



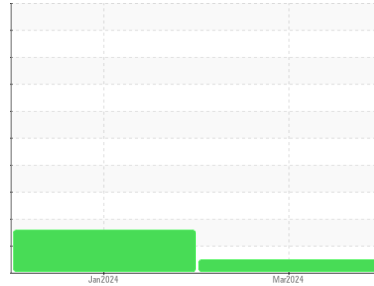
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
(48064UA)
Machine Id
813051
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 40. Please confirm.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|----------|
| Sample Number | Client Info | | GFL0113633 | GFL0103846 | --- |
| Sample Date | Client Info | | 25 Mar 2024 | 25 Jan 2024 | --- |
| Machine Age | hrs | Client Info | 1074 | 599 | --- |
| Oil Age | hrs | Client Info | 475 | 542 | --- |
| Oil Changed | Client Info | | Changed | Changed | --- |
| Sample Status | | | NORMAL | ABNORMAL | --- |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|--------|-----------|------------|----------------|----------|----------|
| Fuel | WC Method | >3.0 | <1.0 | 0.2 | --- |
| Water | WC Method | >0.2 | NEG | NEG | --- |
| Glycol | WC Method | | NEG | NEG | --- |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >120 | 16 | 45 | --- |
| Chromium | ppm | ASTM D5185m >20 | <1 | 1 | --- |
| Nickel | ppm | ASTM D5185m >5 | 8 | 16 | --- |
| Titanium | ppm | ASTM D5185m >2 | 0 | <1 | --- |
| Silver | ppm | ASTM D5185m >2 | <1 | <1 | --- |
| Aluminum | ppm | ASTM D5185m >20 | 2 | 4 | --- |
| Lead | ppm | ASTM D5185m >40 | 0 | <1 | --- |
| Copper | ppm | ASTM D5185m >330 | 29 | 119 | --- |
| Tin | ppm | ASTM D5185m >15 | 1 | 3 | --- |
| Vanadium | ppm | ASTM D5185m | 0 | <1 | --- |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | --- |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|------------------|-------------|----------|----------|
| Boron | ppm | ASTM D5185m 250 | 15 | 222 | --- |
| Barium | ppm | ASTM D5185m 10 | 0 | 0 | --- |
| Molybdenum | ppm | ASTM D5185m 100 | 65 | 115 | --- |
| Manganese | ppm | ASTM D5185m | 1 | 4 | --- |
| Magnesium | ppm | ASTM D5185m 450 | 921 | 690 | --- |
| Calcium | ppm | ASTM D5185m 3000 | 1111 | 1429 | --- |
| Phosphorus | ppm | ASTM D5185m 1150 | 1027 | 689 | --- |
| Zinc | ppm | ASTM D5185m 1350 | 1209 | 864 | --- |
| Sulfur | ppm | ASTM D5185m 4250 | 3219 | 2321 | --- |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|-----------|----------|----------|
| Silicon | ppm | ASTM D5185m >25 | 11 | ▲ 77 | --- |
| Sodium | ppm | ASTM D5185m >216 | 3 | 3 | --- |
| Potassium | ppm | ASTM D5185m >20 | 0 | 3 | --- |

