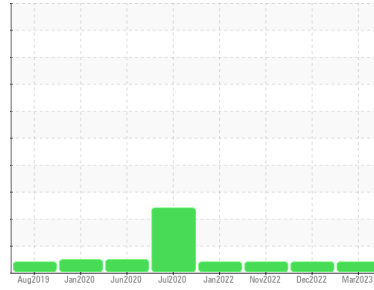




PROBLEM SUMMARY

Sample Rating Trend



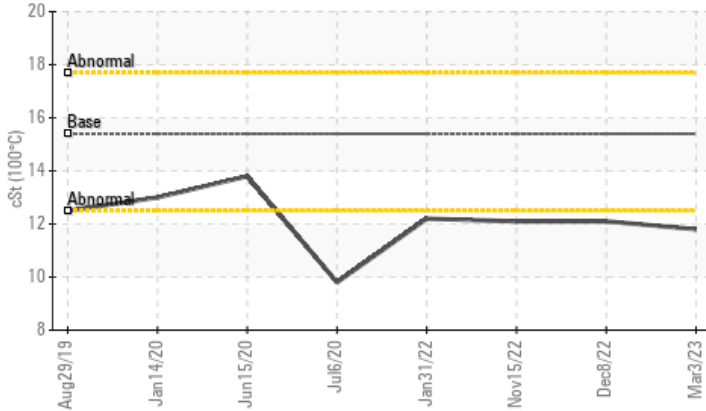
VISCOSITY



Area
GFL829
Machine Id
INTERNATIONAL 225055-310022
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY

▲ Viscosity @ 100°C



RECOMMENDATION

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

PROBLEMATIC TEST RESULTS

| Sample Status | | | | ATTENTION | ATTENTION | ATTENTION |
|---------------|-----|-----------|------|-----------|-----------|-----------|
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | ▲ 11.8 | ▲ 12.1 | ▲ 12.1 |

Customer Id: GFL9999
Sample No.: GFL0065552
Lab Number: 05789393
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
jhester@wearcheckusa.com

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

08 Dec 2022 Diag: Don Baldrige

VISCOSITY



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

view report



15 Nov 2022 Diag: Don Baldrige

VISCOSITY



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

view report



31 Jan 2022 Diag: Don Baldrige

VISCOSITY



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. Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report



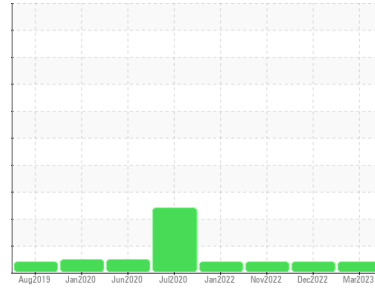


OIL ANALYSIS REPORT

Sample Rating Trend

VISCOSITY

Area
GFL829
 Machine Id
INTERNATIONAL 225055-310022
 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

Fuel content negligible. 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 INFORMATION

| method | limit/base | current | history1 | history2 |
|---------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | GFL0065552 | GFL0065594 | GFL0051315 |
| Sample Date | Client Info | 03 Mar 2023 | 08 Dec 2022 | 15 Nov 2022 |
| Machine Age | hrs | Client Info | 0 | 0 |
| Oil Age | hrs | Client Info | 0 | 250 |
| Oil Changed | Client Info | Not Changed | Changed | Not Changed |
| Sample Status | | ATTENTION | ATTENTION | ATTENTION |

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 >100 | 18 | 33 | 29 |
| Chromium | ppm | ASTM D5185m >20 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m >4 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >20 | 4 | 6 | 5 |
| Lead | ppm | ASTM D5185m >40 | <1 | <1 | <1 |
| Copper | ppm | ASTM D5185m >330 | 1 | 3 | 2 |
| Tin | ppm | ASTM D5185m >15 | <1 | <1 | <1 |
| Antimony | ppm | ASTM D5185m | --- | --- | --- |
| 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 | 2 | 17 | 5 |
| Barium | ppm | ASTM D5185m 0 | 2 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m 60 | 60 | 62 | 57 |
| Manganese | ppm | ASTM D5185m 0 | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m 1010 | 922 | 849 | 863 |
| Calcium | ppm | ASTM D5185m 1070 | 1115 | 1229 | 1162 |
| Phosphorus | ppm | ASTM D5185m 1150 | 1056 | 1039 | 966 |
| Zinc | ppm | ASTM D5185m 1270 | 1232 | 1243 | 1210 |
| Sulfur | ppm | ASTM D5185m 2060 | 2936 | 3876 | 3379 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 | |
|-----------|------------|-----------------|------------|----------|------|
| Silicon | ppm | ASTM D5185m >25 | 3 | 3 | 4 |
| Sodium | ppm | ASTM D5185m | 3 | 4 | 7 |
| Potassium | ppm | ASTM D5185m >20 | 1 | 3 | 0 |
| Fuel | % | ASTM D3524 >5 | 1.1 | <1.0 | <1.0 |

INFRA-RED

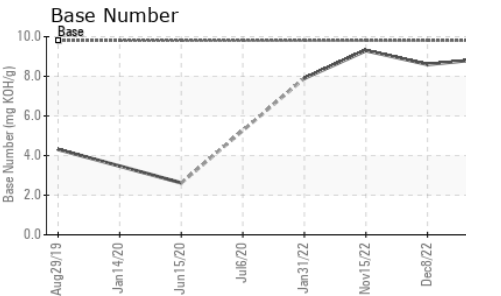
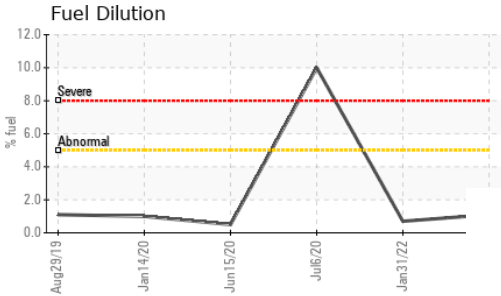
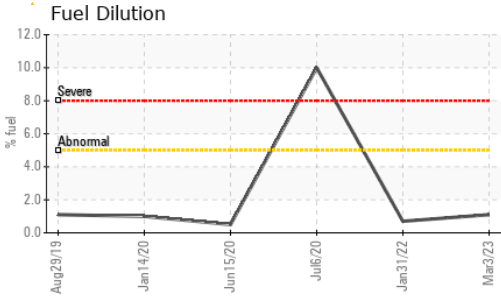
| method | limit/base | current | history1 | history2 | |
|-----------|------------|-----------------|-------------|----------|------|
| Soot % | % | *ASTM D7844 >3 | 0.1 | 0.3 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 >20 | 7.0 | 9.5 | 9.1 |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | 18.4 | 20.5 | 20.0 |

FLUID DEGRADATION

| method | limit/base | current | history1 | history2 | |
|------------------|------------|-----------------|-------------|----------|------|
| Oxidation | Abs/.1mm | *ASTM D7414 >25 | 14.0 | 16.2 | 15.4 |
| Base Number (BN) | mg KOH/g | ASTM D2896 9.8 | 8.9 | 8.6 | 9.3 |



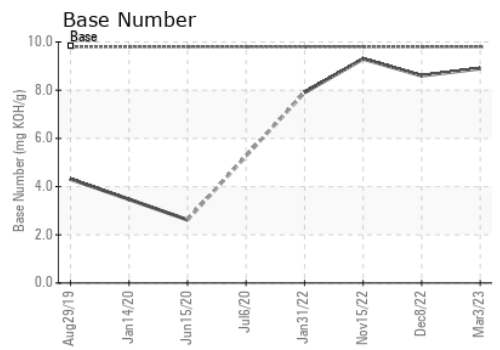
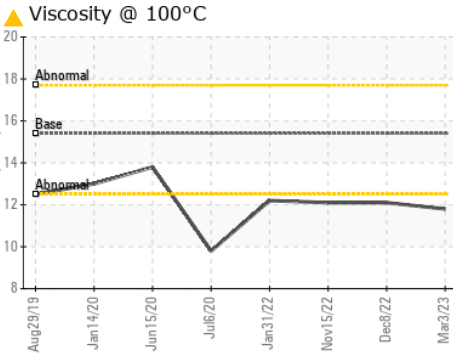
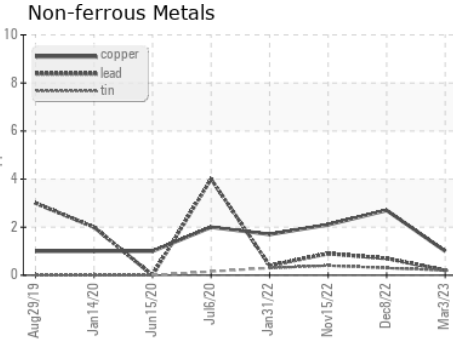
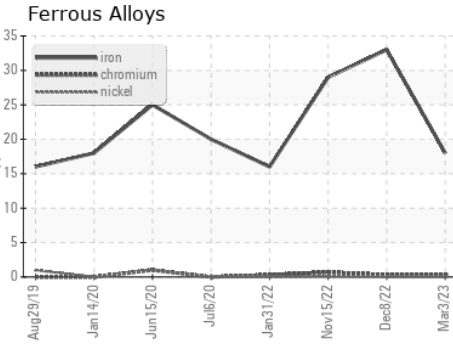
OIL ANALYSIS REPORT



| 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 | ▲ 11.8 | ▲ 12.1 |

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0065552 **Received** : 13 Mar 2023
Lab Number : 05789393 **Diagnosed** : 17 Mar 2023
Unique Number : 10374064 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 9999 - Moved No Longer Used Units

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)

US
Contact:

T:
F: