



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



Machine Id
427067-402308
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 | | GFL0117179 | GFL0114032 | GFL0109787 |
| Sample Date | | Client Info | | 12 Apr 2024 | 18 Mar 2024 | 26 Feb 2024 |
| Machine Age | hrs | Client Info | | 30878 | 30620 | 30479 |
| 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 | | Not Changd | Not Changd | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >120 | 4 | 7 | 3 |
| Chromium | ppm | ASTM D5185m | >20 | 0 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | 0 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 1 | 3 | 1 |
| Lead | ppm | ASTM D5185m | >40 | 0 | <1 | 0 |
| Copper | ppm | ASTM D5185m | >330 | <1 | 7 | <1 |
| Tin | ppm | ASTM D5185m | >15 | 0 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

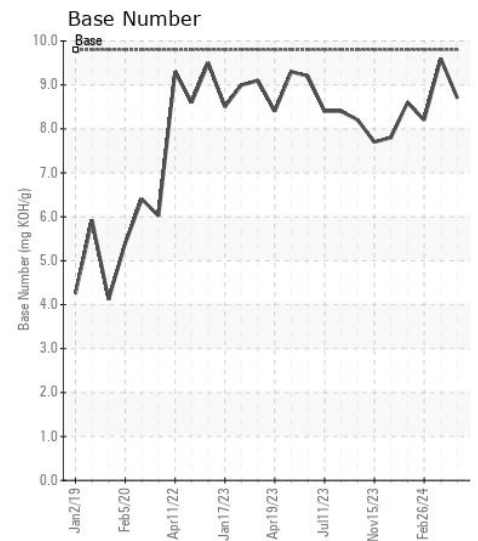
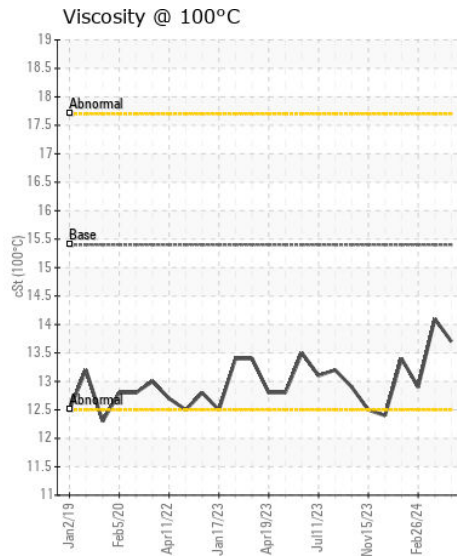
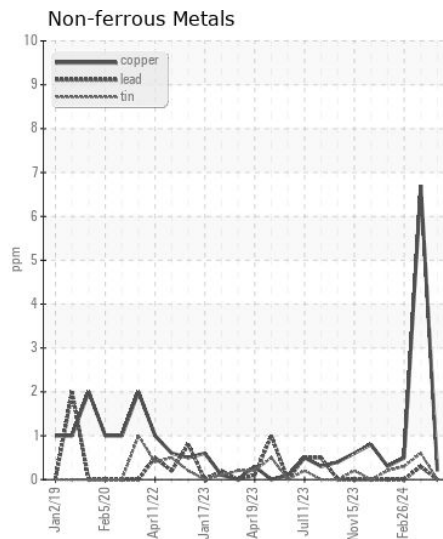
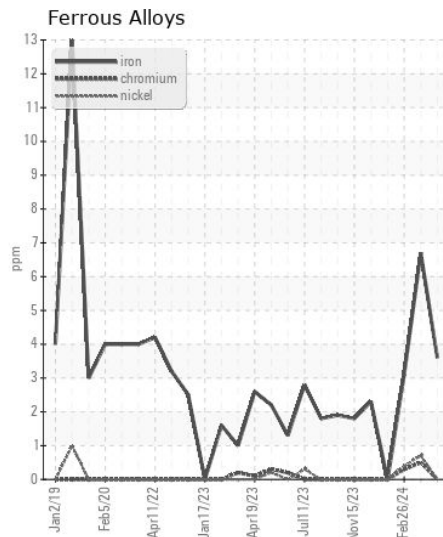
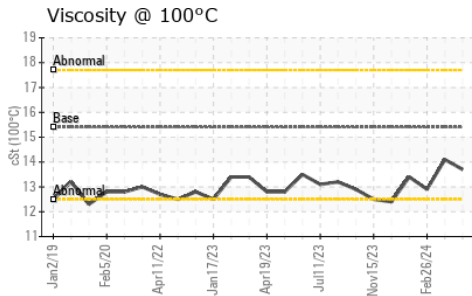
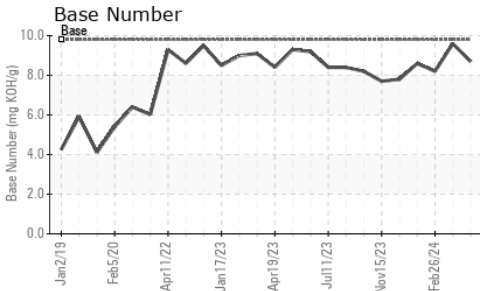
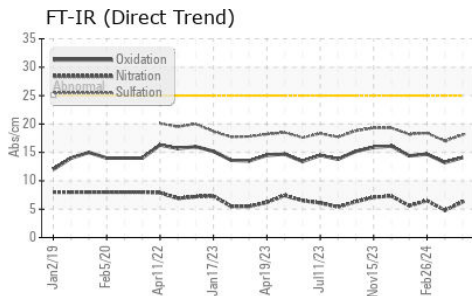
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 3 | 6 | 3 |
| Potassium | ppm | ASTM D5185m | >20 | 5 | 3 | <1 |
| 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 | 0.2 | 0.1 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 6.3 | 4.8 | 6.5 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 18.1 | 17.0 | 18.4 |
| 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 | | 3 | 3 | 2 |
| Boron | ppm | ASTM D5185m | 0 | 11 | 8 | 5 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 60 | 56 | 61 | 67 |
| Manganese | ppm | ASTM D5185m | 0 | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 1010 | 863 | 880 | 1015 |
| Calcium | ppm | ASTM D5185m | 1070 | 1044 | 1133 | 1185 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 964 | 988 | 1026 |
| Zinc | ppm | ASTM D5185m | 1270 | 1101 | 1166 | 1342 |
| Sulfur | ppm | ASTM D5185m | 2060 | 3364 | 3189 | 3341 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 14.1 | 13.2 | 14.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 8.7 | 9.6 | 8.2 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.7 | 14.1 | 12.9 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0117179
Lab Number : 06151029
Unique Number : 10981107
Test Package : FLEET

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

GFL Environmental - 836 - Kansas City Hauling
 7801 East Truman Road
 Kansas City, MO
 US 64126
 Contact: Loyce Stewart
 loyce.stewart@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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