INFRA-RED

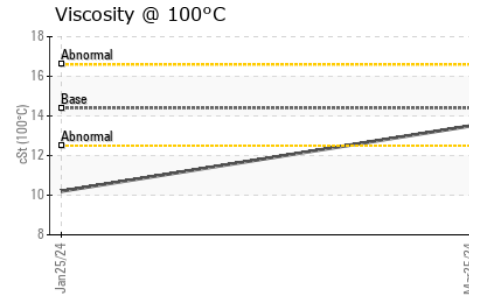
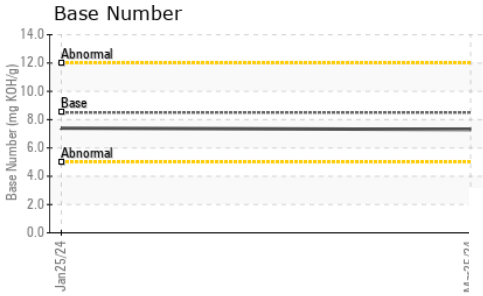
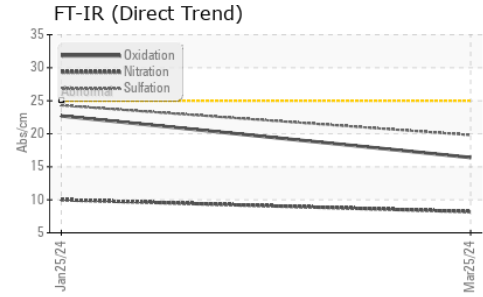
| | method | limit/base | current | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot % | % | *ASTM D7844 >4 | 0.4 | 0.4 | --- |
| Nitration | Abs/cm | *ASTM D7624 >20 | 8.2 | 10.0 | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | 19.8 | 24.3 | --- |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation | Abs/.1mm | *ASTM D7414 >25 | 16.4 | 22.7 | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 8.5 | 7.3 | 7.4 | --- |



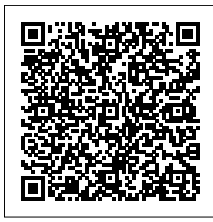
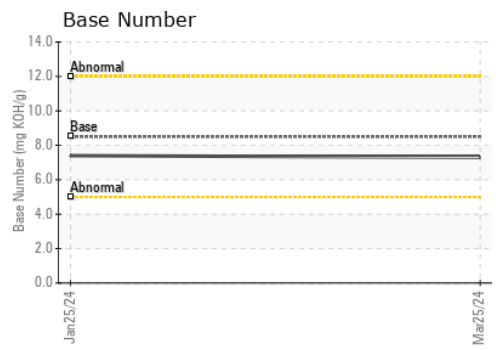
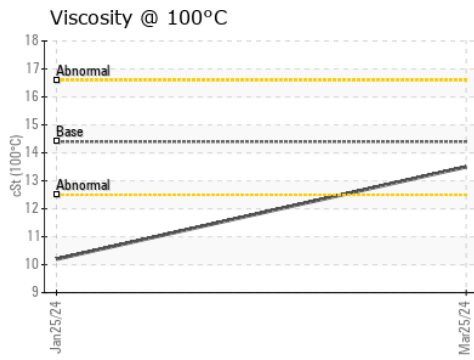
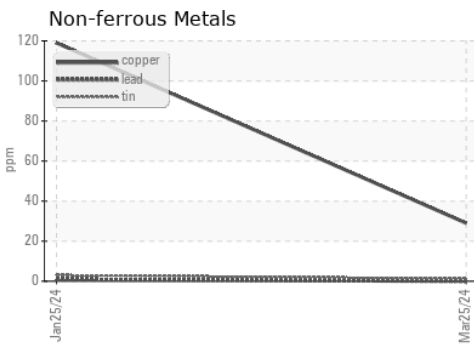
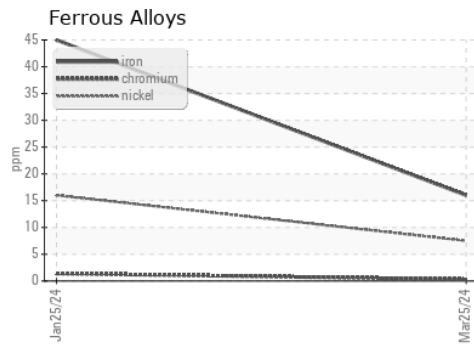
OIL ANALYSIS REPORT



| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- |
| Precipitate | scalar | *Visual | NONE | NONE | --- |
| 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 | --- |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | --- |
| Free Water | scalar | *Visual | | NEG | --- |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 13.5 | 10.2 |

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0113633 **Received** : 03 Apr 2024
Lab Number : 06137890 **Tested** : 04 Apr 2024
Unique Number : 10962698 **Diagnosed** : 04 Apr 2024 - Wes Davis
Test Package : FLEET

GFL Environmental - 654S - Midlothian
 12230 Deergrove Road
 Midlothian, VA
 US 23112
 Contact: Corbin Umphlet
 cumphlet@gflenv.com

Certificate L2367
 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)