



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>ATTENTION</b>



Machine Id  
**JOHN DEERE 310E 1DW310EXJNF713817**  
Component  
**Diesel Engine**  
Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)**

### RECOMMENDATION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0211630</b>	---	---
Sample Date		Client Info		<b>17 Jun 2024</b>	---	---
Machine Age	hrs	Client Info		<b>440</b>	---	---
Oil Age	hrs	Client Info		<b>440</b>	---	---
Filter Age	hrs	Client Info		<b>440</b>	---	---
Oil Changed		Client Info		<b>Changed</b>	---	---
Filter Changed		Client Info		<b>Changed</b>	---	---
Sample Status				<b>ATTENTION</b>	---	---

### WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>51	<b>61</b>	---	---
Chromium	ppm	ASTM D5185m	>11	<b>1</b>	---	---
Nickel	ppm	ASTM D5185m	>5	<b>7</b>	---	---
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	---	---
Aluminum	ppm	ASTM D5185m	>31	<b>7</b>	---	---
Lead	ppm	ASTM D5185m	>26	<b>3</b>	---	---
Copper	ppm	ASTM D5185m	>26	<b>16</b>	---	---
Tin	ppm	ASTM D5185m	>4	<b>3</b>	---	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---

### CONTAMINATION

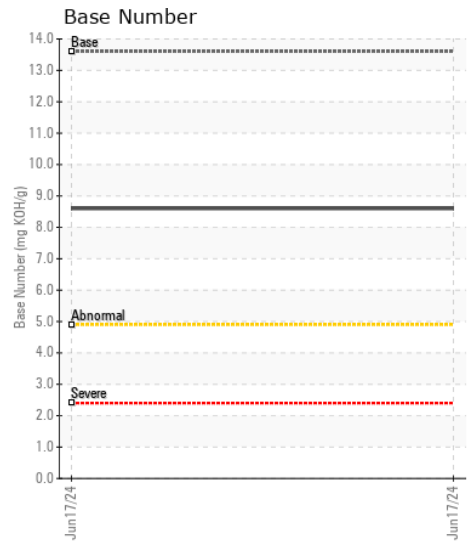
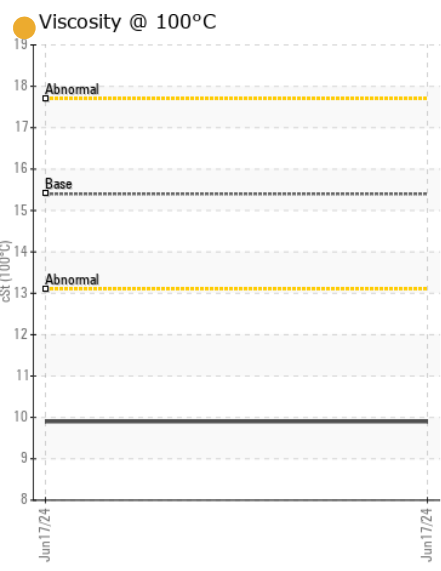
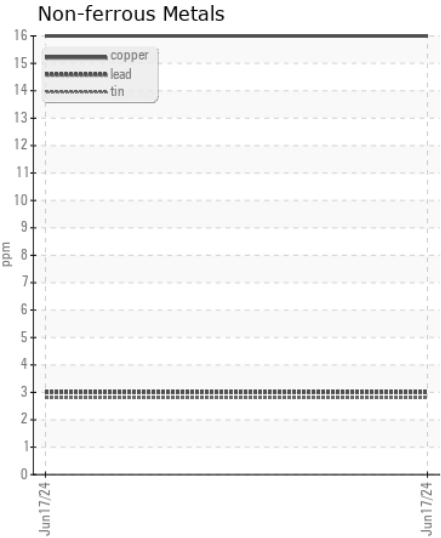
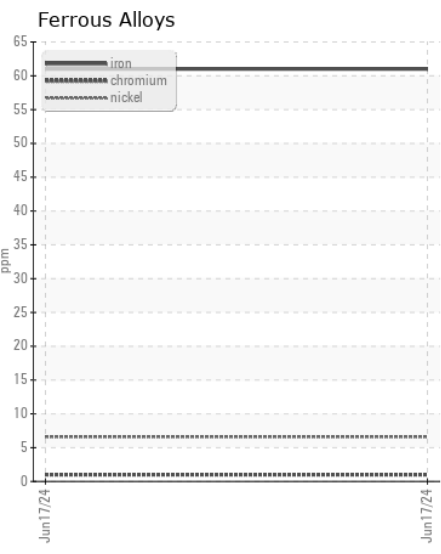
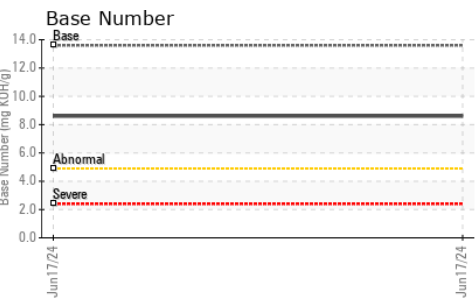
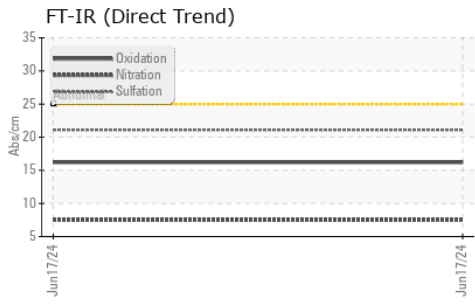
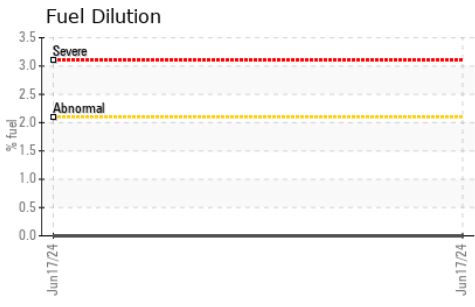
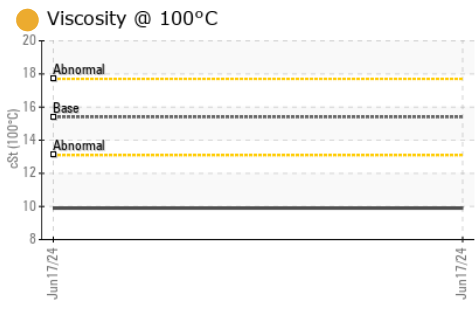
Fuel content negligible. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>22	<b>11</b>	---	---
