

## Machine Id **174** Component **Diesel Engine** Fluid **{not provided} (--- GAL)**

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the fuel injection system. We recommend an early resample to monitor this condition.

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All component wear rates are normal.

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|----------------|------|------|--|
|                |      | WIIN |  |

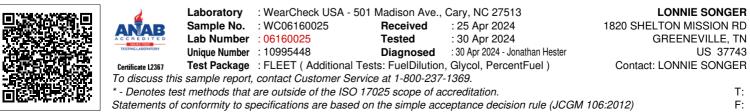
Sodium and/or potassium levels are high. There is a high amount of fuel present in the oil.

| FLU | IIN | CO | ND | ТС |  |
|-----|-----|----|----|----|--|
|     |     |    |    |    |  |

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

| Test             | UOM             | Method                     | Limit/Abn | Current      | History1 | History2 |
|------------------|-----------------|----------------------------|-----------|--------------|----------|----------|
| Sample Number    |                 | Client Info                |           | WC06160025   |          |          |
| Sample Date      |                 | Client Info                |           | 24 Apr 2024  |          |          |
| Machine Age      | mls             | Client Info                |           | 759188       |          |          |
| Oil Age          | mls             | Client Info                |           | 0            |          |          |
| Filter Age       | mls             | Client Info                |           | 0            |          |          |
| Oil Changed      |                 | Client Info                |           | N/A          |          |          |
| Filter Changed   |                 | Client Info                |           | N/A          |          |          |
| Sample Status    |                 |                            |           | SEVERE       |          |          |
|                  |                 |                            |           |              |          |          |
| Iron             | ppm             | ASTM D5185m                | >100      | 67           |          |          |
| Chromium         | ppm             | ASTM D5185m                | >20       | <1           |          |          |
| Nickel           | ppm             | ASTM D5185m                | >4        | 0            |          |          |
| Titanium         | ppm             | ASTM D5185m                |           | 2            |          |          |
| Silver           | ppm             | ASTM D5185m                | >3        | 0            |          |          |
| Aluminum         | ppm             | ASTM D5185m                | >20       | 3            |          |          |
| Lead             | ppm             | ASTM D5185m                | >40       | 0            |          |          |
| Copper           | ppm             | ASTM D5185m                | >330      | 16           |          |          |
| Tin              | ppm             | ASTM D5185m                | >15       | 0            |          |          |
| Vanadium         | ppm             | ASTM D5185m                | NIGNE     | 0            |          |          |
| White Metal      | scalar          | *Visual                    | NONE      | NONE         |          |          |
| Yellow Metal     | scalar          | *Visual                    | NONE      | NONE         |          |          |
| Silicon          | ppm             | ASTM D5185m                | >25       | 23           |          |          |
| Potassium        | ppm             | ASTM D5185m                | >20       | <u> </u>     |          |          |
| Fuel             | %               | ASTM D3524                 | >5        | ▲ 8.2        |          |          |
| Water            |                 | WC Method                  | >0.2      | NEG          |          |          |
| Glycol           | %               | *ASTM D2982                |           | NEG          |          |          |
| Soot %           | %               | *ASTM D7844                | >3        | 0.1          |          |          |
| Nitration        | Abs/cm          | *ASTM D7624                | >20       | 3.6          |          |          |
| Sulfation        | Abs/.1mm        | *ASTM D7415                | >30       | 31.7         |          |          |
| 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          |          |          |
| O - diam         |                 |                            |           |              |          |          |
| Sodium           | ppm             | ASTM D5185m                |           | ▲ 21<br>00   |          |          |
| Boron            | ppm             | ASTM D5185m                |           | 29           |          |          |
| Barium           | ppm             | ASTM D5185m                |           | <1           |          |          |
| Molybdenum       | ppm             | ASTM D5185m                |           | <1           |          |          |
| Manganese        | ppm             | ASTM D5185m                |           | 2            |          |          |
| Magnesium        | ppm             | ASTM D5185m                |           | 33           |          |          |
| Calcium          | ppm             | ASTM D5185m<br>ASTM D5185m |           | 3296         |          |          |
| Phosphorus       | ppm             |                            |           | 884<br>977   |          |          |
| Zinc<br>Sulfur   | ppm             | ASTM D5185m<br>ASTM D5185m |           | 877<br>2025  |          |          |
| Oxidation        | ppm<br>Abs/.1mm | *ASTM D5165111             | >25       | 2925<br>29.6 |          |          |
| Base Number (BN) | mg KOH/g        | ASTM D7414<br>ASTM D2896   | 20        | 29.6<br>16.6 |          |          |
| Visc @ 100°C     | cSt             | ASTM D2090<br>ASTM D445    |           | 11.0         |          |          |
|                  | 001             | AG HVI D443                |           |              |          |          |





Contact/Location: LONNIE SONGER - LONGRETN Page 2 of 2