



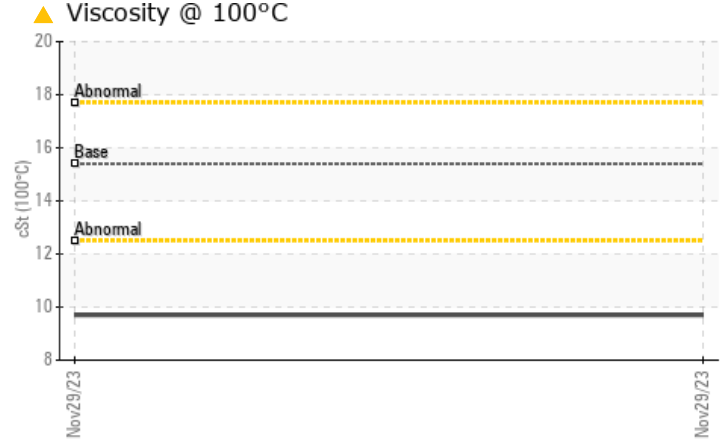
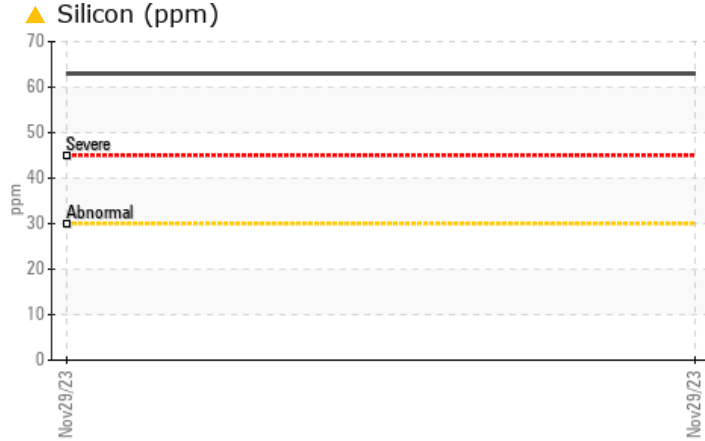
PROBLEM SUMMARY

Sample Rating Trend



Machine Id
414046
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

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

PROBLEMATIC TEST RESULTS

| Sample Status | | | | ABNORMAL | --- | --- |
|---------------|-----|-------------|------|----------|-----|-----|
| Silicon | ppm | ASTM D5185m | >30 | ▲ 63 | --- | --- |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | ▲ 9.7 | --- | --- |

Customer Id: GFL846
 Sample No.: GFL0087073
 Lab Number: 06026013
 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

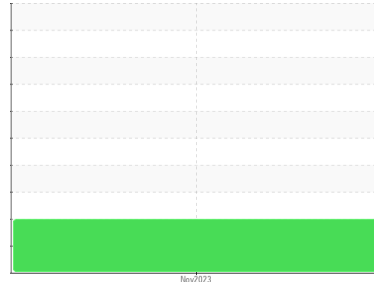
There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS



OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Machine Id

414046

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. Elemental level of silicon (Si) above normal indicating ingress of seal material.

▲ 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 | | GFL0087073 | --- | --- |
| Sample Date | Client Info | | 29 Nov 2023 | --- | --- |
| Machine Age | hrs | Client Info | 0 | --- | --- |
| Oil Age | hrs | Client Info | 0 | --- | --- |
| Oil Changed | Client Info | | Not Changed | --- | --- |
| Sample Status | | | ABNORMAL | --- | --- |

CONTAMINATION

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

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >110 | 18 | --- | --- |
| Chromium | ppm | ASTM D5185m >4 | <1 | --- | --- |
| Nickel | ppm | ASTM D5185m >2 | 1 | --- | --- |
| Titanium | ppm | ASTM D5185m | <1 | --- | --- |
| Silver | ppm | ASTM D5185m >2 | <1 | --- | --- |
| Aluminum | ppm | ASTM D5185m >25 | 8 | --- | --- |
| Lead | ppm | ASTM D5185m >45 | <1 | --- | --- |
| Copper | ppm | ASTM D5185m >85 | 47 | --- | --- |
| Tin | ppm | ASTM D5185m >4 | 2 | --- | --- |
| Vanadium | ppm | ASTM D5185m | <1 | --- | --- |
| Cadmium | ppm | ASTM D5185m | 0 | --- | --- |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|------------------|-------------|----------|----------|
| Boron | ppm | ASTM D5185m 0 | 372 | --- | --- |
| Barium | ppm | ASTM D5185m 0 | 0 | --- | --- |
| Molybdenum | ppm | ASTM D5185m 60 | 118 | --- | --- |
| Manganese | ppm | ASTM D5185m 0 | 4 | --- | --- |
| Magnesium | ppm | ASTM D5185m 1010 | 662 | --- | --- |
| Calcium | ppm | ASTM D5185m 1070 | 1398 | --- | --- |
| Phosphorus | ppm | ASTM D5185m 1150 | 691 | --- | --- |
| Zinc | ppm | ASTM D5185m 1270 | 812 | --- | --- |
| Sulfur | ppm | ASTM D5185m 2060 | 2152 | --- | --- |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|-----------------|-------------|----------|----------|
| Silicon | ppm | ASTM D5185m >30 | ▲ 63 | --- | --- |
| Sodium | ppm | ASTM D5185m | 3 | --- | --- |
| Potassium | ppm | ASTM D5185m >20 | 14 | --- | --- |
| Fuel | % | ASTM D3524 >5 | 0.0 | --- | --- |

INFRA-RED

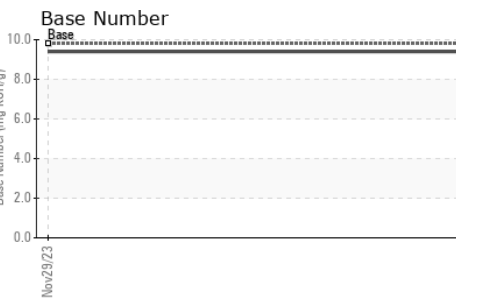
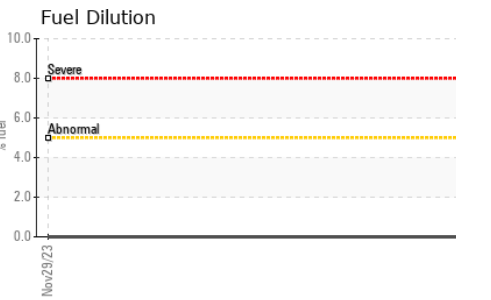
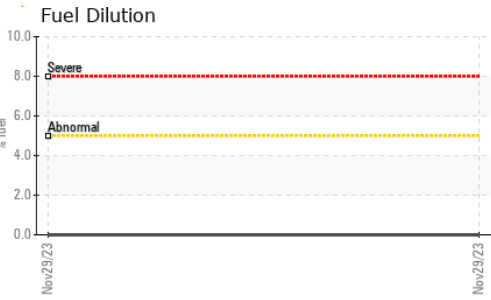
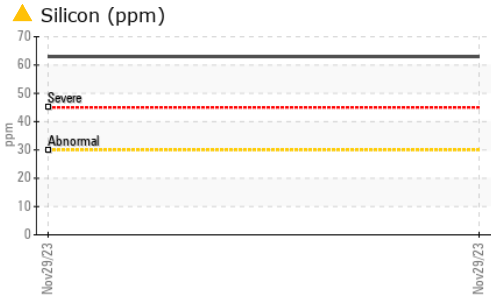
| | method | limit/base | current | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot % | % | *ASTM D7844 >3 | 0.1 | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 >20 | 6.8 | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | 26.0 | --- | --- |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation | Abs/.1mm | *ASTM D7414 >25 | 20.8 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 9.8 | 9.4 | --- | --- |



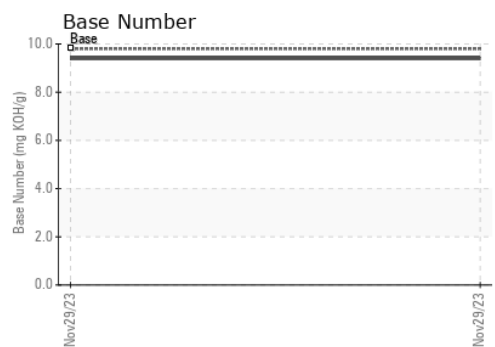
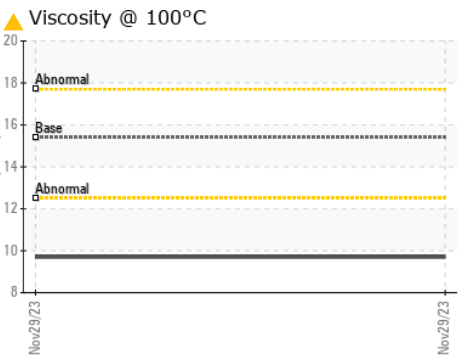
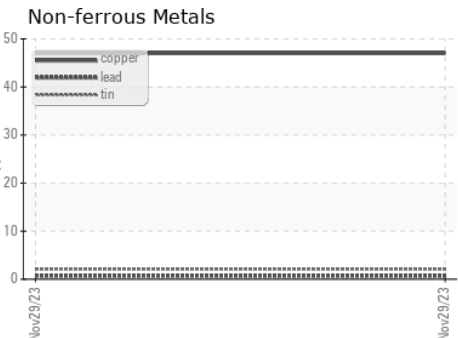
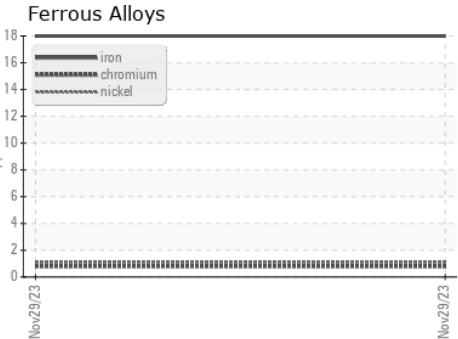
OIL ANALYSIS REPORT



| VISUAL | method | limit/base | current | history1 | history2 | |
|------------------|--------|------------|---------|--------------|----------|-----|
| 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 | history1 | history2 | |
|------------------|--------|------------|---------|--------------|----------|-----|
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | ▲ 9.7 | --- | --- |

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0087073 **Received** : 06 Dec 2023
Lab Number : **06026013** **Diagnosed** : 14 Dec 2023
Unique Number : 10775804 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 846 - Mayfield Hauling
 3426 State Route 45
 Mayfield, KY
 US 42066
 Contact: Jack Lindsey
 jack.lindsey@gflenv.com
 T: (270)970-3690
 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)