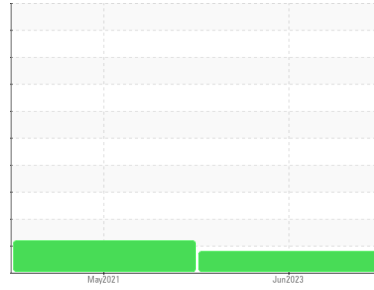




PROBLEM SUMMARY

Sample Rating Trend



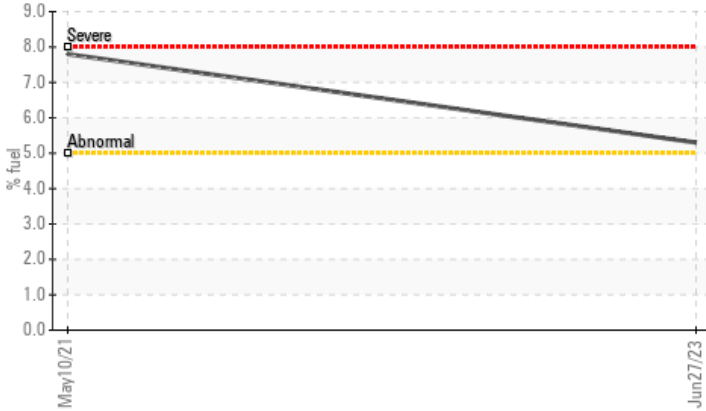
FUEL



Machine Id
4670M
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY

▲ Fuel Dilution



RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

| Sample Status | | | | ABNORMAL | ABNORMAL | --- |
|---------------|---|------------|----|-----------------|----------|-----|
| Fuel | % | ASTM D3524 | >5 | ▲ 5.3 | ▲ 7.8 | --- |

Customer Id: GFL415
 Sample No.: GFL0086695
 Lab Number: 05887279
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

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

RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|----------|--------|------|---------|---|
| Resample | --- | --- | ? | We recommend an early resample to monitor this condition. |

HISTORICAL DIAGNOSIS

10 May 2021 Diag: Jonathan Hester

FUEL



We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is a moderate amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report





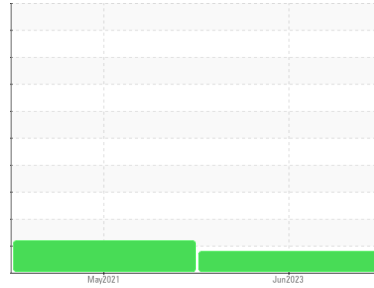
OIL ANALYSIS REPORT

Sample Rating Trend

FUEL



Machine Id
4670M
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)



DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

| | method | limit/base | current | history 1 | history 2 |
|---------------|-------------|-------------|--------------------|-------------|-----------|
| Sample Number | Client Info | | GFL0086695 | GFL0018151 | --- |
| Sample Date | Client Info | | 27 Jun 2023 | 10 May 2021 | --- |
| Machine Age | hrs | Client Info | 15621 | 8116 | --- |
| Oil Age | hrs | Client Info | 8116 | 8116 | --- |
| Oil Changed | Client Info | | Changed | Changed | --- |
| Sample Status | | | ABNORMAL | ABNORMAL | --- |

CONTAMINATION

| | method | limit/base | current | history 1 | history 2 |
|--------|-----------|------------|------------|-----------|-----------|
| Glycol | WC Method | | NEG | NEG | --- |

WEAR METALS

| | method | limit/base | current | history 1 | history 2 |
|----------|--------|------------------|--------------|-----------|-----------|
| Iron | ppm | ASTM D5185m >80 | 33 | 47 | --- |
| Chromium | ppm | ASTM D5185m >5 | <1 | 2 | --- |
| Nickel | ppm | ASTM D5185m >2 | 1 | <1 | --- |
| Titanium | ppm | ASTM D5185m | 0 | <1 | --- |
| Silver | ppm | ASTM D5185m >3 | 0 | <1 | --- |
| Aluminum | ppm | ASTM D5185m >30 | 2 | 4 | --- |
| Lead | ppm | ASTM D5185m >30 | 0 | 0 | --- |
| Copper | ppm | ASTM D5185m >150 | 1 | 2 | --- |
| Tin | ppm | ASTM D5185m >5 | <1 | <1 | --- |
| Antimony | ppm | ASTM D5185m | --- | 0 | --- |
| Vanadium | ppm | ASTM D5185m | <1 | <1 | --- |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | --- |

ADDITIVES

| | method | limit/base | current | history 1 | history 2 |
|------------|--------|------------------|--------------|-----------|-----------|
| Boron | ppm | ASTM D5185m 0 | <1 | 4 | --- |
| Barium | ppm | ASTM D5185m 0 | 0 | <1 | --- |
| Molybdenum | ppm | ASTM D5185m 60 | 62 | 57 | --- |
| Manganese | ppm | ASTM D5185m 0 | <1 | <1 | --- |
| Magnesium | ppm | ASTM D5185m 1010 | 945 | 851 | --- |
| Calcium | ppm | ASTM D5185m 1070 | 1102 | 991 | --- |
| Phosphorus | ppm | ASTM D5185m 1150 | 1008 | 933 | --- |
| Zinc | ppm | ASTM D5185m 1270 | 1286 | 1148 | --- |
| Sulfur | ppm | ASTM D5185m 2060 | 2821 | 2160 | --- |

CONTAMINANTS

| | method | limit/base | current | history 1 | history 2 |
|-----------|--------|-----------------|--------------|-----------|-----------|
| Silicon | ppm | ASTM D5185m >20 | 4 | 12 | --- |
| Sodium | ppm | ASTM D5185m | 6 | 10 | --- |
| Potassium | ppm | ASTM D5185m >20 | 4 | 2 | --- |
| Fuel | % | ASTM D3524 >5 | ▲ 5.3 | ▲ 7.8 | --- |

INFRA-RED

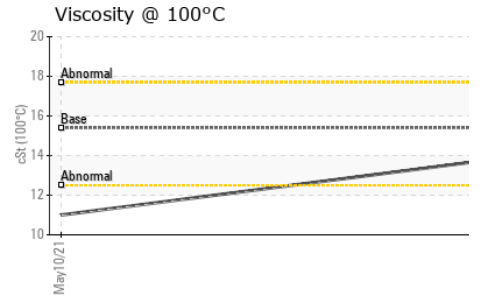
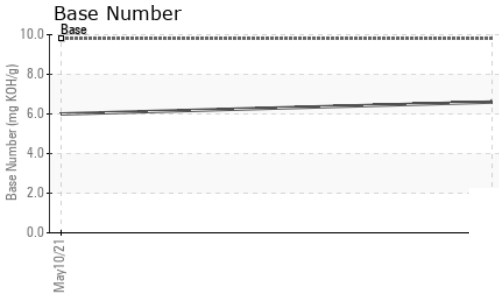
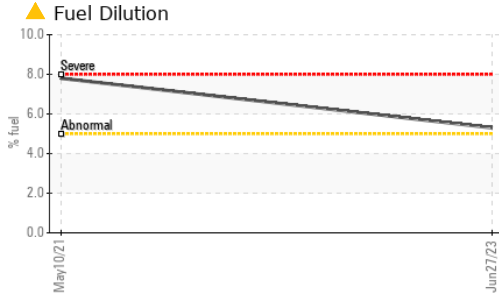
| | method | limit/base | current | history 1 | history 2 |
|-----------|----------|-----------------|-------------|-----------|-----------|
| Soot % | % | *ASTM D7844 >3 | 0.8 | 0.9 | --- |
| Nitration | Abs/cm | *ASTM D7624 >20 | 10.4 | 12 | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | 23.8 | 25 | --- |

FLUID DEGRADATION

| | method | limit/base | current | history 1 | history 2 |
|------------------|----------|-----------------|-------------|-----------|-----------|
| Oxidation | Abs/.1mm | *ASTM D7414 >25 | 20.8 | 22.3 | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 9.8 | 6.6 | 6 | --- |



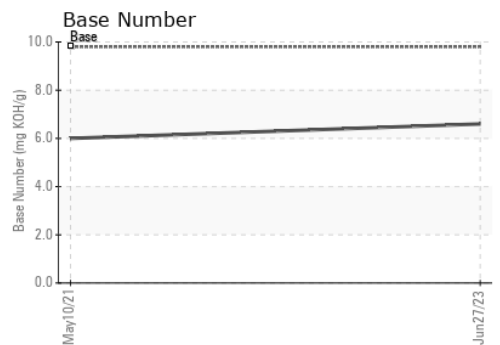
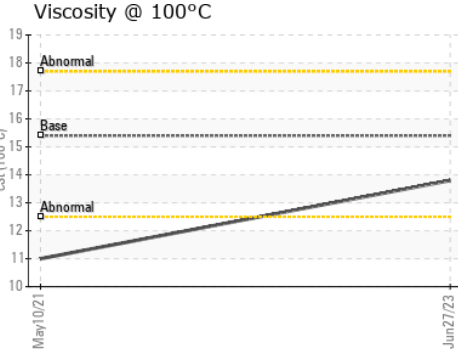
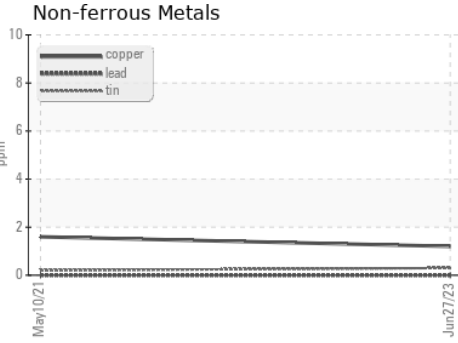
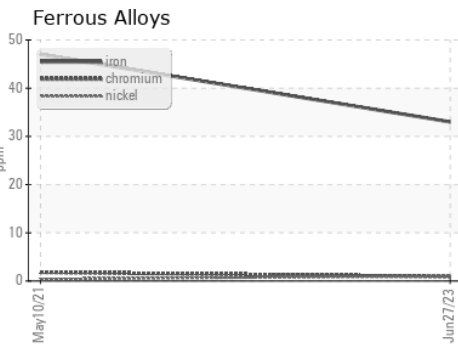
OIL ANALYSIS REPORT



| VISUAL | method | limit/base | current | history 1 | history 2 |
|------------------|--------|------------|---------|-----------|-----------|
| 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 | --- |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | --- |
| Free Water | scalar | *Visual | | NEG | --- |

| FLUID PROPERTIES | method | limit/base | current | history 1 | history 2 |
|------------------|--------|------------|---------|-----------|-----------|
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.8 | ▲ 11.0 |

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0086695 **Received** : 29 Jun 2023
Lab Number : 05887279 **Diagnosed** : 02 Jul 2023
Unique Number : 10537762 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 415 - Michigan East
 6200 Elmridge
 Sterling Heights, MI
 US 48313
 Contact: Frank Wolak
 fwolak@gflenv.com
 T: (586)825-9514
 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)