

# **OIL ANALYSIS REPORT**

Sample Rating Trend



#### Machine Id

425100-1297

#### Component Diesel Engine Fluid {not provided} (--- GAL)

## DIAGNOSIS

#### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

#### Wear

All component wear rates are normal.

### Contamination

Light fuel dilution occurring. No other contaminants were detected 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.

|                  |          | methou        | IIIII/Dase        | current     | Thistory I         | mistoryz     |
|------------------|----------|---------------|-------------------|-------------|--------------------|--------------|
| Sample Number    |          | Client Info   |                   | GFL0103536  | GFL0085356         |              |
| Sample Date      |          | Client Info   |                   | 24 Jun 2024 | 23 Oct 2023        |              |
| Machine Age      | hrs      | Client Info   |                   | 2015        | 0                  |              |
| Oil Age          | hrs      | Client Info   |                   | 500         | 0                  |              |
| Oil Changed      |          | Client Info   |                   | Not Changd  | Not Change         |              |
| Sample Status    |          |               |                   | MARGINAI    | ABNORMAI           |              |
| Sampio Statuo    |          |               |                   |             | , IBROTING L       |              |
| CONTAMINAT       | ION      | method        | limit/base        | current     | history1           | history2     |
| Water            |          | WC Method     | >0.2              | NEG         | NEG                |              |
| Glycol           |          | WC Method     |                   | NEG         | NEG                |              |
|                  | -        |               |                   |             |                    |              |
| WEAR METAL       | S        | method        | limit/base        | current     | history1           | history2     |
| Iron             | ppm      | ASTM D5185m   | >100              | 5           | 11                 |              |
| Chromium         | ppm      | ASTM D5185m   | >20               | <1          | <1                 |              |
| Nickel           | ppm      | ASTM D5185m   | >4                | 1           | <1                 |              |
| Titanium         | ppm      | ASTM D5185m   |                   | 0           | <1                 |              |
| Silver           | ppm      | ASTM D5185m   | >3                | <1          | 0                  |              |
| Aluminum         | ppm      | ASTM D5185m   | >20               | 3           | 2                  |              |
| Lead             | ppm      | ASTM D5185m   | >40               | <1          | <1                 |              |
| Copper           | ppm      | ASTM D5185m   | >330              | 1           | <1                 |              |
| Tin              | ppm      | ASTM D5185m   | >15               | 0           | <1                 |              |
| Vanadium         | ppm      | ASTM D5185m   |                   | <1          | <1                 |              |
| Cadmium          | maa      | ASTM D5185m   |                   | 0           | <1                 |              |
|                  | 1-1-     |               |                   | -           |                    |              |
| ADDITIVES        |          | method        | limit/base        | current     | history1           | history2     |
| Boron            | ppm      | ASTM D5185m   |                   | 4           | 34                 |              |
| Barium           | ppm      | ASTM D5185m   |                   | 0           | 0                  |              |
| Molybdenum       | ppm      | ASTM D5185m   |                   | 58          | 37                 |              |
| Manganese        | ppm      | ASTM D5185m   |                   | <1          | 0                  |              |
| Magnesium        | ppm      | ASTM D5185m   |                   | 1007        | 753                |              |
| Calcium          | ppm      | ASTM D5185m   |                   | 1091        | 1081               |              |
| Phosphorus       | ppm      | ASTM D5185m   |                   | 1092        | 915                |              |
| Zinc             | ppm      | ASTM D5185m   |                   | 1332        | 994                |              |
| Sulfur           | ppm      | ASTM D5185m   |                   | 3919        | 3209               |              |
|                  | то       | and the state | Para la /la ana a |             | In the test second | la la tana 0 |
| CONTAMINAN       | 15       | method        | limit/base        | current     | history1           | history2     |
| Silicon          | ppm      | ASTM D5185m   | >25               | 3           | 4                  |              |
| Sodium           | ppm      | ASTM D5185m   |                   | 2           | 3                  |              |
| Potassium        | ppm      | ASTM D5185m   | >20               | 4           | 3                  |              |
| Fuel             | %        | ASTM D3524    | >5                | <u> </u>    | <b>7</b> .5        |              |
|                  |          | method        | limit/base        | current     | history1           | history2     |
|                  |          | method        |                   | Guirein     | Thotory            | motoryz      |
| Soot %           | %        | *ASTM D7844   | >3                | 0.1         | 0.2                |              |
| Nitration        | Abs/cm   | *ASTM D7624   | >20               | 4.8         | 7.1                |              |
| Sulfation        | Abs/.1mm | *ASTM D7415   | >30               | 17.9        | 21.8               |              |
| FLUID DEGRAD     | DATION   | method        | limit/base        | current     | history1           | history2     |
| Oxidation        | Abs/.1mm | *ASTM D7414   | >25               | 14.3        | 21.2               |              |
| Base Number (BN) | ma KOH/a | ASTM D2896    |                   | 9.2         | 7.9                |              |
|                  |          |               |                   |             |                    |              |



