



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



Machine Id  
**JOHN DEERE 310E 1DW310EXAMF708863**

Component  
**Diesel Engine**

Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (34 QTS)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0218501</b>	JR0211095	JR0199054
Sample Date		Client Info		<b>09 Jul 2024</b>	25 Mar 2024	04 Jan 2024
Machine Age	hrs	Client Info		<b>7628</b>	7036	6583
Oil Age	hrs	Client Info		<b>592</b>	453	493
Filter Age	hrs	Client Info		<b>592</b>	453	493
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

PQ		ASTM D8184	>50	<b>31</b>	---	---
Iron	ppm	ASTM D5185m	>51	<b>39</b>	25	10
Chromium	ppm	ASTM D5185m	>11	<b>1</b>	1	<1
Nickel	ppm	ASTM D5185m	>5	<b>4</b>	3	2
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>31	<b>4</b>	3	2
Lead	ppm	ASTM D5185m	>26	<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m	>26	<b>1</b>	2	<1
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

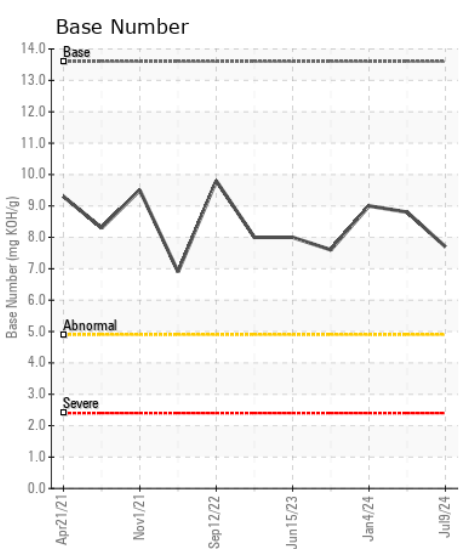
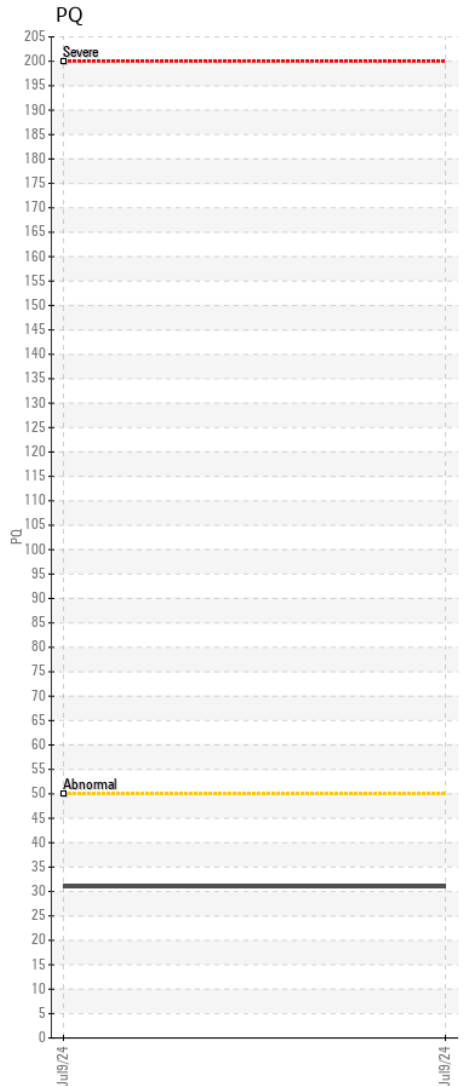
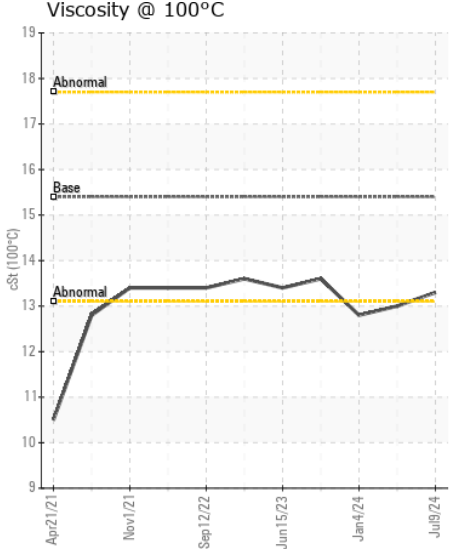
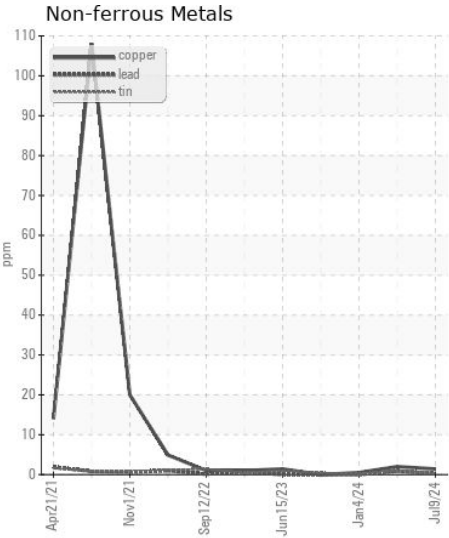
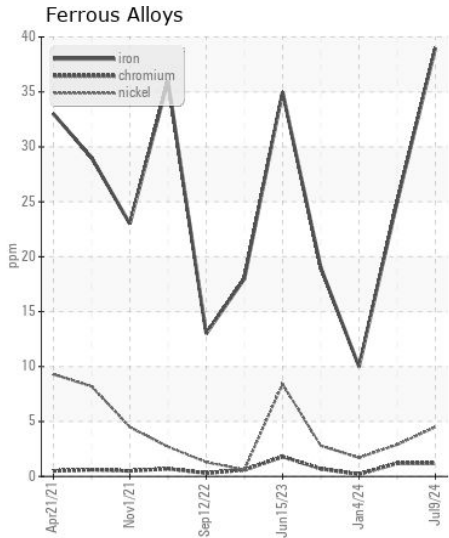
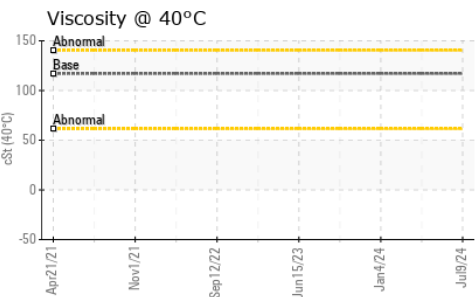
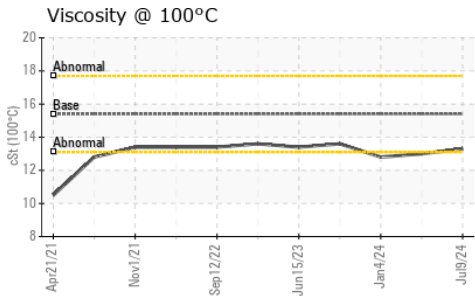
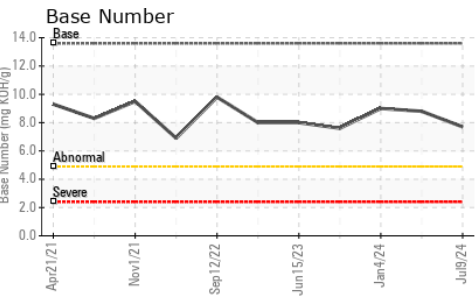
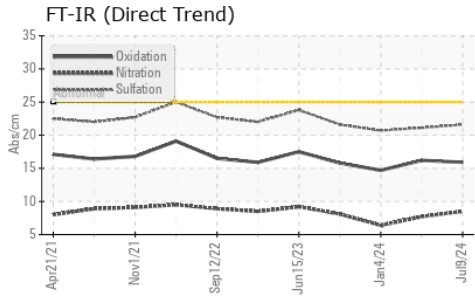
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>22	<b>11</b>	9	5
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	2	3
