

## Machine Id **39601** Component **Diesel Engine** Fluid **{not provided} (--- QTS)**

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. 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.

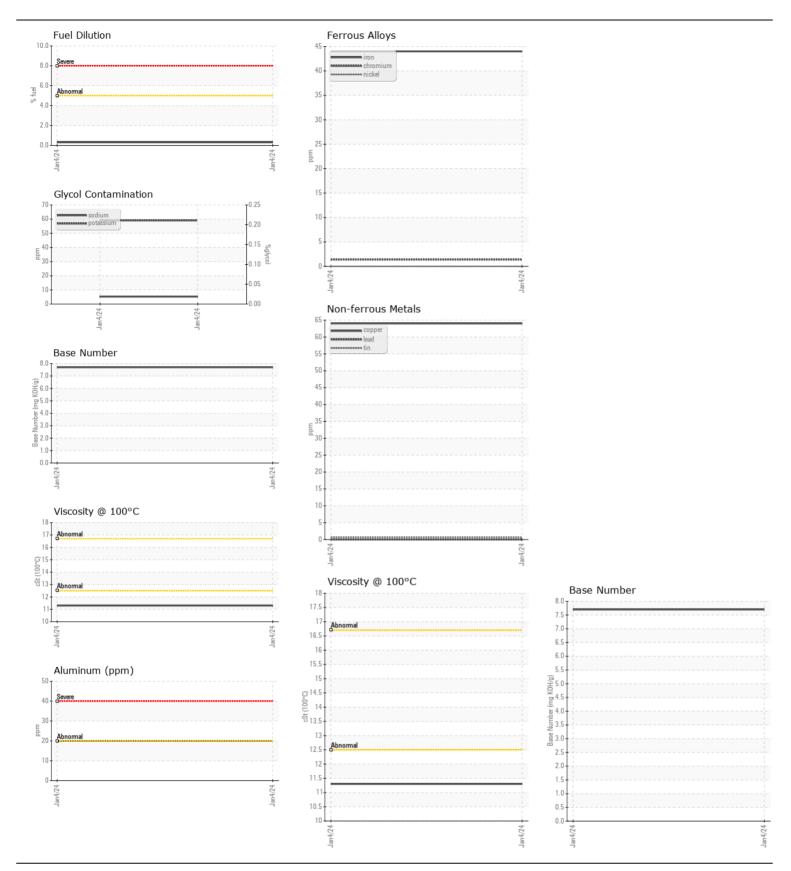
## CONTAMINATION

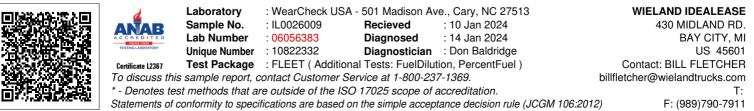
Fuel content negligible. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components.

|  |                  |          |             |           | ( )         |          |          |
|--|------------------|----------|-------------|-----------|-------------|----------|----------|
|  | Test             | UOM      | Method      | Limit/Abn | Current     | History1 | History2 |
|  | Sample Number    |          | Client Info |           | IL0026009   |          |          |
|  | Sample Date      |          | Client Info |           | 04 Jan 2024 |          |          |
|  | Machine Age      | mls      | Client Info |           | 11394       |          |          |
|  | Oil Age          | mls      | Client Info |           | 11394       |          |          |
|  | Filter Age       | mls      | Client Info |           | 11394       |          |          |
|  | Oil Changed      |          | Client Info |           | Changed     |          |          |
|  | Filter Changed   |          | Client Info |           | Changed     |          |          |
|  | Sample Status    |          |             |           | NORMAL      |          |          |
|  |                  |          |             |           |             |          |          |
|  | Iron             | ppm      | ASTM D5185m | >100      | 44          |          |          |
|  | Chromium         | ppm      | ASTM D5185m | >20       | 1           |          |          |
|  | Nickel           | ppm      | ASTM D5185m | >4        | 0           |          |          |
|  | Titanium         | ppm      | ASTM D5185m |           | 0           |          |          |
|  | Silver           | ppm      | ASTM D5185m | >3        | 0           |          |          |
|  | Aluminum         | ppm      | ASTM D5185m | >20       | 20          |          |          |
|  | Lead             | ppm      | ASTM D5185m | >40       | 0           |          |          |
|  | Copper           | ppm      | ASTM D5185m | >330      | 64          |          |          |
|  | Tin              | ppm      | ASTM D5185m | >15       | <1          |          |          |
|  | Vanadium         | ppm      | ASTM D5185m |           | 0           |          |          |
|  | White Metal      | scalar   | *Visual     | NONE      | NONE        |          |          |
|  | Yellow Metal     | scalar   | *Visual     | NONE      | NONE        |          |          |
|  |                  |          |             |           |             |          |          |
|  | Silicon          | ppm      | ASTM D5185m | >25       | 23          |          |          |
|  | Potassium        | ppm      | ASTM D5185m | >20       | 59          |          |          |
|  | Fuel             | %        | ASTM D3524  | >5        | 0.3         |          |          |
|  | Water            |          | WC Method   | >0.2      | NEG         |          |          |
|  | Glycol           |          | WC Method   |           | NEG         |          |          |
|  | Soot %           | %        | *ASTM D7844 | >3        | 0.2         |          |          |
|  | Nitration        | Abs/cm   | *ASTM D7624 | >20       | 10.0        |          |          |
|  | Sulfation        | Abs/.1mm | *ASTM D7415 | >30       | 20.5        |          |          |
|  | 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         |          |          |
|  |                  |          |             |           |             |          |          |
|  | Sodium           | ppm      | ASTM D5185m |           | 5           |          |          |
|  | Boron            | ppm      | ASTM D5185m |           | 37          |          |          |
|  | Barium           | ppm      | ASTM D5185m |           | 2           |          |          |
|  | Molybdenum       | ppm      | ASTM D5185m |           | 45          |          |          |
|  | Manganese        | ppm      | ASTM D5185m |           | 5           |          |          |
|  | Magnesium        | ppm      | ASTM D5185m |           | 833         |          |          |
|  | Calcium          | ppm      | ASTM D5185m |           | 1168        |          |          |
|  | Phosphorus       | ppm      | ASTM D5185m |           | 755         |          |          |
|  | Zinc             | ppm      | ASTM D5185m |           | 904         |          |          |
|  | Sulfur           | ppm      | ASTM D5185m |           | 2275        |          |          |
|  | Oxidation        | Abs/.1mm | *ASTM D7414 | >25       | 19.1        |          |          |
|  | Base Number (BN) | mg KOH/g | ASTM D2896  |           | 7.7         |          |          |
|  | Visc @ 100°C     | cSt      | ASTM D445   |           | 11.3        |          |          |

## FLUID CONDITION

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





Contact/Location: BILL FLETCHER - IDESAG

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