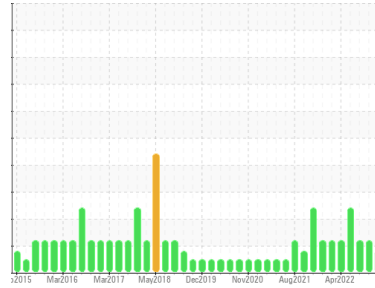




PROBLEM SUMMARY

Sample Rating Trend



FUEL



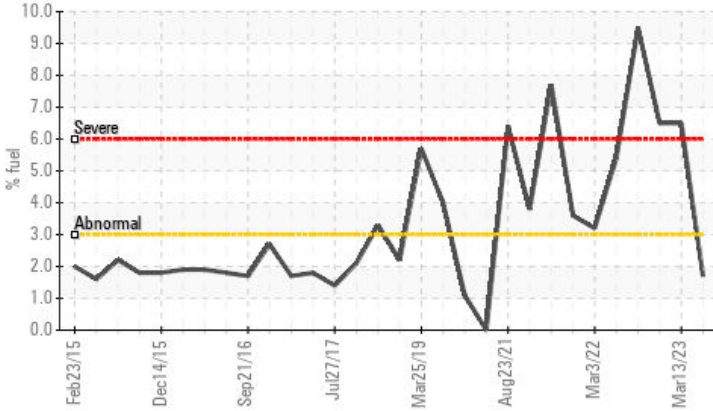
Machine Id
10438

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (7 GAL)

COMPONENT CONDITION SUMMARY

▲ Fuel Dilution



RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

PROBLEMATIC TEST RESULTS

| Sample Status | | | | MARGINAL | ABNORMAL | ABNORMAL |
|---------------|---|------------|------|-----------------|----------|----------|
| Fuel | % | ASTM D3524 | >3.0 | ▲ 1.7 | ▲ 6.5 | ▲ 6.5 |

Customer Id: GFL002
Sample No.: PCA0101742
Lab Number: 05919667
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

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

13 Mar 2023 Diag: Wes Davis

FUEL



The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. 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.

view report



26 Jan 2023 Diag: Don Baldrige

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



10 Oct 2022 Diag: Jonathan Hester

FUEL



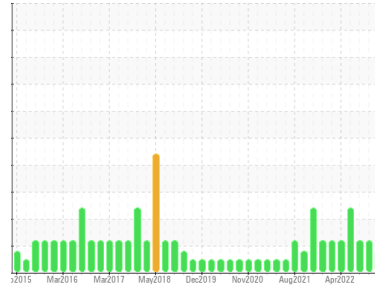
We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a high amount of fuel present in the oil. Fuel is present in the oil and is lowering 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
10438

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (7 GAL)

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

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 | PCA0101742 | PCA0077338 | PCA0074705 |
| Sample Date | Client Info | 07 Aug 2023 | 13 Mar 2023 | 26 Jan 2023 |
| Machine Age | hrs | 10158 | 16081 | 10079 |
| Oil Age | hrs | 600 | 600 | 600 |
| Oil Changed | Client Info | Changed | Changed | Changed |
| Sample Status | | MARGINAL | ABNORMAL | ABNORMAL |

CONTAMINATION

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

WEAR METALS

| method | limit/base | current | history1 | history2 |
|----------|----------------------|--------------|----------|----------|
| Iron | ppm ASTM D5185m >75 | 3 | 4 | 5 |
| Chromium | ppm ASTM D5185m >5 | <1 | <1 | <1 |
| Nickel | ppm ASTM D5185m >4 | 0 | 0 | <1 |
| Titanium | ppm ASTM D5185m >2 | 0 | 0 | 0 |
| Silver | ppm ASTM D5185m >2 | 0 | 0 | 0 |
| Aluminum | ppm ASTM D5185m >15 | 0 | <1 | <1 |
| Lead | ppm ASTM D5185m >25 | 0 | 0 | 1 |
| Copper | ppm ASTM D5185m >100 | <1 | <1 | <1 |
| Tin | ppm ASTM D5185m >4 | 0 | 0 | <1 |
| Vanadium | ppm ASTM D5185m | 0 | 0 | 0 |
| Cadmium | ppm ASTM D5185m | 0 | 0 | 0 |

ADDITIVES

| method | limit/base | current | history1 | history2 |
|------------|----------------------|--------------|----------|----------|
| Boron | ppm ASTM D5185m 0 | 24 | 16 | 21 |
| Barium | ppm ASTM D5185m 0 | 0 | <1 | 0 |
| Molybdenum | ppm ASTM D5185m 60 | 63 | 59 | 65 |
| Manganese | ppm ASTM D5185m 0 | <1 | <1 | <1 |
| Magnesium | ppm ASTM D5185m 1010 | 911 | 771 | 819 |
| Calcium | ppm ASTM D5185m 1070 | 1149 | 1031 | 1198 |
| Phosphorus | ppm ASTM D5185m 1150 | 1033 | 848 | 923 |
| Zinc | ppm ASTM D5185m 1270 | 1250 | 1089 | 1153 |
| Sulfur | ppm ASTM D5185m 2060 | 3841 | 3295 | 3362 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 |
|-----------|---------------------|--------------|----------|----------|
| Silicon | ppm ASTM D5185m >25 | 3 | 3 | 4 |
| Sodium | ppm ASTM D5185m | 3 | 8 | 12 |
| Potassium | ppm ASTM D5185m >20 | 2 | 0 | 2 |
| Fuel | % ASTM D3524 >3.0 | ▲ 1.7 | ▲ 6.5 | ▲ 6.5 |

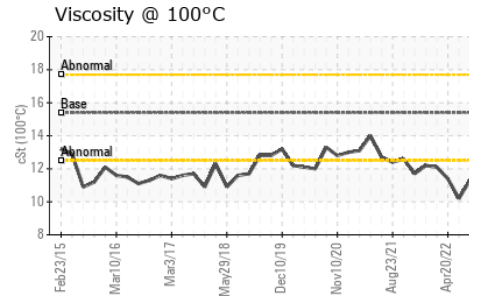
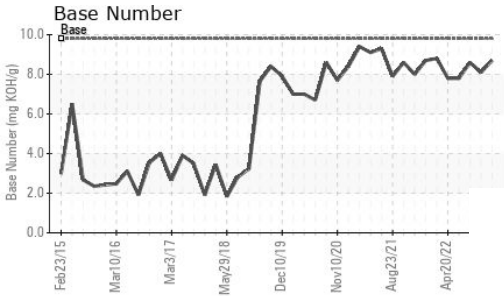
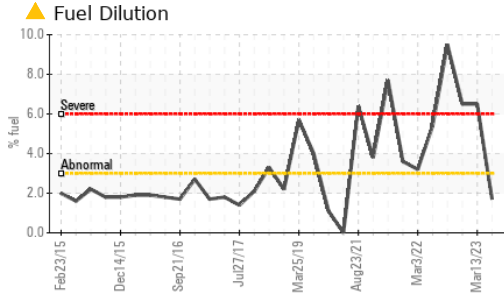
INFRA-RED

| method | limit/base | current | history1 | history2 |
|-----------|--------------------------|-------------|----------|----------|
| Soot % | % *ASTM D7844 >6 | 0.1 | 0.1 | 0.1 |
| Nitration | Abs/cm *ASTM D7624 >20 | 4.9 | 6.0 | 6.0 |
| Sulfation | Abs/.1mm *ASTM D7415 >30 | 16.6 | 17.5 | 17.2 |

FLUID DEGRADATION

| method | limit/base | current | history1 | history2 |
|------------------|--------------------------|-------------|----------|----------|
| Oxidation | Abs/.1mm *ASTM D7414 >25 | 12.4 | 12.8 | 12.8 |
| Base Number (BN) | mg KOH/g ASTM D2896 9.8 | 8.7 | 8.1 | 8.6 |

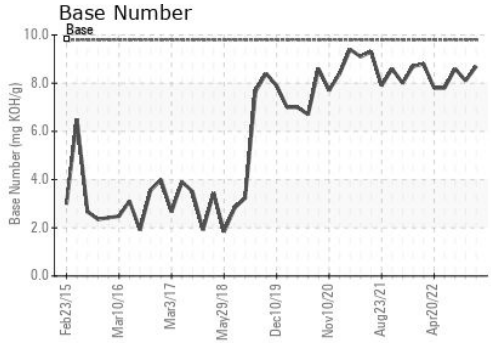
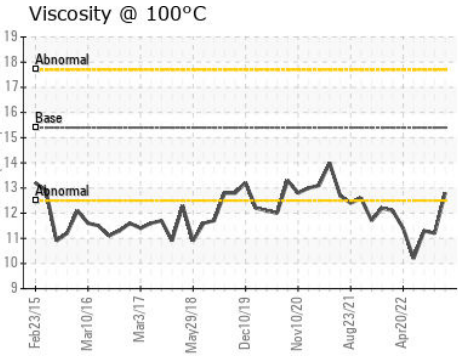
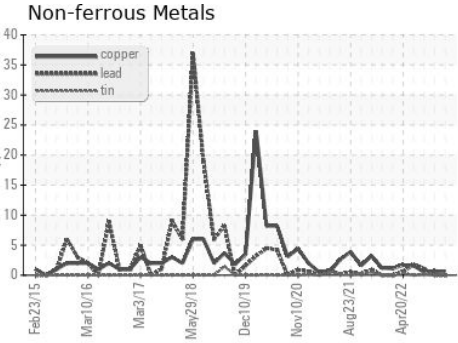
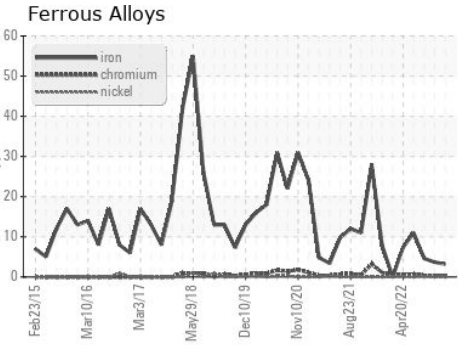
OIL ANALYSIS REPORT



| 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 | 12.8 | ▲ 11.2 ▲ 11.3 |

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0101742 **Received** : 09 Aug 2023
Lab Number : **05919667** **Diagnosed** : 10 Aug 2023
Unique Number : 10591581 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 002 - Vance-Granville
 241 Vanco Mill Rd
 Henderson, NC
 US 27537
 Contact: Cameron King
 cameron.king@gflenv.com
 T: (252)438-5333
 F: (252)431-1635

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)