



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

Machine Id
720074
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | GFL0104877 | GFL0104875 | GFL0104821 |
| Sample Date | | Client Info | | 11 Jun 2024 | 21 May 2024 | 17 Apr 2024 |
| Machine Age | mls | Client Info | | 252280 | 254531 | 251682 |
| Oil Age | mls | Client Info | | 0 | 0 | 0 |
| Filter Age | mls | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Not Chngd | 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 | >100 | 27 | 23 | 22 |
| Chromium | ppm | ASTM D5185m | >20 | 2 | 1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 3 | 3 | 1 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >330 | <1 | 0 | 0 |
| Tin | ppm | ASTM D5185m | >15 | 0 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 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.

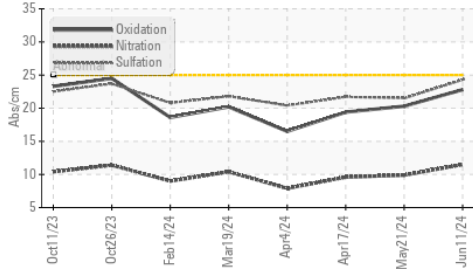
| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 4 | 4 | 3 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 4 | 2 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 1.3 | 0.9 | 1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 11.5 | 9.9 | 9.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 24.3 | 21.5 | 21.7 |
| 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

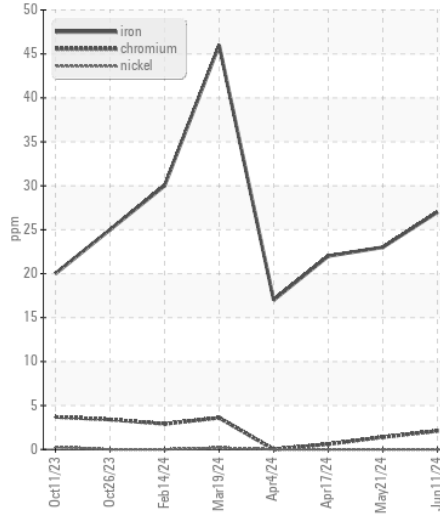
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium | ppm | ASTM D5185m | | 8 | 4 | 10 |
| Boron | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 60 | 52 | 55 | 58 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | 1010 | 769 | 909 | 923 |
| Calcium | ppm | ASTM D5185m | 1070 | 1125 | 1019 | 1130 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 934 | 971 | 1050 |
| Zinc | ppm | ASTM D5185m | 1270 | 1059 | 1245 | 1291 |
| Sulfur | ppm | ASTM D5185m | 2060 | 2978 | 3397 | 3519 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 22.8 | 20.3 | 19.4 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 6.9 | 7.2 | 7.6 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 12.6 | 12.8 | 12.6 |

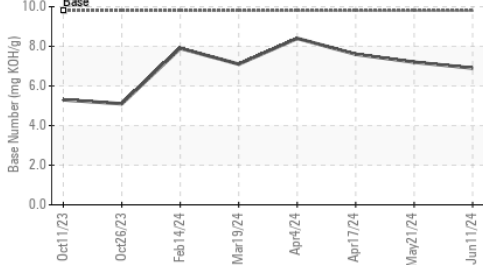
FT-IR (Direct Trend)



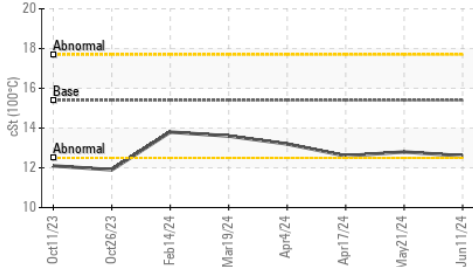
Ferrous Alloys



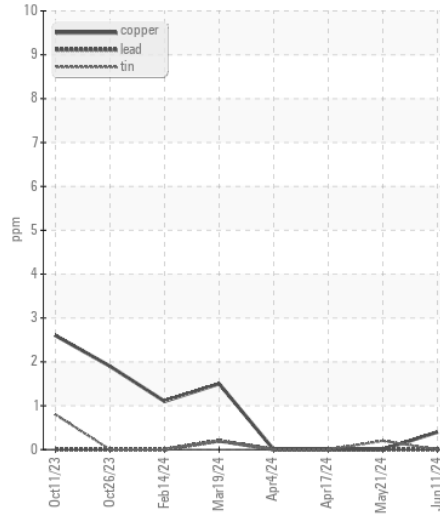
Base Number



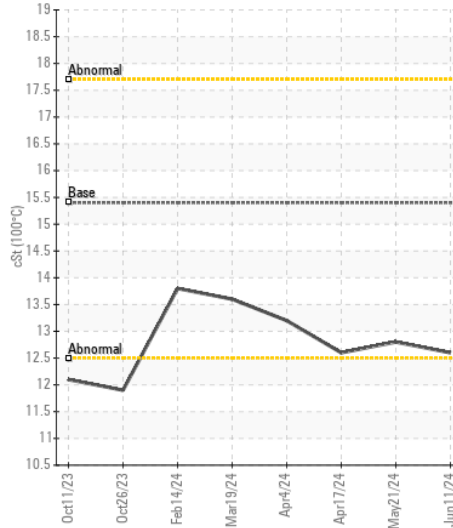
Viscosity @ 100°C



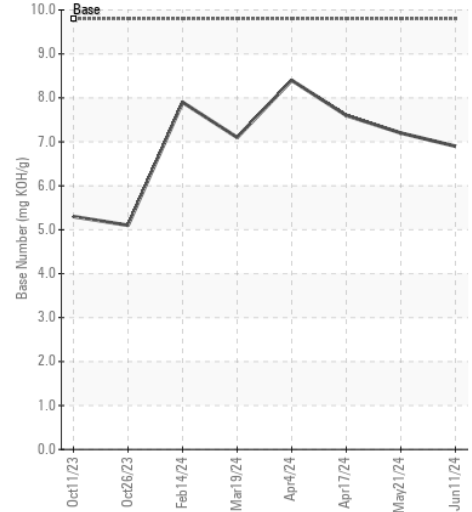
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0104877
Lab Number : 06234218
Unique Number : 11123052
Test Package : FLEET

Received : 11 Jul 2024
Tested : 12 Jul 2024
Diagnosed : 12 Jul 2024 - Wes Davis

GFL Environmental - 820 - Joplin Hauling
 3700 West 7th Street
 Joplin, MO
 US 64801

Contact: James Jarrett
 jjarrett@gflenv.com
 T: (417)310-2802

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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