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|              | VISUAL                               |                     | method                           | limit/base   | current   | history1               | history2                    |
|--------------|--------------------------------------|---------------------|----------------------------------|--------------|-----------|------------------------|-----------------------------|
|              | 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                   |                             |
| 4/24 -       | Appearance                           | scalar              | *Visual                          | NORML        | NORML     | NORML                  |                             |
| Jun2         | Odor                                 | scalar              | *Visual                          | NORML        | NORML     | NORML                  |                             |
|              | Emulsified Water                     | scalar              | *Visual                          | >0.2         | NEG       | NEG                    |                             |
|              | Free Water                           | scalar              | *Visual                          |              | NEG       | NEG                    |                             |
|              | FLUID PROPE                          | RTIES               | method                           | limit/base   | current   | history1               | history2                    |
|              | Visc @ 100°C                         | cSt                 | ASTM D445                        |              | 13.8      | ▲ 12.1                 |                             |
|              | GRAPHS                               |                     |                                  |              |           |                        |                             |
|              | Ferrous Alloys                       |                     |                                  |              |           |                        |                             |
|              | <sup>12</sup>                        |                     |                                  |              |           |                        |                             |
| 24/24        | 10-                                  |                     |                                  |              |           |                        |                             |
| Jun          | 8                                    |                     |                                  |              |           |                        |                             |
|              | E                                    |                     |                                  |              |           |                        |                             |
|              | 8                                    |                     |                                  |              |           |                        |                             |
|              | 4 -                                  |                     |                                  |              |           |                        |                             |
|              | 2 -                                  |                     |                                  |              |           |                        |                             |
|              | 0                                    |                     |                                  |              |           |                        |                             |
|              | 23/23                                |                     |                                  | 24/24        |           |                        |                             |
|              | 0                                    |                     |                                  | Jun          |           |                        |                             |
| 5            | Non-ferrous Metal                    | S                   |                                  |              |           |                        |                             |
| 6 F 6 F      | copper                               |                     |                                  |              |           |                        |                             |
| -            | 8 - tin                              |                     |                                  |              |           |                        |                             |
|              | 6 -                                  |                     |                                  |              |           |                        |                             |
|              | ш dd                                 |                     |                                  |              |           |                        |                             |
|              | 4                                    |                     |                                  |              |           |                        |                             |
|              | 2                                    |                     |                                  |              |           |                        |                             |
|              |                                      |                     |                                  |              |           |                        |                             |
|              | 0                                    | ***********         |                                  | 24           |           |                        |                             |
|              | 0ct23/                               |                     |                                  | un24/        |           |                        |                             |
| VC           | _<br>Viscositv @ 100°C               |                     |                                  | 7            | _         |                        |                             |
| 18 T         |                                      |                     | 10 1                             | Base Numbe   | r.        |                        |                             |
|              | 17- Abnormal                         |                     |                                  |              |           |                        |                             |
|              | 16                                   |                     |                                  | (B/H         | 0         |                        |                             |
|              | Î 15                                 |                     |                                  | g 6.1        | 0         |                        |                             |
|              | 0[)<br>tz 14                         |                     |                                  | nber (r      |           |                        |                             |
|              | 13                                   |                     |                                  |              | 0         |                        |                             |
|              | Abnormal                             |                     |                                  | 2.0          | 0 -       |                        |                             |
|              | 14                                   |                     |                                  |              |           |                        |                             |
|              | 3/23                                 |                     |                                  | 4/24         | 3/23      |                        | 4/24                        |
|              | 0ct2;                                |                     |                                  | Jun2,        | 0ct2      |                        | Jun2 <sup>,</sup>           |
|              |                                      |                     |                                  |              |           |                        |                             |
| Laboratory   | : WearCheck USA - 50                 | 1 Madiso            | n Ave., Cary                     | , NC 27513   | GFL En    | vironmental - 958A - ( | Chillicothe Wigand          |
| Sample No.   | : GFL0103536                         | Recei               | ived : 27                        | 7 Jun 2024   |           | 19908                  | N. State Rd 29              |
| Lab Number   | : 06223056                           | Teste               | d : 01                           | Jul 2024     | laa Davis |                        | Chillicothe, IL             |
| Test Package | : TTUT253<br>: FLEET ( Additional Te | ulagr<br>ests: Perc | i <b>usea</b> : 01<br>centFuel ) | Jui 2024 - W | ues Davis | Cont                   | uə 61523<br>act: Brvan Link |
| uonuye       |                                      |                     |                                  |              |           | 0011                   |                             |

- 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)

Certificate L2367

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