



| | |
|-----------------|---------------|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Area

(P830962)

Machine Id

932001

Component

Diesel Engine

Fluid

PETRO CANADA DURON GEO LD 15W40 (40 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | GFL0117972 | GFL0101778 | GFL0101773 |
| Sample Date | | Client Info | | 09 May 2024 | 14 Feb 2024 | 12 Jan 2024 |
| Machine Age | hrs | Client Info | | 5693 | 5693 | 5208 |
| Oil Age | hrs | Client Info | | 600 | 600 | 600 |
| Filter Age | hrs | Client Info | | 600 | 600 | 600 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >165 | 8 | 5 | 4 |
| Chromium | ppm | ASTM D5185m | >5 | 1 | <1 | 0 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >2 | <1 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | 2 | 2 |
| Lead | ppm | ASTM D5185m | >150 | 6 | 0 | 3 |
| Copper | ppm | ASTM D5185m | >90 | 3 | 1 | 2 |
| Tin | ppm | ASTM D5185m | >5 | <1 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

There is no indication of any contamination in the oil.

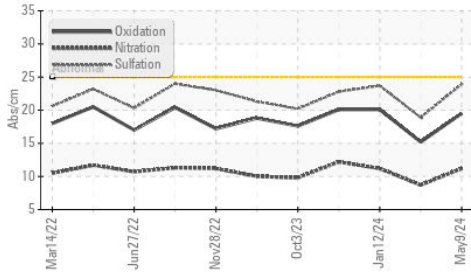
| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >35 | 11 | 6 | 7 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | 1 | 1 |
| Fuel | | WC Method | >3.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >7.5 | 0 | 0.1 | 0 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 11.2 | 8.7 | 11.2 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 23.9 | 18.9 | 23.7 |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | NEG |

FLUID CONDITION

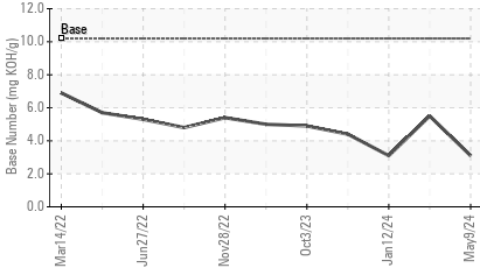
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium | ppm | ASTM D5185m | | 5 | 6 | 6 |
| Boron | ppm | ASTM D5185m | 50 | 4 | 18 | 6 |
| Barium | ppm | ASTM D5185m | 5 | 2 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 50 | 56 | 48 | 46 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 560 | 519 | 515 | 543 |
| Calcium | ppm | ASTM D5185m | 1510 | 1528 | 1436 | 1467 |
| Phosphorus | ppm | ASTM D5185m | 780 | 711 | 668 | 701 |
| Zinc | ppm | ASTM D5185m | 870 | 887 | 874 | 913 |
| Sulfur | ppm | ASTM D5185m | 2040 | 2463 | 2327 | 2311 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 19.5 | 15.2 | 20.1 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10.2 | 3.1 | 5.5 | 3.1 |
| Visc @ 100°C | cSt | ASTM D445 | 15.1 | 12.9 | 13.0 | 14.1 |

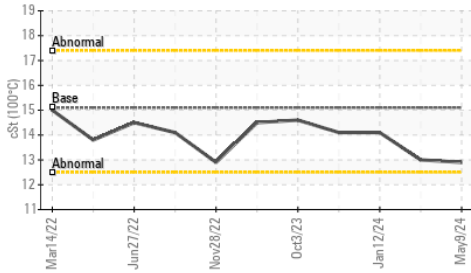
FT-IR (Direct Trend)



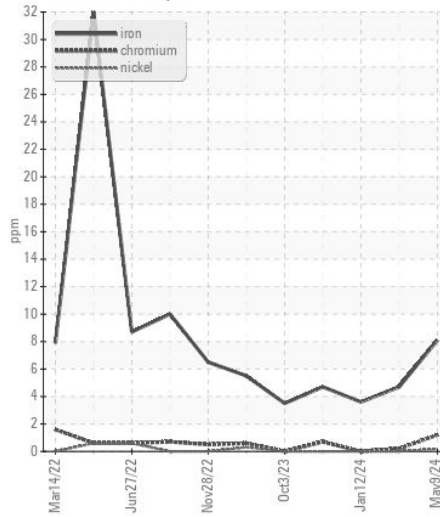
Base Number



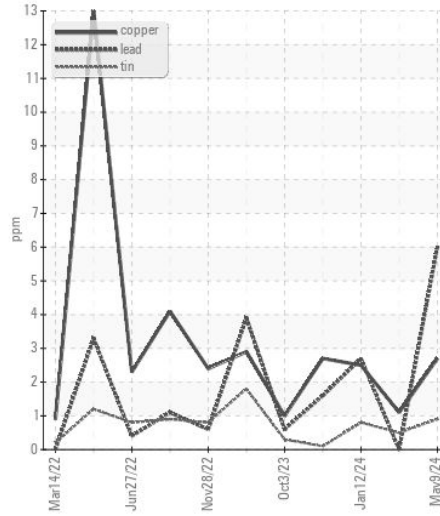
Viscosity @ 100°C



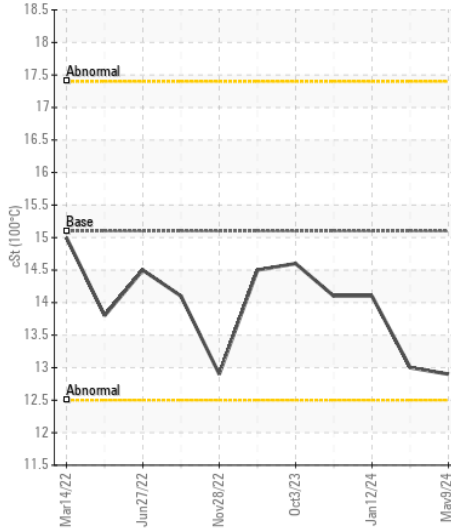
Ferrous Alloys



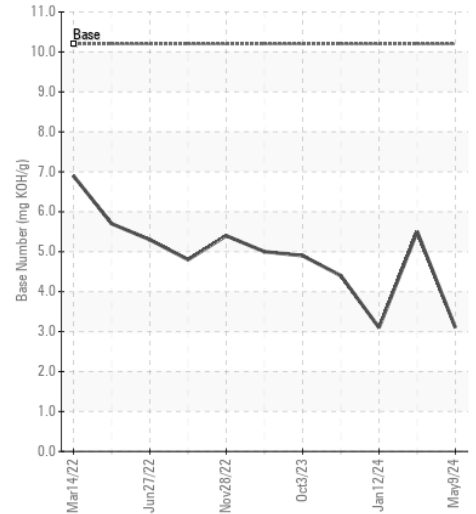
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0117972
Lab Number : 06176511
Unique Number : 11022564
Test Package : FLEET

Received : 10 May 2024
Tested : 13 May 2024
Diagnosed : 13 May 2024 - Wes Davis

GFL Environmental - 030 - Conway Myrtle Beach
 3010 HWY 378
 Conway, SC
 US 29527
 Contact: ARCILIO RUEZ
 aruiz@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)

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F: