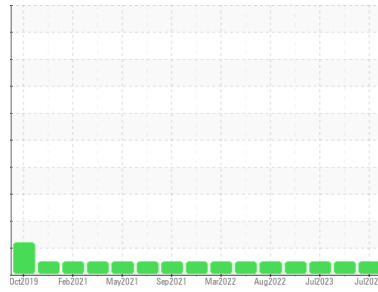




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
(YA150073) 020

Machine Id
11359

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination 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 | GFL0126043 | GFL0091176 | GFL0076968 |
| Sample Date | Client Info | 12 Jul 2024 | 17 Aug 2023 | 21 Jul 2023 |
| Machine Age | hrs | 4334 | 0 | 516 |
| Oil Age | hrs | 600 | 600 | 600 |
| Oil Changed | Client Info | Changed | Not Changd | Not Changd |
| Sample Status | | NORMAL | NORMAL | NORMAL |

CONTAMINATION

| method | limit/base | current | history1 | history2 |
|--------|----------------|----------------|----------|----------|
| Fuel | WC Method >5 | <1.0 | <1.0 | <1.0 |
| Water | WC Method >0.2 | NEG | NEG | NEG |
| Glycol | WC Method | NEG | NEG | NEG |

WEAR METALS

| method | limit/base | current | history1 | history2 |
|----------|----------------------|--------------|----------|----------|
| Iron | ppm ASTM D5185m >100 | 17 | 13 | 10 |
| Chromium | ppm ASTM D5185m >20 | <1 | <1 | <1 |
| Nickel | ppm ASTM D5185m >4 | 0 | <1 | 1 |
| Titanium | ppm ASTM D5185m | 0 | 0 | 0 |
| Silver | ppm ASTM D5185m >3 | 0 | 0 | <1 |
| Aluminum | ppm ASTM D5185m >20 | 5 | 6 | 2 |
| Lead | ppm ASTM D5185m >40 | 0 | 0 | 0 |
| Copper | ppm ASTM D5185m >330 | <1 | <1 | 2 |
| Tin | ppm ASTM D5185m >15 | 0 | <1 | 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 | 5 | 4 | 6 |
| Barium | ppm ASTM D5185m 0 | 0 | 0 | <1 |
| Molybdenum | ppm ASTM D5185m 60 | 60 | 60 | 66 |
| Manganese | ppm ASTM D5185m 0 | 0 | <1 | <1 |
| Magnesium | ppm ASTM D5185m 1010 | 910 | 905 | 1050 |
| Calcium | ppm ASTM D5185m 1070 | 1083 | 1063 | 1218 |
| Phosphorus | ppm ASTM D5185m 1150 | 880 | 999 | 1126 |
| Zinc | ppm ASTM D5185m 1270 | 1217 | 1221 | 1387 |
| Sulfur | ppm ASTM D5185m 2060 | 2628 | 3319 | 3939 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 |
|-----------|---------------------|-----------|----------|----------|
| Silicon | ppm ASTM D5185m >25 | 5 | 2 | 4 |
| Sodium | ppm ASTM D5185m | 0 | 0 | 2 |
| Potassium | ppm ASTM D5185m >20 | 12 | 11 | 1 |

INFRA-RED

| method | limit/base | current | history1 | history2 |
|-----------|--------------------------|-------------|----------|----------|
| Soot % | % *ASTM D7844 >3 | 0.3 | 0.2 | 0.4 |
| Nitration | Abs/cm *ASTM D7624 >20 | 9.7 | 8.0 | 7.2 |
| Sulfation | Abs/.1mm *ASTM D7415 >30 | 19.2 | 18.1 | 19.0 |

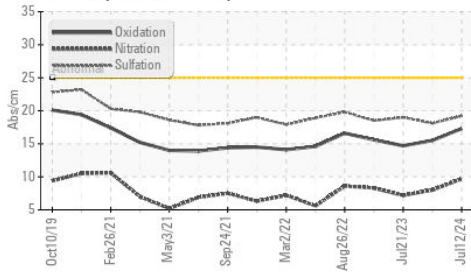
FLUID DEGRADATION

| method | limit/base | current | history1 | history2 |
|------------------|--------------------------|-------------|----------|----------|
| Oxidation | Abs/.1mm *ASTM D7414 >25 | 17.3 | 15.5 | 14.7 |
| Base Number (BN) | mg KOH/g ASTM D2896 9.8 | 7.5 | 7.7 | 8.5 |

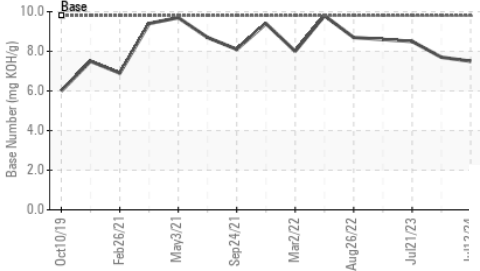


OIL ANALYSIS REPORT

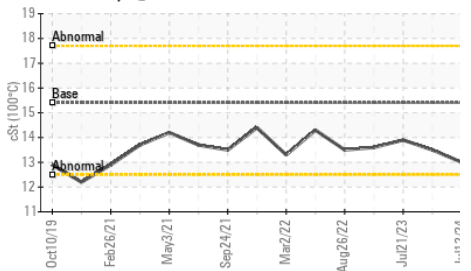
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

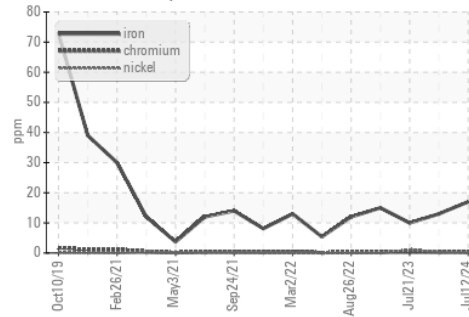


| PARAMETER | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | 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 |

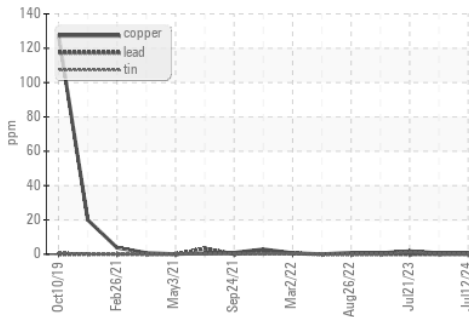
| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.0 | 13.5 |

GRAPHS

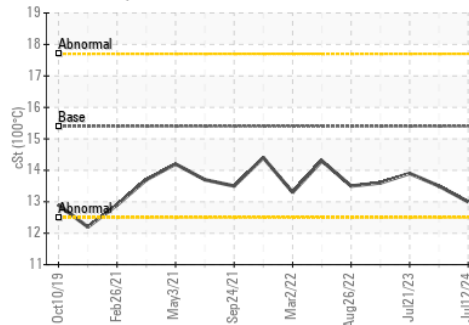
Ferrous Alloys



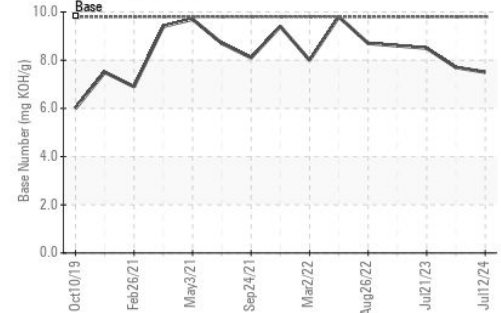
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0126043
 Lab Number : 06237599
 Unique Number : 11126433
 Test Package : FLEET

GFL Environmental - 020 - Alamance
 703 East Gilbreath St
 Graham, NC
 US 27253
 Contact:

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)

richard.belcher@gflenv.com

T: (800)207-6618

F: (336)229-0526