

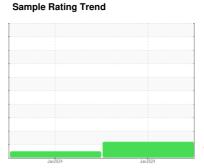
OIL ANALYSIS REPORT

COOL CHEMICALS



834033 Component **Natural Gas Engine**

Diesel Engine Oil (--- C





DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. Test for glycol is negative.

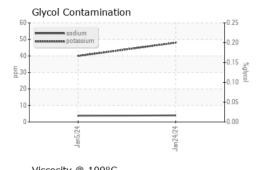
Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| GAL) | | | Jan2024 | Jan 2024 | | |
|------------------|----------|-------------|------------|-------------|-------------|----------|
| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
| Sample Number | | Client Info | | GFL0108310 | GFL0108343 | |
| Sample Date | | Client Info | | 24 Jan 2024 | 05 Jan 2024 | |
| Machine Age | hrs | Client Info | | 394 | 180 | |
| Oil Age | hrs | Client Info | | 394 | 180 | |
| Oil Changed | | Client Info | | Not Changd | N/A | |
| Sample Status | | | | ABNORMAL | NORMAL | |
| CONTAMINAT | ION | method | limit/base | current | history1 | history2 |
| Water | | WC Method | >0.1 | NEG | NEG | |
| WEAR METAL | S | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >50 | 44 | 38 | |
| Chromium | ppm | ASTM D5185m | >4 | 2 | 1 | |
| Nickel | ppm | ASTM D5185m | >2 | <1 | <1 | |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | |
| Aluminum | ppm | ASTM D5185m | >9 | 11 | 9 | |
| Lead | ppm | ASTM D5185m | >30 | <1 | <1 | |
| Copper | ppm | ASTM D5185m | >35 | 14 | 15 | |
| Tin | ppm | ASTM D5185m | >4 | <1 | <1 | |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185m | | 10 | 14 | |
| Barium | ppm | ASTM D5185m | | 3 | 4 | |
| Molybdenum | ppm | ASTM D5185m | | 53 | 49 | |
| Manganese | ppm | ASTM D5185m | | 12 | 12 | |
| Magnesium | ppm | ASTM D5185m | | 804 | 798 | |
| Calcium | ppm | ASTM D5185m | | 1285 | 1166 | |
| Phosphorus | ppm | ASTM D5185m | | 692 | 738 | |
| Zinc | ppm | ASTM D5185m | | 948 | 913 | |
| Sulfur | ppm | ASTM D5185m | | 2459 | 2315 | |
| CONTAMINAN | TS | method | limit/base | current | history1 | history2 |
| Silicon | ppm | ASTM D5185m | >+100 | 29 | 31 | |
| Sodium | ppm | ASTM D5185m | | 4 | 4 | |
| Potassium | ppm | ASTM D5185m | >20 | 48 | 40 | |
| INFRA-RED | | method | limit/base | current | history1 | history2 |
| Soot % | % | *ASTM D7844 | | 0 | 0 | |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 11.8 | 11.3 | |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 21.8 | 20.1 | |
| FLUID DEGRAD | OATION | method | limit/base | current | history1 | history2 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 19.4 | 19.1 | |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 4.5 | 5.7 | |
| = 1.00 . (2.14) | 901119 | | | | 0 | |



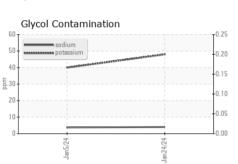
OIL ANALYSIS REPORT



| VISUAL | | method | imit/base | current | nistory i | nistory2 |
|-------------------------|-----------|---------|-------------|----------|-----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | |
| Precipitate | scalar | *Visual | NONE | NONE | NONE | |
| Silt | scalar | *Visual | NONE | NONE | NONE | |
| Debris | scalar | *Visual | NONE | NONE | NONE | |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | |
| Appearance | scalar | *Visual | NORML | NORML | NORML | |
| Odor | scalar | *Visual | NORML | NORML | NORML | |
| Emulsified Water | scalar | *Visual | >0.1 | NEG | NEG | |
| Free Water | scalar | *Visual | | NEG | NEG | |
| FILIID PROPE | DTIEC | method | limit/hase | aa. 10 Å | history1 | history2 |
| FILLIO PROPE | D 11 E.S. | memod | IIIIII/Dase | current | HISTORY | HISTORYZ |

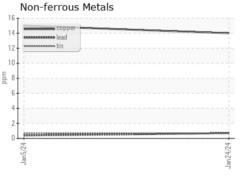
| Abnormal | | | | | | | | | |
|----------|------|------|---|---|-------|---|--|-------|-------|
| Automia | | | | | | | | | |
| - | | | _ | - | _ | - | | - | - |
| 3 | | | | | | | | | |
| | | | | | | | | | |
| Abnormal | | | | | | | | | |
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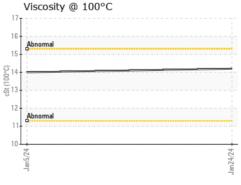


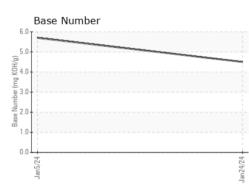


Ferrous Alloys 30

GRAPHS











Certificate L2367

Report Id: GFL652 [WUSCAR] 06072068 (Generated: 01/31/2024 02:52:07) Rev: 1

Laboratory Sample No. Lab Number Unique Number : 10848745

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0108310 : 06072068

Test Package : FLEET (Additional Tests: Glycol)

Recieved Diagnosed

: 26 Jan 2024 : 30 Jan 2024 Diagnostician : Jonathan Hester

10954 Houser Drive Fredericksburg, VA US 22408

GFL Environmental - 652 - Fredericksburg Hauling

Contact: WILLIAM MILO wmilo@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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