



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

Machine Id
713052
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. (Customer Sample
 Comment: 51727 MI 4437 HR)

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | GFL0125243 | GFL0117739 | GFL0093319 |
| Sample Date | | Client Info | | 21 Jun 2024 | 23 Apr 2024 | 27 Oct 2023 |
| Machine Age | hrs | Client Info | | 4437 | 47477 | 2816 |
| Oil Age | hrs | Client Info | | 0 | 0 | 2816 |
| Filter Age | hrs | Client Info | | 0 | 0 | 2816 |
| Oil Changed | | Client Info | | Changed | Not Changd | Not Changd |
| Filter Changed | | Client Info | | Changed | Not Changd | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >110 | 10 | 9 | 9 |
| Chromium | ppm | ASTM D5185m | >4 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >25 | 16 | 10 | 8 |
| Lead | ppm | ASTM D5185m | >45 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >85 | <1 | 1 | 2 |
| Tin | ppm | ASTM D5185m | >4 | 0 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | 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.

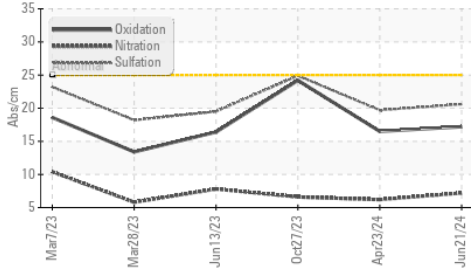
| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >30 | 5 | 5 | 21 |
| Potassium | ppm | ASTM D5185m | >20 | 48 | 27 | 34 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.3 | 0.2 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 7.2 | 6.2 | 6.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 20.6 | 19.7 | 24.9 |
| 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

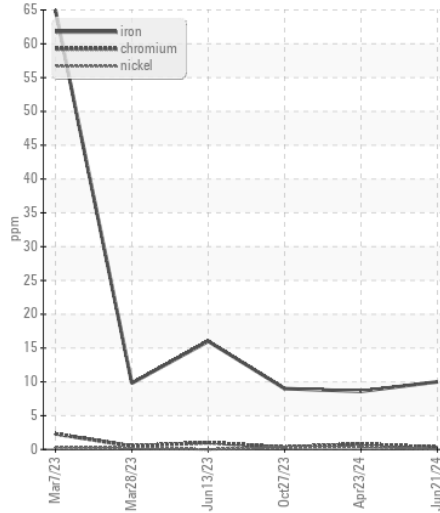
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium | ppm | ASTM D5185m | | 3 | 5 | 2 |
| Boron | ppm | ASTM D5185m | 0 | 5 | 1 | 11 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 2 | 6 |
| Molybdenum | ppm | ASTM D5185m | 60 | 54 | 54 | 41 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 | 2 |
| Magnesium | ppm | ASTM D5185m | 1010 | 951 | 904 | 835 |
| Calcium | ppm | ASTM D5185m | 1070 | 1048 | 1037 | 1199 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 940 | 893 | 763 |
| Zinc | ppm | ASTM D5185m | 1270 | 1152 | 1090 | 989 |
| Sulfur | ppm | ASTM D5185m | 2060 | 3111 | 2707 | 2537 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 17.2 | 16.5 | 24.2 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 8.5 | 8.4 | 8.7 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.6 | 13.7 | 13.7 |

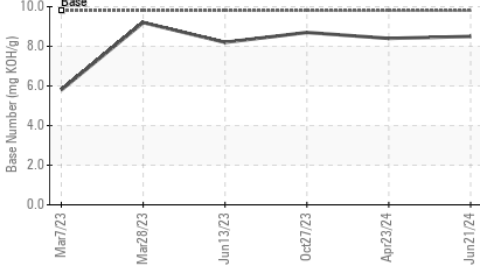
FT-IR (Direct Trend)



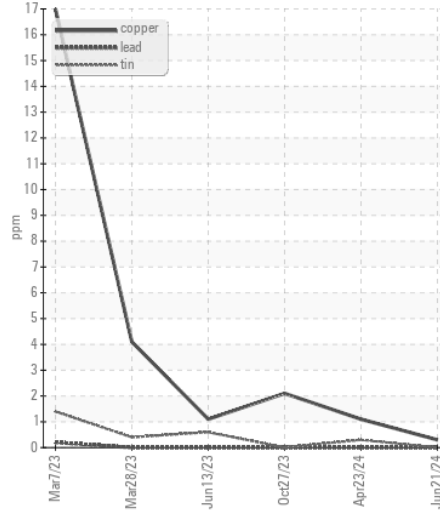
Ferrous Alloys



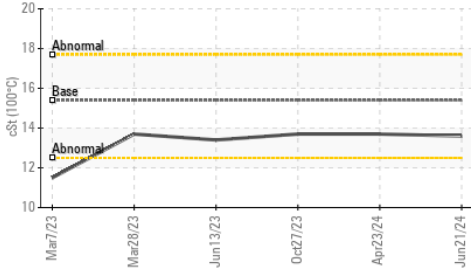
Base Number



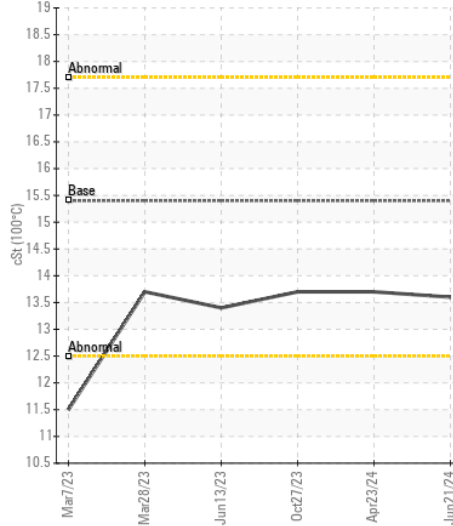
Non-ferrous Metals



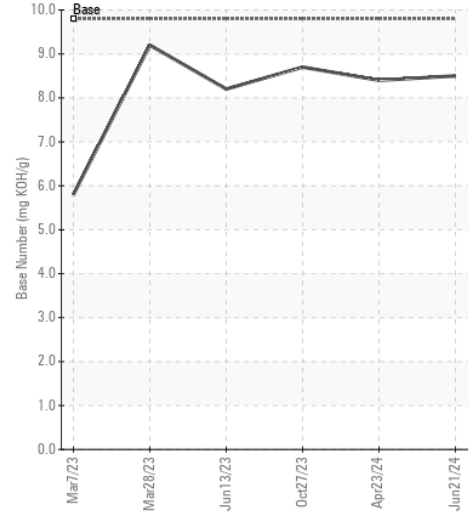
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0125243
Lab Number : 06225632
Unique Number : 11103829
Test Package : FLEET

Received : 01 Jul 2024
Tested : 03 Jul 2024
Diagnosed : 03 Jul 2024 - Don Baldrige

GFL Environmental - 865 - East Mount Hauling
 7213 East Mount Houston Road
 Houston, TX
 US 77050
 Contact: Saul Castillo
 saul.castillo@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)

T:
F: