



Machine Id
726047-310048
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | GFL0105301 | GFL0105232 | GFL0105046 |
| Sample Date | | Client Info | | 31 May 2024 | 15 May 2024 | 25 Apr 2024 |
| Machine Age | hrs | Client Info | | 21392 | 21271 | 21099 |
| Oil Age | hrs | Client Info | | 600 | 150 | 150 |
| Filter Age | hrs | Client Info | | 600 | 150 | 150 |
| Oil Changed | | Client Info | | Changed | Not Changed | Not Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | SEVERE | ABNORMAL | ABNORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >110 | 35 | 25 | 15 |
| Chromium | ppm | ASTM D5185m | >4 | <1 | 2 | 1 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | 3 | 2 | 2 |
| Lead | ppm | ASTM D5185m | >45 | <1 | <1 | 0 |
| Copper | ppm | ASTM D5185m | >85 | 2 | <1 | <1 |
| Tin | ppm | ASTM D5185m | >4 | <1 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

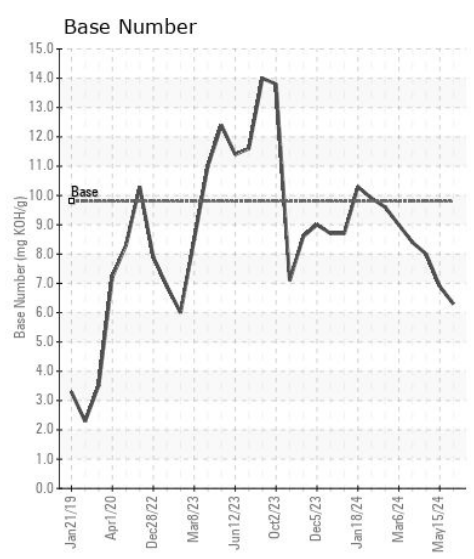
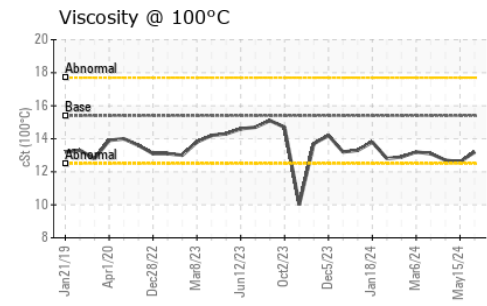
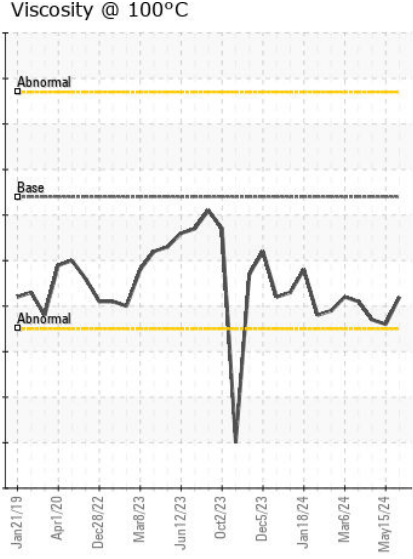
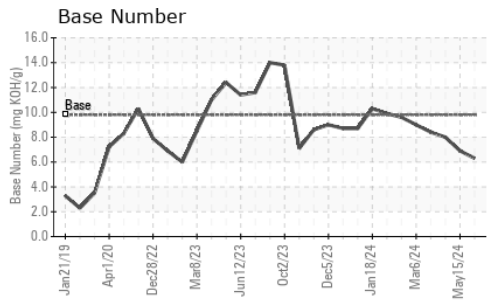
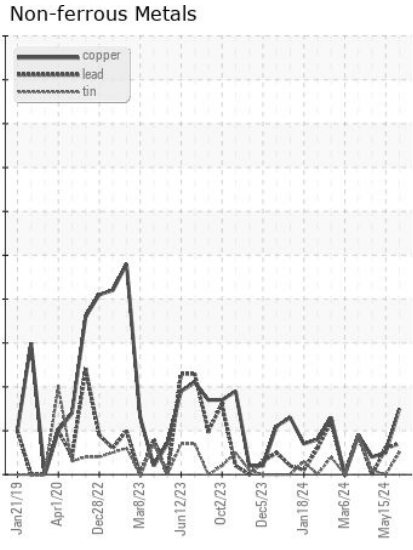
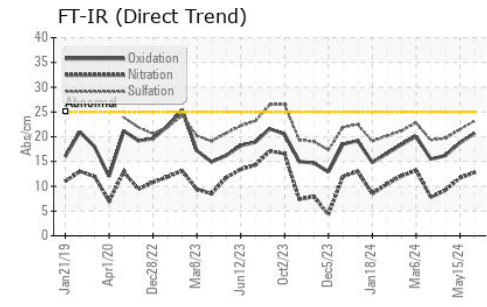
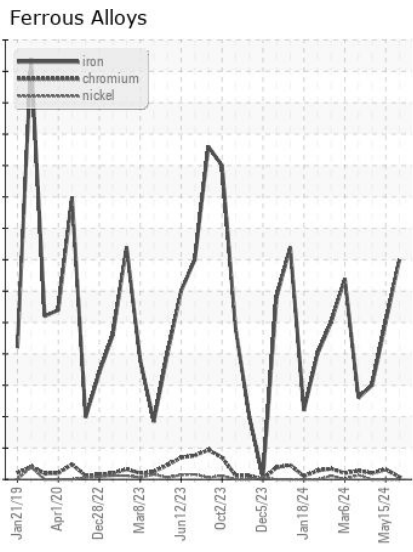
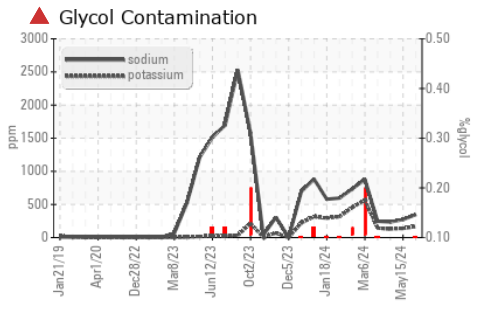
Test for glycol is positive. There is a high concentration of glycol present in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >30 | 5 | 4 | 3 |
| Potassium | ppm | ASTM D5185m | >20 | ▲ 168 | ▲ 139 | ▲ 128 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | % | *ASTM D2982 | | ▲ 0.10 | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.7 | 0.5 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 12.8 | 11.7 | 9.2 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 23.2 | 21.5 | 19.7 |