Fuel		WC Method	>2.1	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.21	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.2</b>	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.5</b>	7.7	6.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.6</b>	21.1	20.7
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.21	<b>NEG</b>	NEG	NEG

### 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.

Sodium	ppm	ASTM D5185m	>31	<b>&lt;1</b>	0	0
Boron	ppm	ASTM D5185m		<b>202</b>	200	107
Barium	ppm	ASTM D5185m		<b>0</b>	1	10
Molybdenum	ppm	ASTM D5185m		<b>249</b>	203	143
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	1	0
Magnesium	ppm	ASTM D5185m		<b>798</b>	756	709
Calcium	ppm	ASTM D5185m		<b>1558</b>	1521	1498
Phosphorus	ppm	ASTM D5185m		<b>924</b>	967	1029
Zinc	ppm	ASTM D5185m		<b>1140</b>	1066	1087
Sulfur	ppm	ASTM D5185m		<b>3279</b>	3168	3617
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.9</b>	16.2	14.7
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>7.7</b>	8.8	9.0
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.3</b>	13.0	12.8



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0218501 **Received** : 11 Jul 2024  
**Lab Number** : 06233484 **Tested** : 15 Jul 2024  
**Unique Number** : 11116977 **Diagnosed** : 15 Jul 2024 - Sean Felton  
**Test Package** : CONST ( Additional Tests: KV40, PQ, TBN )  
 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)

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