



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



Area
(43346HA)
Machine Id
811004
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | GFL0058087 | GFL0058123 | GFL0058021 |
| Sample Date | | Client Info | | 28 Feb 2024 | 16 Nov 2023 | 16 Jan 2023 |
| Machine Age | hrs | Client Info | | 4891 | 4413 | 4189 |
| Oil Age | hrs | Client Info | | 478 | 224 | 270 |
| Filter Age | hrs | Client Info | | 478 | 224 | 270 |
| Oil Changed | | Client Info | | N/A | Changed | Changed |
| Filter Changed | | Client Info | | N/A | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >120 | 17 | 25 | 8 |
| Chromium | ppm | ASTM D5185m | >20 | 1 | 1 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | 3 | 3 | 1 |
| Titanium | ppm | ASTM D5185m | >2 | <1 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 4 | 5 | <1 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185m | >330 | 9 | 14 | 2 |
| Tin | ppm | ASTM D5185m | >15 | <1 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

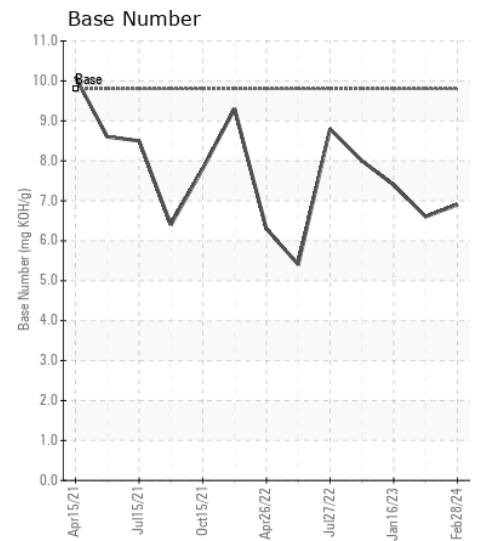
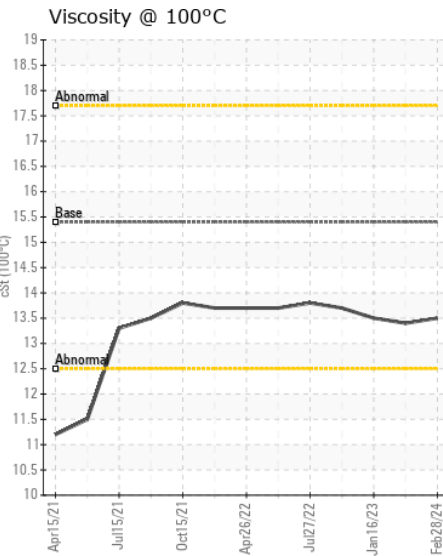
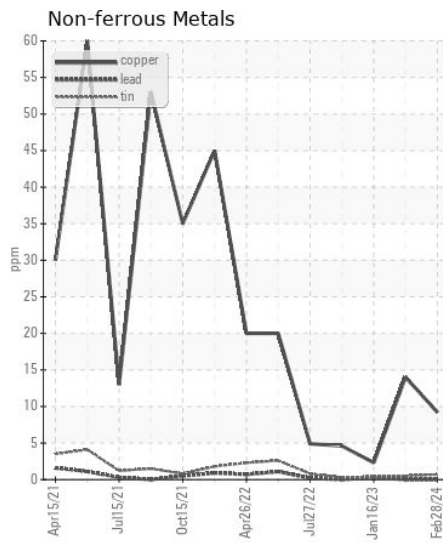
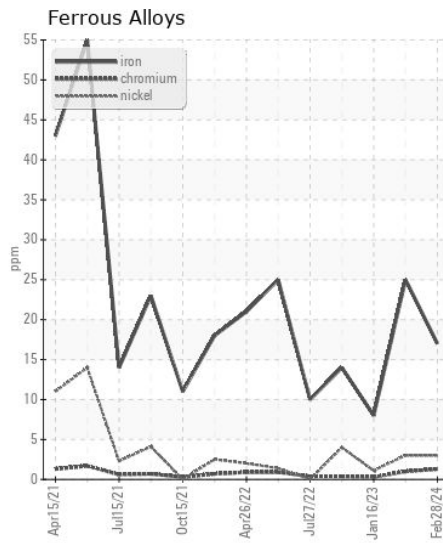
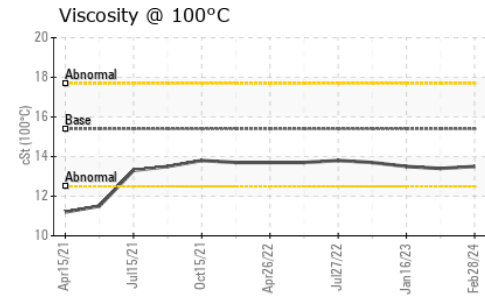
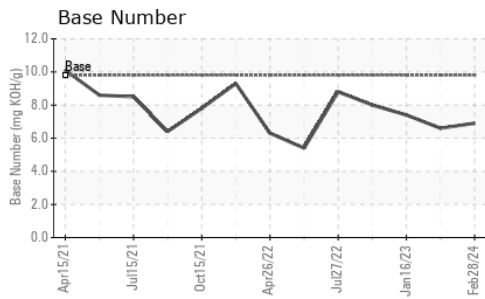
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 4 | 4 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 3 | 2 |
| 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 | 0.4 | 0.5 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 7.8 | 9.3 | 7.7 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.5 | 20.4 | 19.0 |
| 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 | | 5 | 8 | 4 |
| Boron | ppm | ASTM D5185m | 0 | 4 | 5 | 5 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 2 |
| Molybdenum | ppm | ASTM D5185m | 60 | 63 | 57 | 62 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | 1 | <1 |
| Magnesium | ppm | ASTM D5185m | 1010 | 979 | 838 | 880 |
| Calcium | ppm | ASTM D5185m | 1070 | 1051 | 1047 | 1114 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 964 | 876 | 928 |
| Zinc | ppm | ASTM D5185m | 1270 | 1263 | 1129 | 1153 |
| Sulfur | ppm | ASTM D5185m | 2060 | 2925 | 2318 | 2758 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 15.4 | 15.3 | 14.6 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 6.9 | 6.6 | 7.4 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.5 | 13.4 | 13.5 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0058087
Lab Number : 06104072
Unique Number : 10902302
Test Package : FLEET

Received : 29 Feb 2024
Tested : 29 Feb 2024
Diagnosed : 29 Feb 2024 - Wes Davis

GFL Environmental - 657 - Charlottesville Hauling
 5498 Richmond Road
 Troy, VA
 US 22974
 Contact: Brian Ulickas
 bulickas@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)

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F: