

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id JOHN DEERE 650K 1T0650KKLNF418076 Component Diesel Engine

JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (4 GAL)

SAMPLE INFORMATION method limit/base current history1 history2 LEC0048685 Sample Number **Client Info** Sample Date Client Info 19 Jun 2024 Machine Age hrs **Client Info** 501 Oil Age hrs Client Info 501 Oil Changed Client Info Changed ABNORMAL Sample Status CONTAMINATION method limit/base current history1 history2 >0.21 Water WC Method NEG Glycol WC Method NEG WEAR METALS method limit/base current historv1 history2 Iron ASTM D5185m >51 47 ppm 2 Chromium ppm ASTM D5185m >11 Nickel ASTM D5185m >5 1 ppm ASTM D5185m Titanium ppm <1 Silver ppm ASTM D5185m >3 0 Aluminum ASTM D5185m >31 9 ppm ASTM D5185m >26 6 Lead ppm ASTM D5185m Copper >26 166 ppm 3 Tin ppm ASTM D5185m >4 Vanadium ASTM D5185m ppm <1 Cadmium ppm ASTM D5185m <1 **ADDITIVES** method limit/base current history1 history2 Boron ppm ASTM D5185m 176 Barium ppm ASTM D5185m 4 219 Molybdenum ppm ASTM D5185m Manganese ASTM D5185m 6 ppm Magnesium ppm ASTM D5185m 657 Calcium ASTM D5185m 1887 ppm Phosphorus ppm ASTM D5185m 1019 Zinc ASTM D5185m 1252 ppm Sulfur ppm ASTM D5185m 3275 **CONTAMINANTS** method limit/base current history1 history2 Silicon ASTM D5185m >!20 11 ppm Sodium ASTM D5185m >31 7 ppm Potassium ASTM D5185m >20 10 ppm Fuel % ASTM D3524 >2.1 0.0 **INFRA-RED** method limit/base current history1 history2 % >3 0.6 Soot % *ASTM D7844 Nitration Abs/cm *ASTM D7624 >20 10.7 Sulfation *ASTM D7415 >30 25.8 Abs/.1mm **FLUID DEGRADATION** method limit/base current history1 history2 *ASTM D7414 >25 20.5 Oxidation Abs/.1mm Base Number (BN) mg KOH/g ASTM D2896 13.6 7.5

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

🔺 Wear

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other metal levels are typical for a new component breaking in.

Contamination

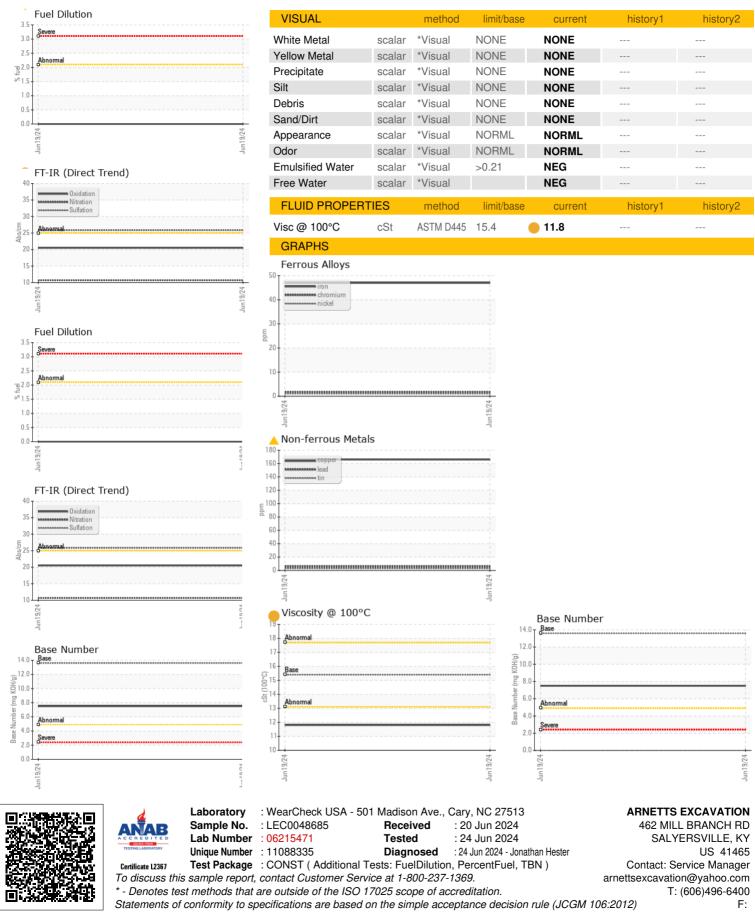
Fuel content negligible. There is no indication of any contamination in the oil.

Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.



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Contact/Location: Service Manager - ARNSALKY