



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

Area
{UNASSIGNED}

Machine Id
913025

Component
Front Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (40 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | GFL0098934 | GFL0098911 | GFL0099017 |
| Sample Date | | Client Info | | 09 May 2024 | 26 Apr 2024 | 09 Apr 2024 |
| Machine Age | hrs | Client Info | | 4207 | 4101 | 3940 |
| Oil Age | hrs | Client Info | | 4207 | 2571 | 2410 |
| Filter Age | hrs | Client Info | | 4207 | 174 | 174 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Filter Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >120 | 20 | 16 | 5 |
| Chromium | ppm | ASTM D5185m | >20 | 0 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | 1 | 2 | 1 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >20 | <1 | 2 | 1 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | 1 |
| Copper | ppm | ASTM D5185m | >330 | 1 | 0 | 1 |
| Tin | ppm | ASTM D5185m | >15 | 0 | <1 | 1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| 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.

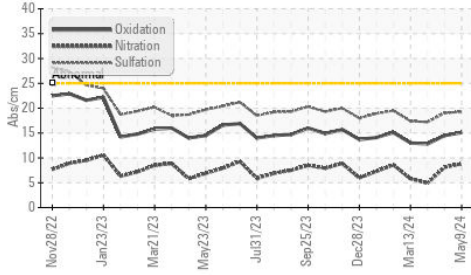
| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 4 | 4 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | 5 | 16 |
| Fuel | | WC Method | >3.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >4 | 0.6 | 0.5 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 8.8 | 8.1 | 4.9 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.3 | 19.0 | 17.2 |
| 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

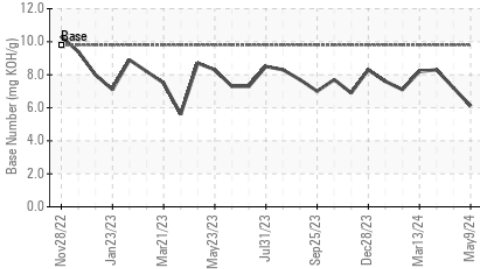
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|-------------|------|------|
| Sodium | ppm | ASTM D5185m | | 1 | <1 | 14 |
| Boron | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 60 | 58 | 54 | 56 |
| Manganese | ppm | ASTM D5185m | 0 | 0 | <1 | 1 |
| Magnesium | ppm | ASTM D5185m | 1010 | 904 | 853 | 864 |
| Calcium | ppm | ASTM D5185m | 1070 | 1154 | 982 | 1061 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1005 | 943 | 1091 |
| Zinc | ppm | ASTM D5185m | 1270 | 1220 | 1121 | 1153 |
| Sulfur | ppm | ASTM D5185m | 2060 | 3092 | 3100 | 3566 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 15.1 | 14.5 | 12.8 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 6.1 | 7.2 | 8.3 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.7 | 13.7 | 13.9 |

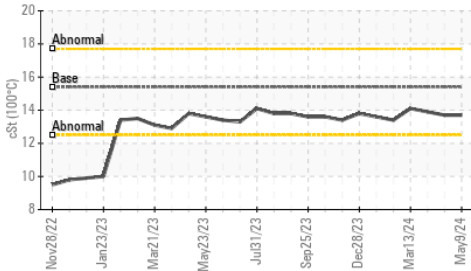
FT-IR (Direct Trend)



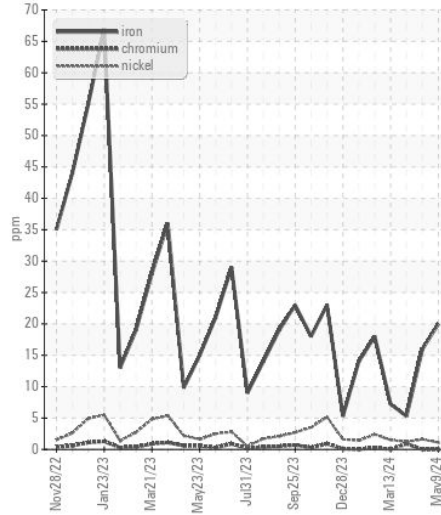
Base Number



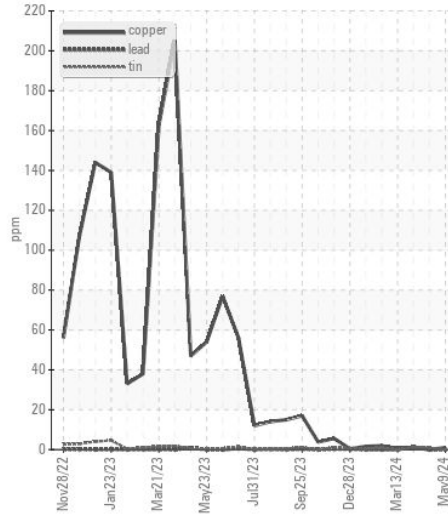
Viscosity @ 100°C



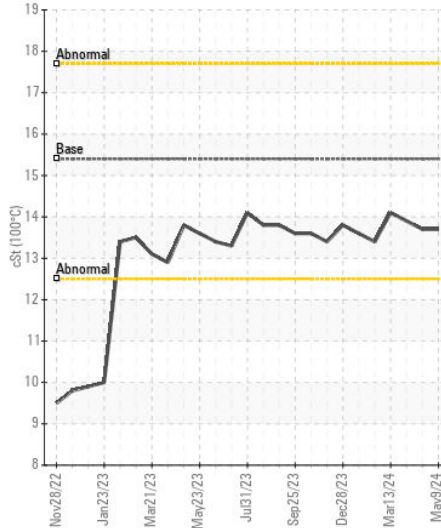
Ferrous Alloys



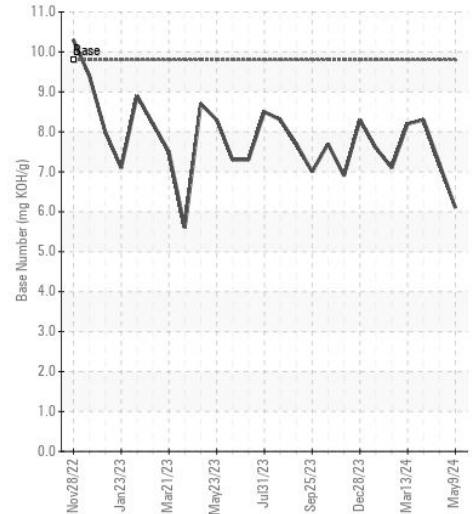
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0098934
Lab Number : 06187476
Unique Number : 11044228
Test Package : FLEET

Received : 22 May 2024
Tested : 23 May 2024
Diagnosed : 23 May 2024 - Wes Davis

GFL Environmental - 084 - Clarksville
 699 Jack Miller Boulevard
 Clarksville, TN
 US 37042

Contact: ROBERT THIBAUT
 robert.thibault@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: (931)552-7276
 F: (931)572-9674