



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



Machine Id
4640M
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 | | GFL0101490 | GFL0108852 | GFL0101479 |
| Sample Date | | Client Info | | 12 Apr 2024 | 26 Jan 2024 | 30 Nov 2023 |
| Machine Age | hrs | Client Info | | 15952 | 15395 | 14914 |
| Oil Age | hrs | Client Info | | 15395 | 14757 | 14757 |
| Filter Age | hrs | Client Info | | 15395 | 8770 | 14757 |
| Oil Changed | | Client Info | | Changed | Changed | Not Changd |
| Filter Changed | | Client Info | | Changed | Changed | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >90 | 29 | 20 | 13 |
| Chromium | ppm | ASTM D5185m | >20 | 2 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | 2 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | >2 | <1 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >2 | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 3 | 2 | 2 |
| Lead | ppm | ASTM D5185m | >40 | 1 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >330 | 2 | <1 | <1 |
| Tin | ppm | ASTM D5185m | >15 | 1 | <1 | 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

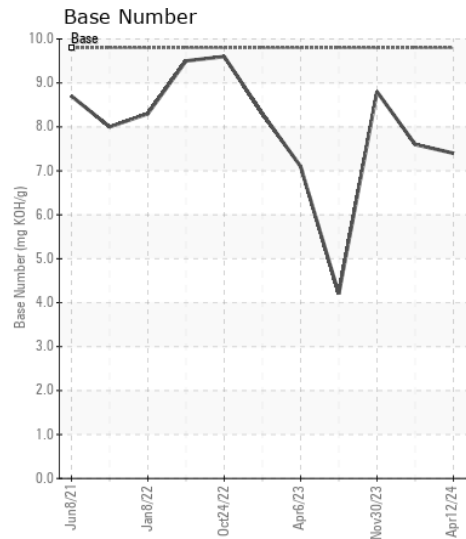
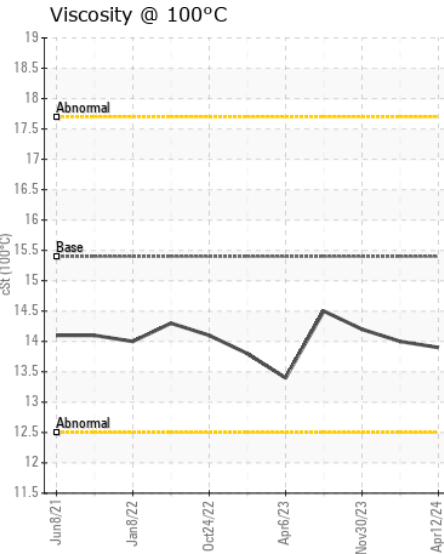
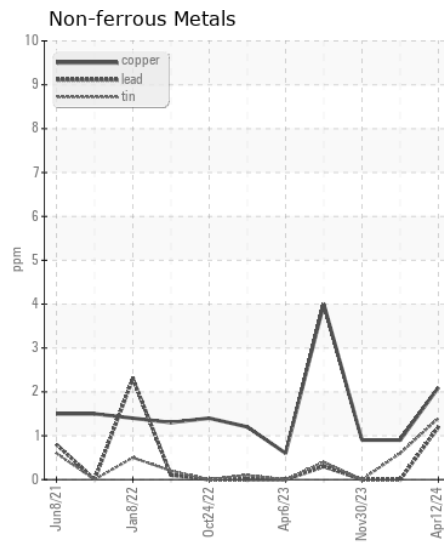
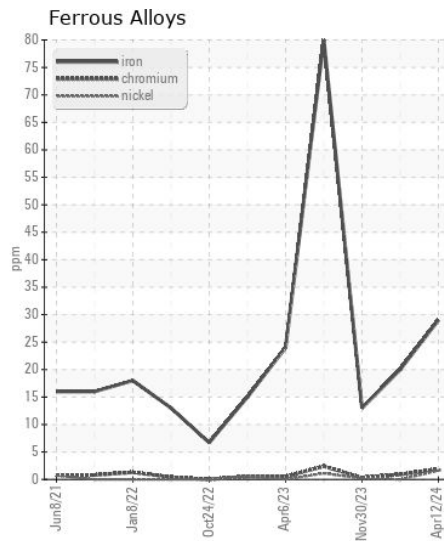
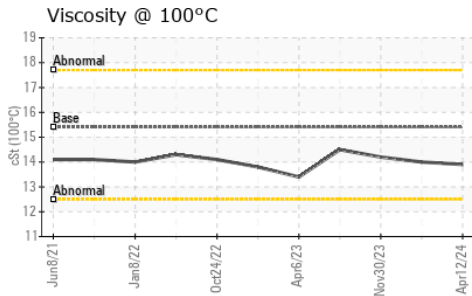
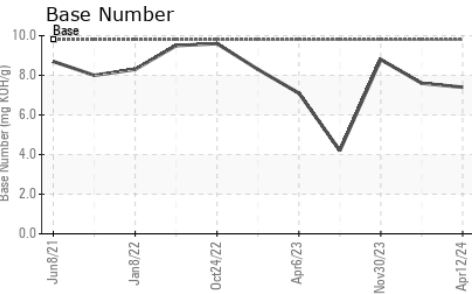
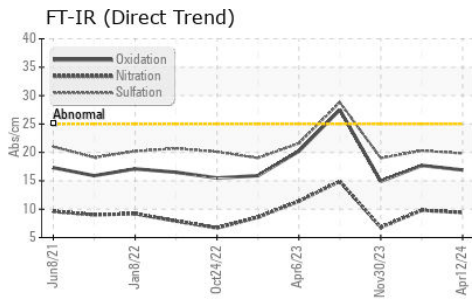
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 6 | 3 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | 1 | 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 | >6 | 0.5 | 0.6 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 9.4 | 9.8 | 6.8 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.8 | 20.3 | 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 | | 10 | 6 | 3 |
| Boron | ppm | ASTM D5185m | 0 | 1 | 0 | 0 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 2 |
| Molybdenum | ppm | ASTM D5185m | 60 | 87 | 52 | 55 |
| Manganese | ppm | ASTM D5185m | 0 | 1 | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | 1010 | 1351 | 963 | 859 |
| Calcium | ppm | ASTM D5185m | 1070 | 1502 | 1030 | 1033 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1543 | 1000 | 934 |
| Zinc | ppm | ASTM D5185m | 1270 | 1788 | 1181 | 1147 |
| Sulfur | ppm | ASTM D5185m | 2060 | 4690 | 2814 | 4291 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 16.9 | 17.7 | 14.9 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 7.4 | 7.6 | 8.8 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.9 | 14.0 | 14.2 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0101490 **Received** : 18 Apr 2024
Lab Number : 06152814 **Tested** : 19 Apr 2024
Unique Number : 10982892 **Diagnosed** : 22 Apr 2024 - Don Baldrige
Test Package : FLEET

GFL Environmental - 415 - Michigan East
 6200 Elmridge
 Sterling Heights, MI
 US 48313
 Contact: Frank Wolak
 fwolak@gflenv.com
 T: (586)825-9514
 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)