Potassium	ppm	ASTM D5185m	>20	<b>9</b>	---	---
Fuel	%	ASTM D3524	>2.1	<b>0.0</b>	---	---
Water		WC Method	>0.21	<b>NEG</b>	---	---
Glycol		WC Method		<b>NEG</b>	---	---
Soot %	%	*ASTM D7844	>3	<b>0.2</b>	---	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.5</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.1</b>	---	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	---	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	---	---
Emulsified Water	scalar	*Visual	>0.21	<b>NEG</b>	---	---

### 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.

Sodium	ppm	ASTM D5185m	>31	<b>5</b>	---	---
Boron	ppm	ASTM D5185m		<b>215</b>	---	---
Barium	ppm	ASTM D5185m		<b>4</b>	---	---
Molybdenum	ppm	ASTM D5185m		<b>244</b>	---	---
Manganese	ppm	ASTM D5185m		<b>2</b>	---	---
Magnesium	ppm	ASTM D5185m		<b>757</b>	---	---
Calcium	ppm	ASTM D5185m		<b>1346</b>	---	---
Phosphorus	ppm	ASTM D5185m		<b>816</b>	---	---
Zinc	ppm	ASTM D5185m		<b>1062</b>	---	---
Sulfur	ppm	ASTM D5185m		<b>2917</b>	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.2</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>8.6</b>	---	---
Visc @ 100°C	cSt	ASTM D445	15.4	<b>9.9</b>	---	---



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0211630 **Received** : 25 Jun 2024  
**Lab Number** : 06219518 **Tested** : 28 Jun 2024  
**Unique Number** : 11097715 **Diagnosed** : 28 Jun 2024 - Jonathan Hester  
**Test Package** : CONST ( Additional Tests: FuelDilution, PercentFuel, TBN )

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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)