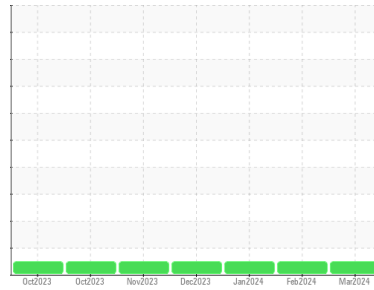




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
713010
Component
Diesel Engine
Fluid
PETRO CANADA DURON UHP 5W30 (--- GAL)

DIAGNOSIS

Recommendation

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 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 | | GFL0114111 | GFL0108046 | GFL0108112 |
| Sample Date | Client Info | | 18 Mar 2024 | 26 Feb 2024 | 31 Jan 2024 |
| Machine Age | hrs | Client Info | 2550 | 2410 | 2268 |
| Oil Age | hrs | Client Info | 20091 | 0 | 0 |
| Oil Changed | Client Info | | Changed | Not Changd | Not Changd |
| Sample Status | | | NORMAL | NORMAL | NORMAL |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|--------|-----------|------------|----------------|----------|----------|
| Fuel | WC Method | >3.0 | <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 >120 | 11 | 8 | 5 |
| Chromium | ppm | ASTM D5185m >20 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m >5 | <1 | <1 | <1 |
| Titanium | ppm | ASTM D5185m >2 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >20 | 2 | 2 | 2 |
| Lead | ppm | ASTM D5185m >40 | <1 | 3 | 0 |
| Copper | ppm | ASTM D5185m >330 | 6 | 4 | 4 |
| Tin | ppm | ASTM D5185m >15 | <1 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | <1 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|------------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m 0 | 16 | 18 | 28 |
| Barium | ppm | ASTM D5185m 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m 64 | 55 | 55 | 55 |
| Manganese | ppm | ASTM D5185m 0 | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m 1160 | 992 | 1158 | 1017 |
| Calcium | ppm | ASTM D5185m 820 | 870 | 926 | 753 |
| Phosphorus | ppm | ASTM D5185m 1160 | 949 | 1085 | 1018 |
| Zinc | ppm | ASTM D5185m 1260 | 1148 | 1292 | 1217 |
| Sulfur | ppm | ASTM D5185m 3000 | 3299 | 3346 | 3031 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|-----------------|-----------|----------|----------|
| Silicon | ppm | ASTM D5185m >25 | 4 | 6 | 7 |
| Sodium | ppm | ASTM D5185m | 7 | 4 | 4 |
| Potassium | ppm | ASTM D5185m >20 | 26 | 3 | 2 |

INFRA-RED

| | method | limit/base | current | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot % | % | *ASTM D7844 >4 | 0.3 | 0.2 | 0.2 |
| Nitration | Abs/cm | *ASTM D7624 >20 | 9.2 | 8.4 | 7.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | 20.3 | 19.5 | 19.4 |

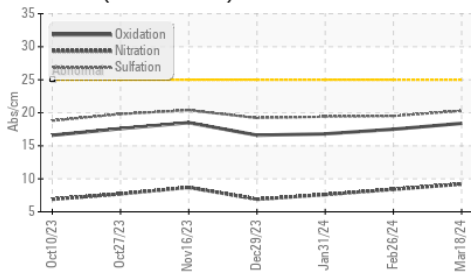
FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation | Abs/.1mm | *ASTM D7414 >25 | 18.4 | 17.5 | 16.8 |
| Base Number (BN) | mg KOH/g | ASTM D2896 11.0 | 7.1 | 7.8 | 8.6 |

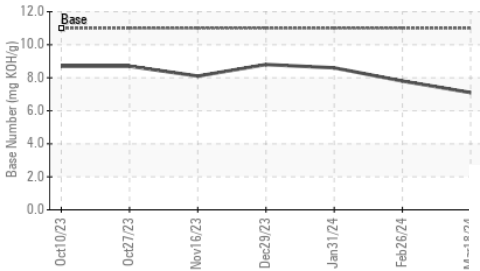


OIL ANALYSIS REPORT

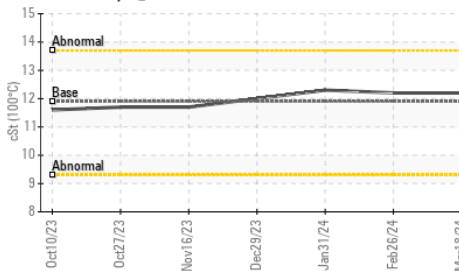
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

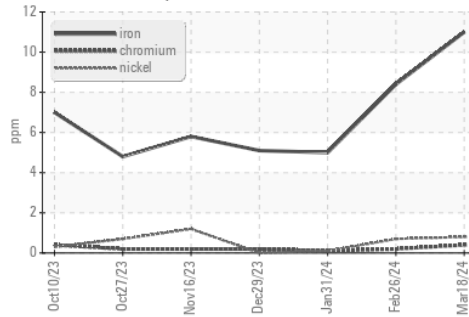


| PARAMETER | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE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

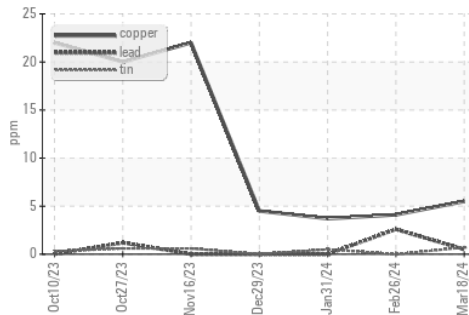
| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 11.9 | 12.2 | 12.2 |

GRAPHS

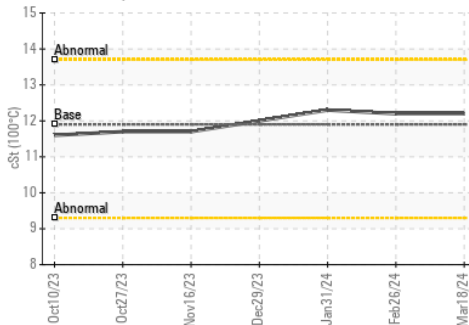
Ferrous Alloys



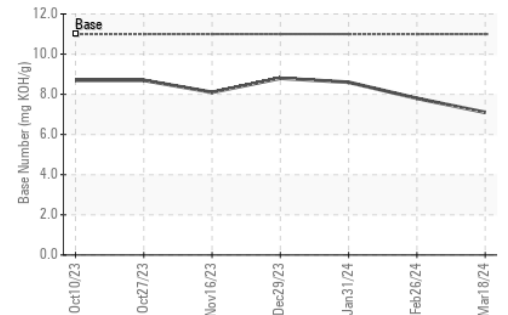
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0114111
 Lab Number : 06150949
 Unique Number : 10981027
 Test Package : FLEET

Received : 16 Apr 2024
 Tested : 17 Apr 2024
 Diagnosed : 17 Apr 2024 - Wes Davis

GFL Environmental - 837 - Harrison TS
 22820 S State Route 291
 Harrisonville, MO
 US 64701
 Contact: SARA PATRICK
 spatrack@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)