



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

Machine Id
834093
 Component
Natural Gas Engine
 Fluid
PETRO CANADA DURON GEO LD 15W40 (29 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | GFL0122800 | GFL0118832 | GFL0118802 |
| Sample Date | | Client Info | | 23 May 2024 | 17 May 2024 | 25 Apr 2024 |
| Machine Age | hrs | Client Info | | 9180 | 890 | 737 |
| Oil Age | hrs | Client Info | | 9180 | 890 | 737 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Not Changd | N/A | Not Changd |
| Filter Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

Metal levels are typical for a new component breaking in.

| | | | | | | |
|--------------|--------|-------------|------|-------------|------|------|
| Iron | ppm | ASTM D5185m | >50 | 63 | 42 | 68 |
| Chromium | ppm | ASTM D5185m | >4 | 3 | 2 | 3 |
| Nickel | ppm | ASTM D5185m | >2 | 2 | 1 | 3 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >9 | 43 | 26 | 44 |
| Lead | ppm | ASTM D5185m | >30 | 4 | 2 | 3 |
| Copper | ppm | ASTM D5185m | >35 | 16 | 11 | 19 |
| Tin | ppm | ASTM D5185m | >4 | 2 | 2 | 2 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

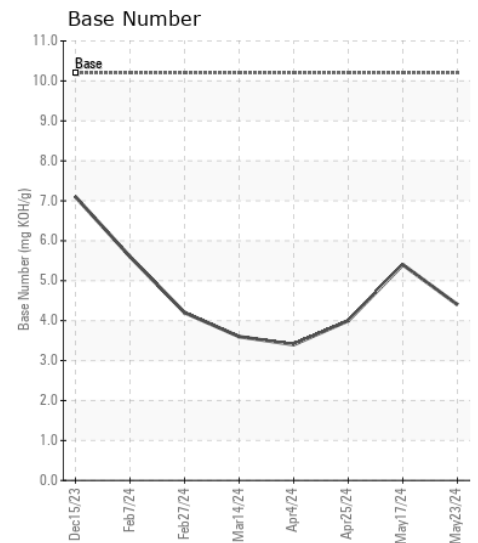
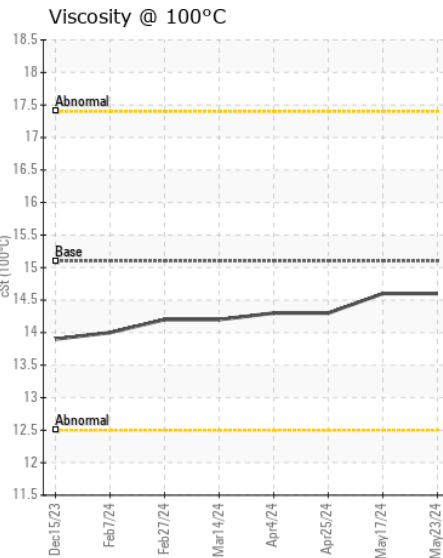
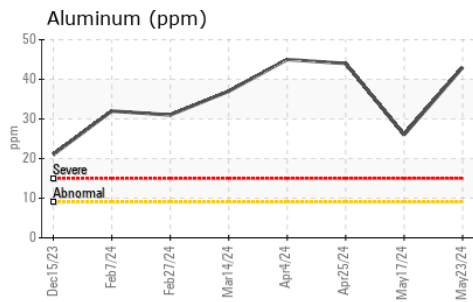
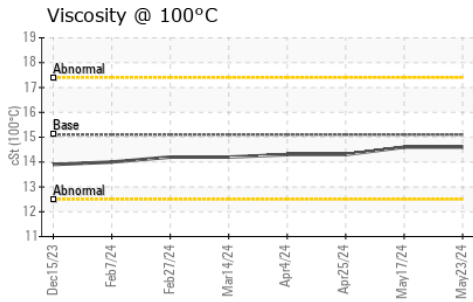
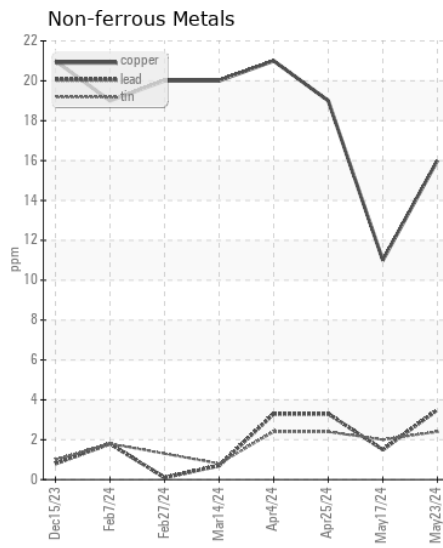
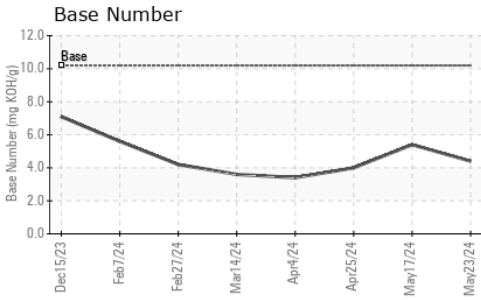
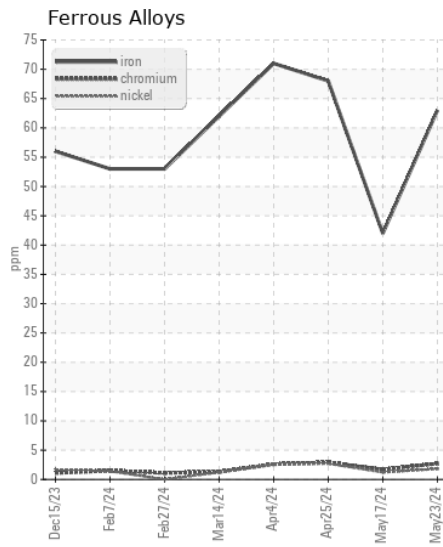
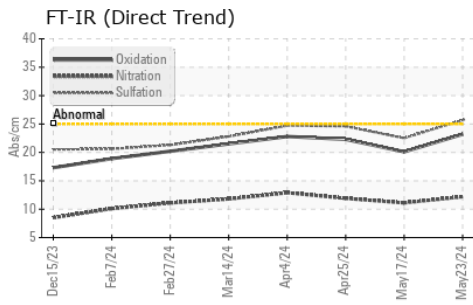
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >+100 | 23 | 17 | 30 |
