASTM D5185m >15 | 0 | 2 | 0 |
| Vanadium | ppm ASTM D5185m | <1 | 0 | 0 |
| Cadmium | ppm ASTM D5185m | 0 | 0 | 0 |

ADDITIVES

| method | limit/base | current | history1 | history2 |
|------------|----------------------|--------------|----------|----------|
| Boron | ppm ASTM D5185m 0 | 2 | 4 | 3 |
| Barium | ppm ASTM D5185m 0 | 0 | 0 | 0 |
| Molybdenum | ppm ASTM D5185m 60 | 54 | 54 | 53 |
| Manganese | ppm ASTM D5185m 0 | <1 | <1 | <1 |
| Magnesium | ppm ASTM D5185m 1010 | 869 | 875 | 863 |
| Calcium | ppm ASTM D5185m 1070 | 969 | 918 | 940 |
| Phosphorus | ppm ASTM D5185m 1150 | 918 | 975 | 946 |
| Zinc | ppm ASTM D5185m 1270 | 1091 | 1217 | 1172 |
| Sulfur | ppm ASTM D5185m 2060 | 2757 | 2747 | 2782 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 |
|-----------|---------------------|--------------|----------|----------|
| Silicon | ppm ASTM D5185m >25 | 8 | 6 | 6 |
| Sodium | ppm ASTM D5185m | 5 | 8 | 6 |
| Potassium | ppm ASTM D5185m >20 | 1 | 7 | 3 |
| Fuel | % ASTM D3524 >5 | ▲ 4.9 | <1.0 | <1.0 |

INFRA-RED

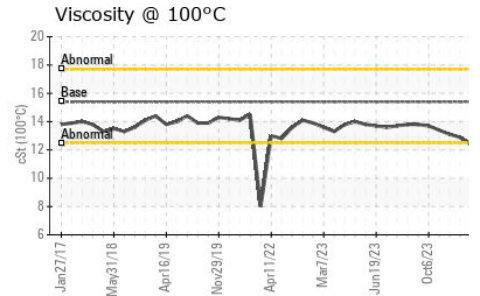
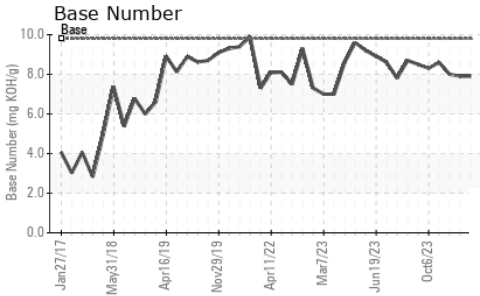
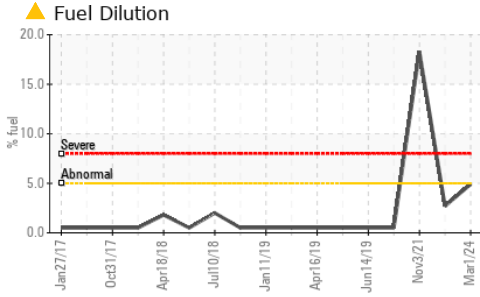
| method | limit/base | current | history1 | history2 |
|-----------|--------------------------|-------------|----------|----------|
| Soot % | % *ASTM D7844 >3 | 0.6 | 0.7 | 0.6 |
| Nitration | Abs/cm *ASTM D7624 >20 | 9.2 | 9.3 | 8.4 |
| Sulfation | Abs/.1mm *ASTM D7415 >30 | 18.8 | 18.8 | 18.4 |

FLUID DEGRADATION

| method | limit/base | current | history1 | history2 |
|------------------|--------------------------|-------------|----------|----------|
| Oxidation | Abs/.1mm *ASTM D7414 >25 | 15.8 | 15.8 | 14.8 |
| Base Number (BN) | mg KOH/g ASTM D2896 9.8 | 7.9 | 7.9 | 8.0 |



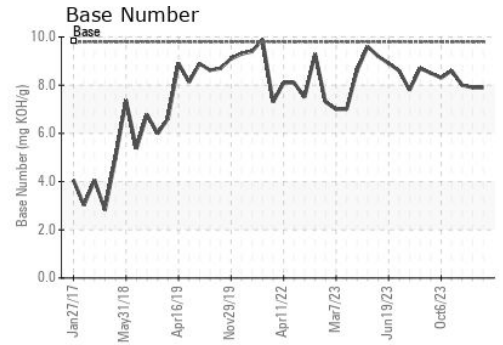
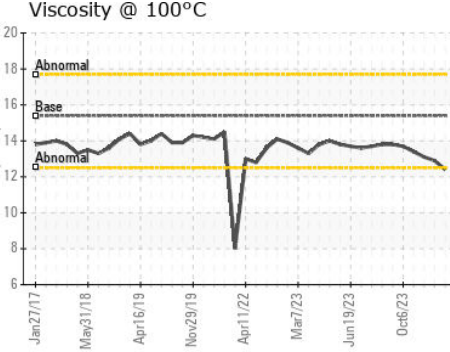
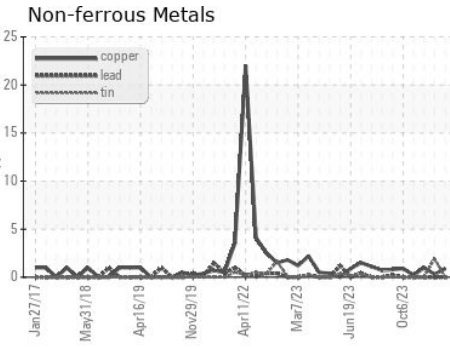
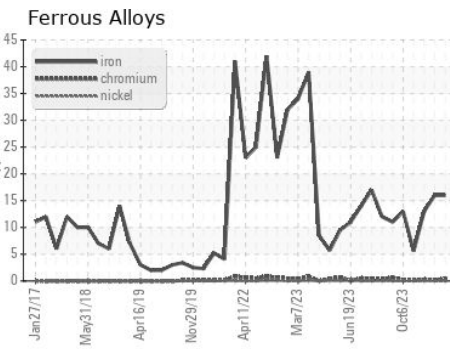
OIL ANALYSIS REPORT



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

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 12.4 | 12.9 |

GRAPHS



Certificate L2367

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

Sample No. : GFL0068907

Lab Number : 06111045

Unique Number : 10914542

Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 07 Mar 2024

Tested : 11 Mar 2024

Diagnosed : 11 Mar 2024 - Wes Davis

GFL Environmental - 073 - Warner Robins - Transwaste

155 Story Road

Warner Robins, GA

US 31093

Contact: JOSH MALONEY

jmaloney@gflenv.com

T:

F:

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)