



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

Area
(DXE867)
Machine Id
3666
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 | | GFL0077449 | GFL0111499 | GFL0089605 |
| Sample Date | | Client Info | | 26 Jun 2024 | 26 Apr 2024 | 27 Feb 2024 |
| Machine Age | hrs | Client Info | | 1780 | 1542 | 0 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | ABNORMAL | SEVERE |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|-------|
| Iron | ppm | ASTM D5185m | >75 | 12 | 47 | ▲ 132 |
| Chromium | ppm | ASTM D5185m | >5 | <1 | 3 | 2 |
| Nickel | ppm | ASTM D5185m | >4 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | >2 | <1 | <1 | <1 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >15 | 4 | ▲ 29 | 8 |
| Lead | ppm | ASTM D5185m | >25 | 0 | 0 | 1 |
| Copper | ppm | ASTM D5185m | >100 | 0 | 6 | 17 |
| Tin | ppm | ASTM D5185m | >4 | 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.

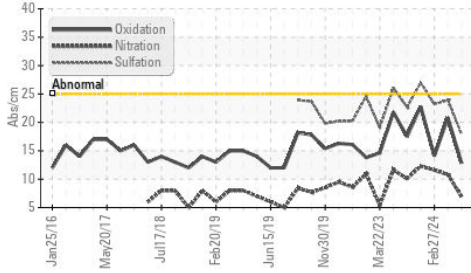
| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 7 | 6 | ▲ 83 |
| Potassium | ppm | ASTM D5185m | >20 | 1 | 16 | 11 |
| Fuel | | WC Method | >3.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >6 | 0.7 | 0.9 | 2.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 6.9 | 10.8 | 11.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 17.9 | 23.9 | 23.2 |
| 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

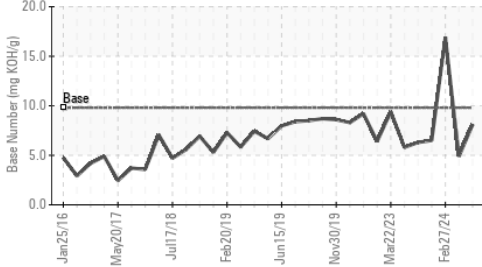
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|--------------|------|--------|
| Sodium | ppm | ASTM D5185m | | 2 | 5 | ▲ 2224 |
| Boron | ppm | ASTM D5185m | 0 | 2 | 3 | 133 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 60 | 51 | 61 | 131 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 | 2 |
| Magnesium | ppm | ASTM D5185m | 1010 | 915 | 897 | 883 |
| Calcium | ppm | ASTM D5185m | 1070 | 946 | 1079 | 988 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 992 | 982 | 993 |
| Zinc | ppm | ASTM D5185m | 1270 | 1197 | 1204 | 1103 |
| Sulfur | ppm | ASTM D5185m | 2060 | 3363 | 2654 | 3111 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 12.8 | 20.8 | 14.1 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 8.1 | 4.9 | 16.9 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 12.9 | 13.4 | 13.9 |

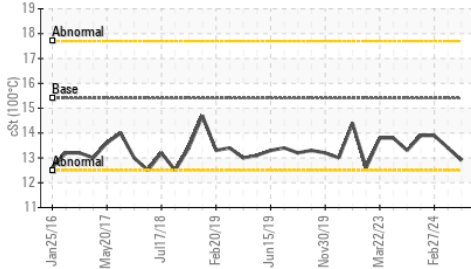
FT-IR (Direct Trend)



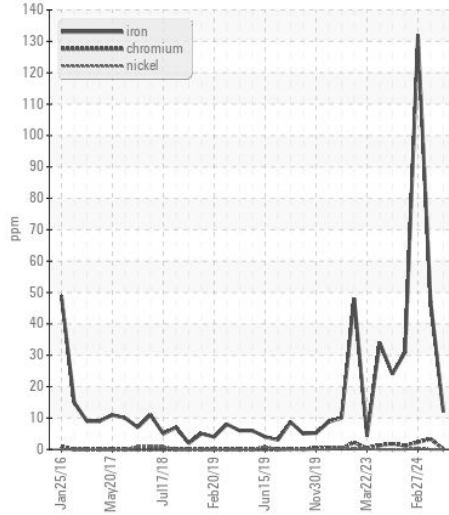
Base Number



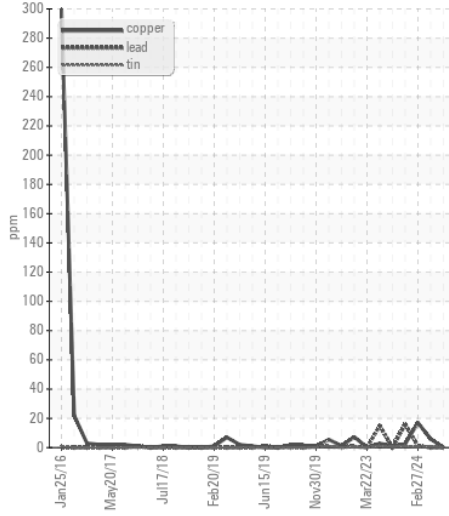
Viscosity @ 100°C



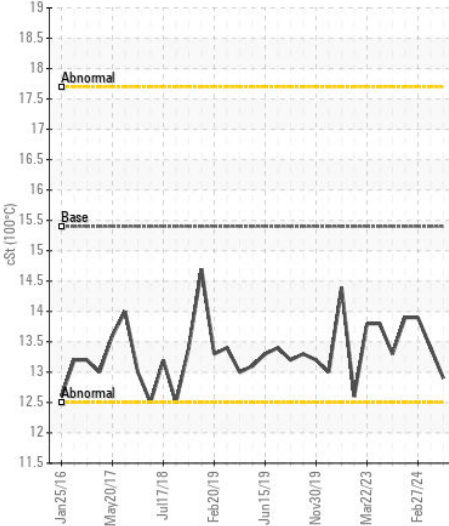
Ferrous Alloys



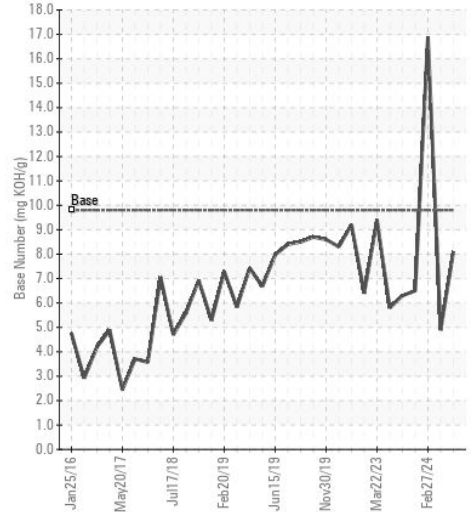
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0077449
Lab Number : 06228281
Unique Number : 11111774
Test Package : FLEET

Received : 05 Jul 2024
Tested : 05 Jul 2024
Diagnosed : 05 Jul 2024 - Wes Davis

GFL Environmental - 072 - Americus - Transwaste
 361 McMath Mill Road
 Americus, GA
 US 31719

Contact: RICHARD HEINZERLING
 richard.heinzerling@gflenv.com

T: (229)924-3669

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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