



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

Area

(PX422R)

Machine Id

10527

Component

Diesel Engine

Fluid

PETRO CANADA DURON SHP 15W40 (11 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | GFL0114502 | GFL0074646 | GFL0092487 |
| Sample Date | | Client Info | | 14 Apr 2024 | 18 Jan 2024 | 06 Nov 2023 |
| Machine Age | hrs | Client Info | | 23700 | 23115 | 22558 |
| Oil Age | hrs | Client Info | | 0 | 557 | 127 |
| Filter Age | hrs | Client Info | | 0 | 557 | 127 |
| 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 | >100 | 30 | 16 | 9 |
| Chromium | ppm | ASTM D5185m | >20 | 1 | 1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 3 | 3 | 2 |
| Lead | ppm | ASTM D5185m | >40 | 1 | 0 | <1 |
| Copper | ppm | ASTM D5185m | >330 | 1 | <1 | 0 |
| Tin | ppm | ASTM D5185m | >15 | <1 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | <1 | <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.

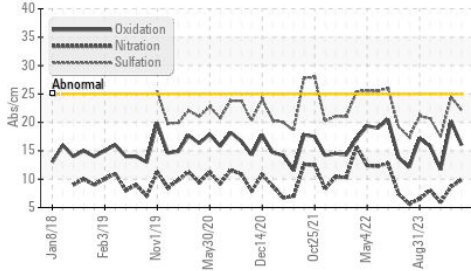
| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 7 | 5 | 5 |
| Potassium | ppm | ASTM D5185m | >20 | 16 | 2 | <1 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | 0.8 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 1.8 | 1.6 | 0.6 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 9.9 | 8.7 | 5.9 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 22.1 | 24.5 | 17.5 |
| 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

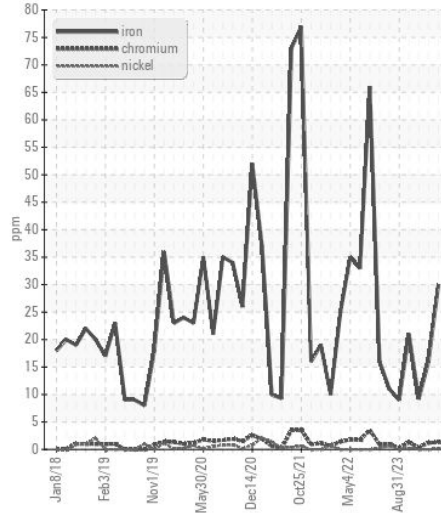
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium | ppm | ASTM D5185m | | 16 | 15 | 10 |
| Boron | ppm | ASTM D5185m | 0 | 9 | 6 | 5 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 60 | 66 | 53 | 53 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | 1010 | 865 | 724 | 706 |
| Calcium | ppm | ASTM D5185m | 1070 | 1086 | 863 | 884 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 963 | 892 | 818 |
| Zinc | ppm | ASTM D5185m | 1270 | 1139 | 976 | 987 |
| Sulfur | ppm | ASTM D5185m | 2060 | 3107 | 2571 | 2396 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 16.0 | 20.2 | 11.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 7.7 | 7.7 | 7.1 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.7 | 12.9 | 11.9 |

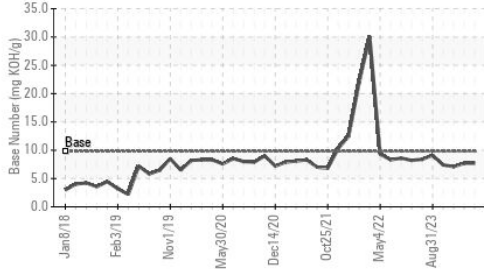
FT-IR (Direct Trend)



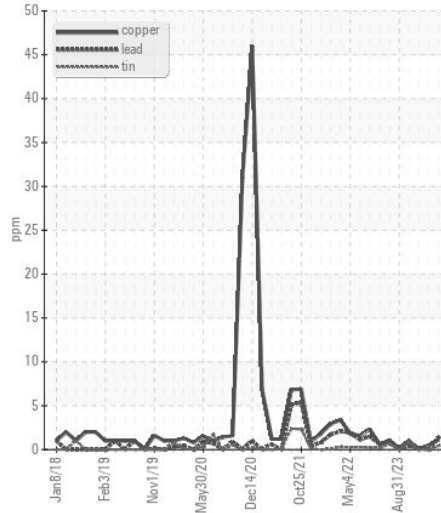
Ferrous Alloys



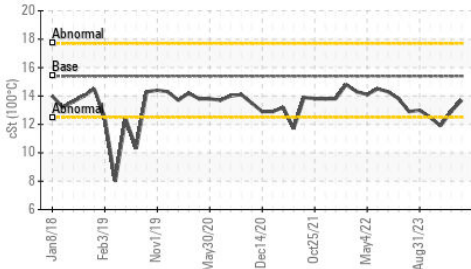
Base Number



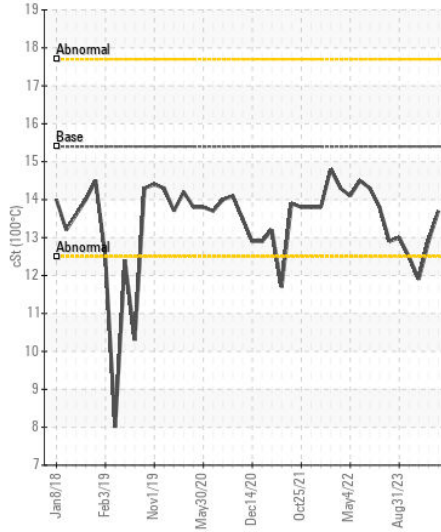
Non-ferrous Metals



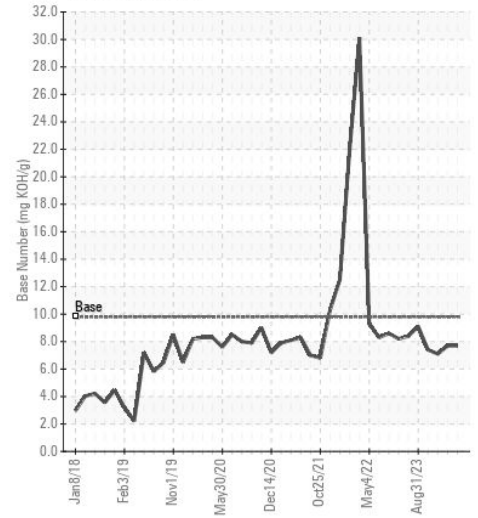
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0114502
Lab Number : 06150896
Unique Number : 10980974
Test Package : FLEET

Received : 16 Apr 2024
Tested : 17 Apr 2024
Diagnosed : 17 Apr 2024 - Wes Davis

GFL Environmental - 095 - Atlanta West
 2699 Cochran Industrial Blvd
 Douglasville, GA
 US 30127-1332

Contact: Darrell Welch
 darrell.welch@gflenv.com

T: (800)207-6618

F:

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)