| Potassium | ppm | ASTM D5185m | >20 | 144 | 82 | 149 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | | 0 | 0.1 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 12.2 | 11.1 | 11.9 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 25.7 | 22.5 | 24.6 |
| 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 | >0.1 | 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 | | 8 | 8 | 8 |
| Boron | ppm | ASTM D5185m | 50 | 13 | 18 | 12 |
| Barium | ppm | ASTM D5185m | 5 | 3 | <1 | 5 |
| Molybdenum | ppm | ASTM D5185m | 50 | 55 | 58 | 61 |
| Manganese | ppm | ASTM D5185m | 0 | 13 | 9 | 15 |
| Magnesium | ppm | ASTM D5185m | 560 | 746 | 745 | 790 |
| Calcium | ppm | ASTM D5185m | 1510 | 1288 | 1503 | 1260 |
| Phosphorus | ppm | ASTM D5185m | 780 | 772 | 832 | 779 |
| Zinc | ppm | ASTM D5185m | 870 | 929 | 1001 | 930 |
| Sulfur | ppm | ASTM D5185m | 2040 | 2498 | 2816 | 2363 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 23.2 | 20.1 | 22.3 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10.2 | 4.4 | 5.4 | 4.0 |
| Visc @ 100°C | cSt | ASTM D445 | 15.1 | 14.6 | 14.6 | 14.3 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0122800
Lab Number : 06193811
Unique Number : 11055934
Test Package : FLEET

Received : 29 May 2024
Tested : 30 May 2024
Diagnosed : 31 May 2024 - Angela Borella

GFL Environmental - 836 - Kansas City Hauling
 7801 East Truman Road
 Kansas City, MO
 US 64126
 Contact: Christopher Gilkey
 cgilkey@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: