



Machine Id
231002
Component
Natural Gas Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|----------|
| Sample Number | | Client Info | | GFL0119236 | GFL0087007 | --- |
| Sample Date | | Client Info | | 19 Jun 2024 | 07 Jul 2023 | --- |
| Machine Age | hrs | Client Info | | 2803 | 1193 | --- |
| Oil Age | hrs | Client Info | | 0 | 0 | --- |
| Filter Age | hrs | Client Info | | 0 | 0 | --- |
| Oil Changed | | Client Info | | Changed | Changed | --- |
| Filter Changed | | Client Info | | Changed | Changed | --- |
| Sample Status | | | | NORMAL | NORMAL | --- |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|---------------|------|--------------|-----|-----|
| Iron | ppm | ASTM D5185(m) | >50 | 17 | 53 | --- |
| Chromium | ppm | ASTM D5185(m) | >4 | 3 | 2 | --- |
| Nickel | ppm | ASTM D5185(m) | >2 | <1 | <1 | --- |
| Titanium | ppm | ASTM D5185(m) | | 0 | <1 | --- |
| Silver | ppm | ASTM D5185(m) | >3 | 0 | <1 | --- |
| Aluminum | ppm | ASTM D5185(m) | >9 | 2 | 3 | --- |
| Lead | ppm | ASTM D5185(m) | >30 | 0 | 1 | --- |
| Copper | ppm | ASTM D5185(m) | >35 | 2 | 11 | --- |
| Tin | ppm | ASTM D5185(m) | >4 | <1 | <1 | --- |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | --- |
| White Metal | scalar | Visual* | NONE | NONE | --- | --- |
| Yellow Metal | scalar | Visual* | NONE | NONE | --- | --- |

CONTAMINATION

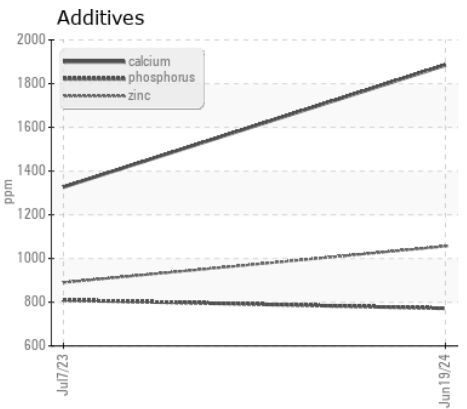
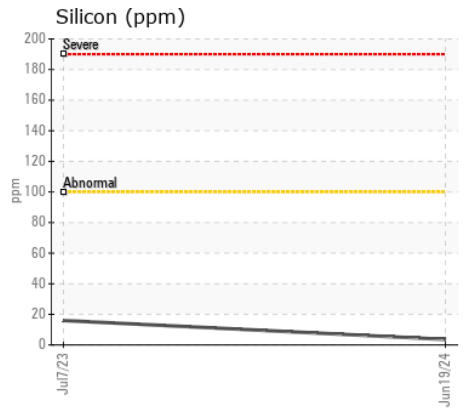
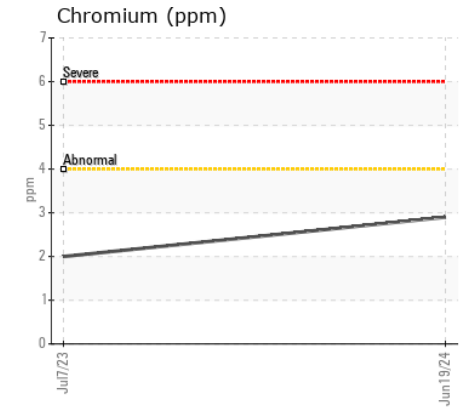
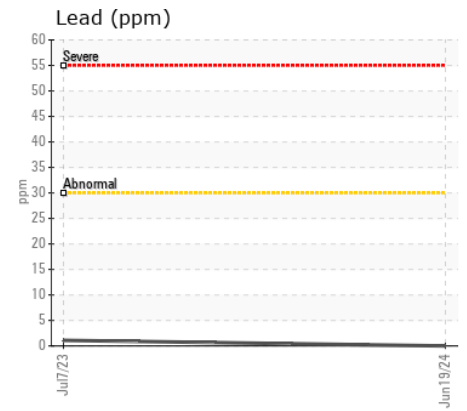
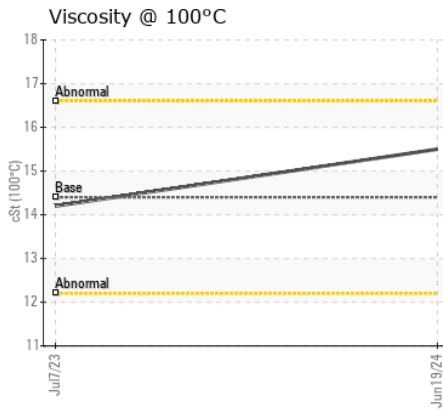
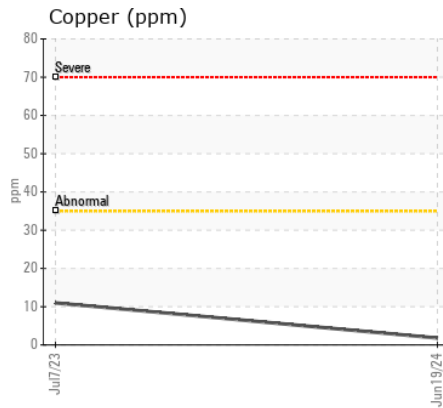
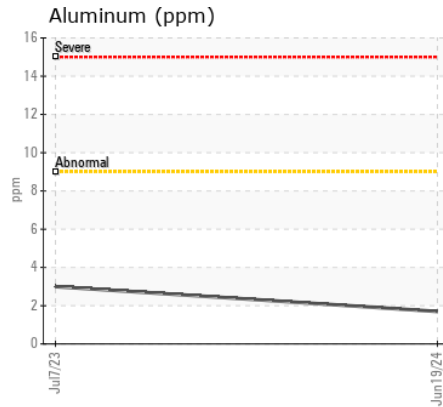
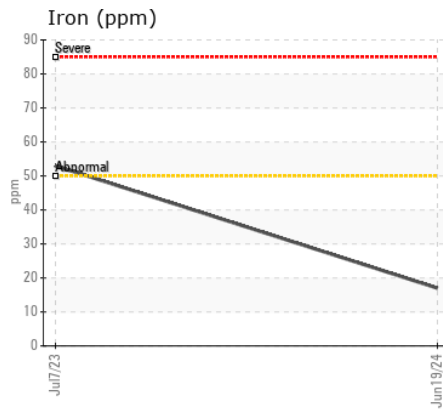
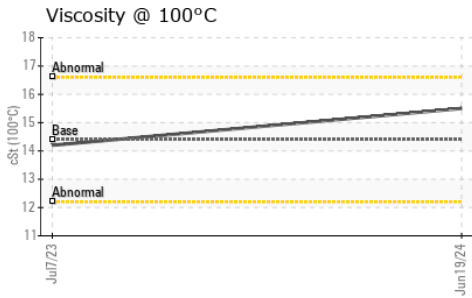
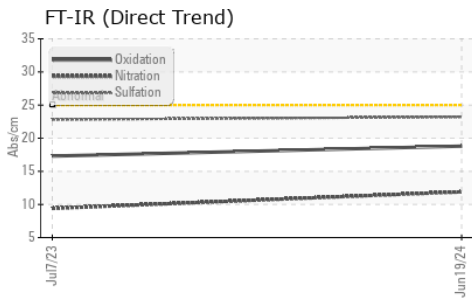
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|---------------|-------|--------------|-------|-----|
| Silicon | ppm | ASTM D5185(m) | >+100 | 4 | 16 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | 2 | --- |
| Water | | WC Method | >0.1 | NEG | NEG | --- |
| Soot % | % | ASTM D7844* | | 0 | 0 | --- |
| Nitration | Abs/cm | ASTM D7624* | >20 | 11.9 | 9.4 | --- |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 23.2 | 22.8 | --- |
| Silt | scalar | Visual* | NONE | NONE | --- | --- |
| Debris | scalar | Visual* | NONE | NONE | --- | --- |
| Sand/Dirt | scalar | Visual* | NONE | NONE | --- | --- |
| Appearance | scalar | Visual* | NORML | NORML | --- | --- |
| Odor | scalar | Visual* | NORML | NORML | NORML | --- |
| Emulsified Water | scalar | Visual* | >0.1 | NEG | NEG | --- |

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

| | | | | | | |
|--------------|----------|---------------|------|--------------|------|-----|
| Sodium | ppm | ASTM D5185(m) | >158 | 6 | 3 | --- |
| Boron | ppm | ASTM D5185(m) | 250 | 20 | 20 | --- |
| Barium | ppm | ASTM D5185(m) | 10 | <1 | 1 | --- |
| Molybdenum | ppm | ASTM D5185(m) | 100 | 62 | 79 | --- |
| Manganese | ppm | ASTM D5185(m) | | 1 | 6 | --- |
| Magnesium | ppm | ASTM D5185(m) | 450 | 624 | 629 | --- |
| Calcium | ppm | ASTM D5185(m) | 3000 | 1885 | 1327 | --- |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | 772 | 810 | --- |
| Zinc | ppm | ASTM D5185(m) | 1350 | 1056 | 890 | --- |
| Sulfur | ppm | ASTM D5185(m) | 4250 | 2131 | 2152 | --- |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 18.8 | 17.3 | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 14.4 | 15.5 | 14.2 | --- |



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0119236 **Received** : 25 Jun 2024
Lab Number : 02643957 **Tested** : 25 Jun 2024
Unique Number : 5801496 **Diagnosed** : 25 Jun 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: Visual)

GFL Environmental - 253 - TOR APT
 15 Bermondsey Road - Building B
 Toronto, ON
 CA M4B 1Y9
 Contact: Natalia Stalynska
 nstalynska@gflenv.com

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.