| 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 oil is no longer serviceable due to the presence of contaminants.

| | | | | | | |
|------------------|----------|-------------|------|--------------|-------|-------|
| Sodium | ppm | ASTM D5185m | | ● 347 | ▲ 272 | ▲ 235 |
| Boron | ppm | ASTM D5185m | 0 | 1 | 0 | 0 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 60 | 89 | 86 | 82 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 1010 | 821 | 920 | 901 |
| Calcium | ppm | ASTM D5185m | 1070 | 985 | 1036 | 1021 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 895 | 964 | 989 |
| Zinc | ppm | ASTM D5185m | 1270 | 1106 | 1186 | 1203 |
| Sulfur | ppm | ASTM D5185m | 2060 | 3073 | 3395 | 3445 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 20.7 | 18.8 | 16.2 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 6.3 | 6.9 | 8.0 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.2 | 12.6 | 12.7 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0105301
Lab Number : 06209778
Unique Number : 11082642
Test Package : FLEET (Additional Tests: Glycol)

Received : 14 Jun 2024
Tested : 17 Jun 2024
Diagnosed : 17 Jun 2024 - Wes Davis

GFL Environmental - 821 - Ozarks Hauling
 33924 Olath Drive
 Lebanon, MO
 US 65536
 Contact: Landen Johnson
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 T: (417)664-0010
 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)