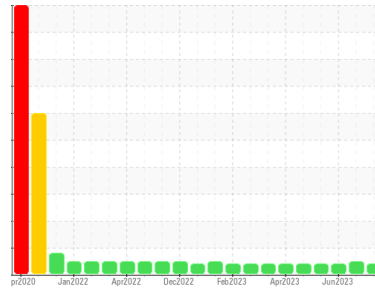




PROBLEM SUMMARY

Sample Rating Trend



VISCOSITY



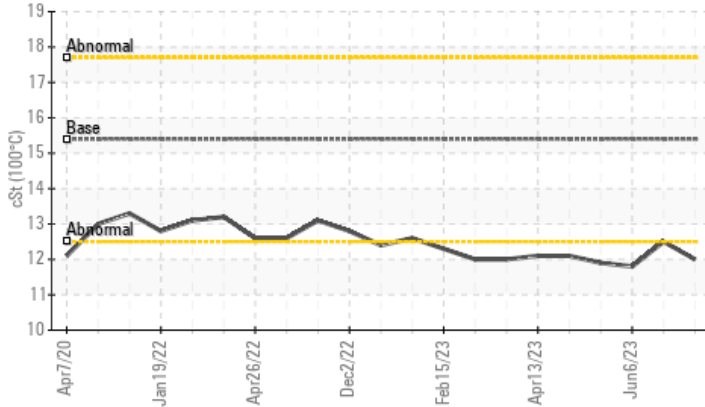
Machine Id
2870

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (7 GAL)

COMPONENT CONDITION SUMMARY

▲ Viscosity @ 100°C



RECOMMENDATION

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

| Sample Status | | | | ATTENTION | NORMAL | ATTENTION |
|---------------|-----|-----------|------|-----------|--------|-----------|
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | ▲ 12.0 | 12.5 | ▲ 11.8 |

Customer Id: GFL010
Sample No.: GFL0088756
Lab Number: 05951017
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

| Action | Status | Date | Done By | Description |
|---------------|--------|------|---------|---|
| Change Fluid | --- | --- | ? | Oil and filter change at the time of sampling has been noted. |
| Change Filter | --- | --- | ? | Oil and filter change at the time of sampling has been noted. |

HISTORICAL DIAGNOSIS

27 Jun 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



06 Jun 2023 Diag: Don Baldrige

VISCOSITY



Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. 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



16 May 2023 Diag: Jonathan Hester

VISCOSITY



No corrective action is recommended at this time. 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.

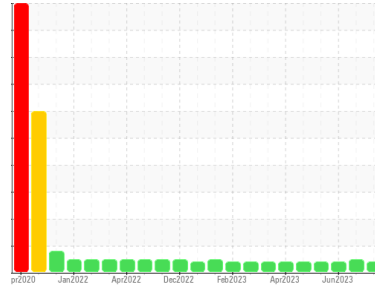
view report





OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Machine Id
2870

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (7 GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. 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 INFORMATION

| method | limit/base | current | history1 | history2 |
|---------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | GFL0088756 | GFL0083191 | GFL0082843 |
| Sample Date | Client Info | 12 Sep 2023 | 27 Jun 2023 | 06 Jun 2023 |
| Machine Age | hrs | 7981 | 7630 | 7487 |
| Oil Age | hrs | 494 | 143 | 1122 |
| Oil Changed | Client Info | Changed | Not Changd | Changed |
| Sample Status | | ATTENTION | NORMAL | 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 >165 | 16 | 4 | 12 |
| Chromium | ppm | ASTM D5185m >5 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m >4 | 0 | <1 | 0 |
| Titanium | ppm | ASTM D5185m >2 | <1 | <1 | 0 |
| Silver | ppm | ASTM D5185m >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >20 | 7 | 2 | <1 |
| Lead | ppm | ASTM D5185m >150 | 2 | 0 | <1 |
| Copper | ppm | ASTM D5185m >90 | 18 | 1 | 2 |
| Tin | ppm | ASTM D5185m >5 | <1 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | <1 | 0 | <1 |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | 0 |

ADDITIVES

| method | limit/base | current | history1 | history2 | |
|------------|------------|------------------|--------------|----------|------|
| Boron | ppm | ASTM D5185m 0 | 11 | 21 | 13 |
| Barium | ppm | ASTM D5185m 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m 60 | 62 | 58 | 61 |
| Manganese | ppm | ASTM D5185m 0 | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m 1010 | 833 | 793 | 780 |
| Calcium | ppm | ASTM D5185m 1070 | 1181 | 1097 | 1194 |
| Phosphorus | ppm | ASTM D5185m 1150 | 949 | 933 | 947 |
| Zinc | ppm | ASTM D5185m 1270 | 1185 | 1164 | 1191 |
| Sulfur | ppm | ASTM D5185m 2060 | 3355 | 3504 | 3372 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 | |
|-----------|------------|-----------------|----------------|----------|------|
| Silicon | ppm | ASTM D5185m >35 | 6 | 2 | 5 |
| Sodium | ppm | ASTM D5185m | 2 | <1 | 2 |
| Potassium | ppm | ASTM D5185m >20 | 13 | 4 | 8 |
| Fuel | % | ASTM D3524 >3.0 | <1.0 | <1.0 | <1.0 |

INFRA-RED

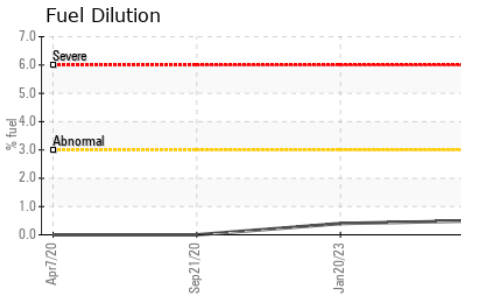
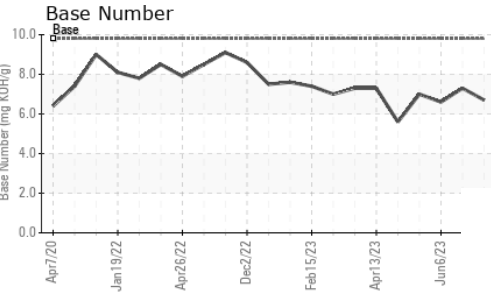
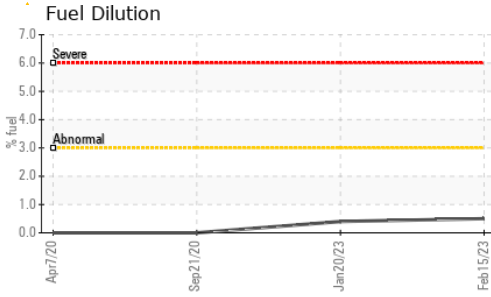
| method | limit/base | current | history1 | history2 | |
|-----------|------------|------------------|-------------|----------|------|
| Soot % | % | *ASTM D7844 >7.5 | 0.3 | 0.2 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 >20 | 8.4 | 5.8 | 8.8 |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | 17.5 | 17.6 | 19.5 |

FLUID DEGRADATION

| method | limit/base | current | history1 | history2 | |
|------------------|------------|-----------------|-------------|----------|------|
| Oxidation | Abs/.1mm | *ASTM D7414 >25 | 12.5 | 13.4 | 14.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896 9.8 | 6.7 | 7.3 | 6.6 |



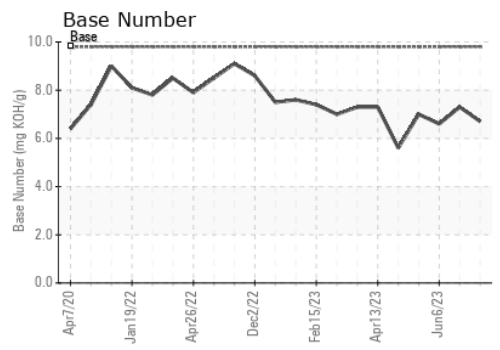
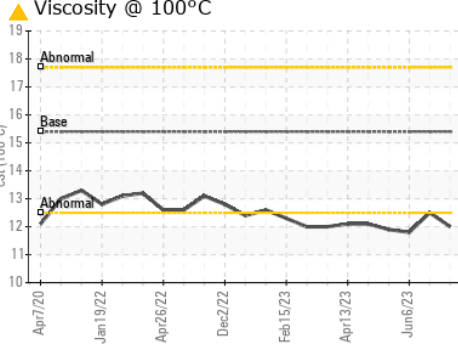
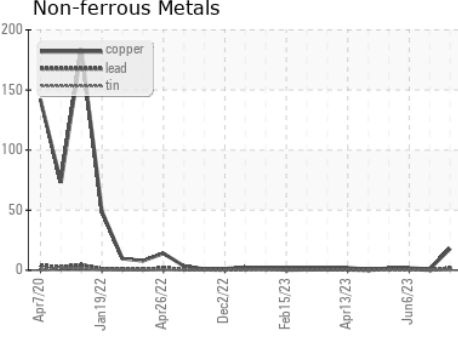
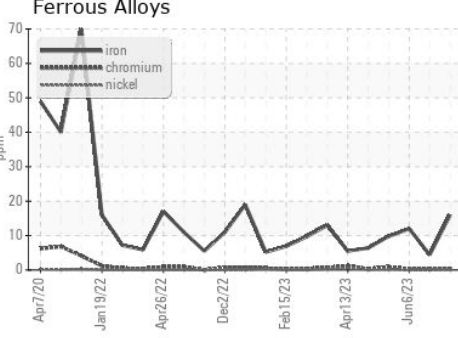
OIL ANALYSIS REPORT



| 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 ▲ 12.0 | 12.5 | ▲ 11.8 |

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0088756 **Received** : 14 Sep 2023
Lab Number : 05951017 **Diagnosed** : 19 Sep 2023
Unique Number : 10646976 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 010 - Stockbridge
 1280 Rum Creek Parkway
 Stockbridge, GA
 US 30281
 Contact: JOSHUA TINKER
 joshuatinker@gflenv.com

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)