



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

Machine Id  
**JOHN DEERE 331G 1T0331GKHLF385893**  
 Component  
**Diesel Engine**  
 Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)**

### RECOMMENDATION

The oil 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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0220288</b>	JR0189408	JR0119320
Sample Date		Client Info		<b>09 Jul 2024</b>	09 Nov 2023	11 Feb 2022
Machine Age	hrs	Client Info		<b>2239</b>	2070	1050
Oil Age	hrs	Client Info		<b>0</b>	1020	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>N/A</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

### WEAR

The copper level has decreased, but is still abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>51	<b>25</b>	46	41
Chromium	ppm	ASTM D5185m	>11	<b>0</b>	<1	1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>31	<b>6</b>	8	7
Lead	ppm	ASTM D5185m	>26	<b>0</b>	4	<1
Copper	ppm	ASTM D5185m	>26	<b>▲ 53</b>	▲ 149	▲ 49
Tin	ppm	ASTM D5185m	>4	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

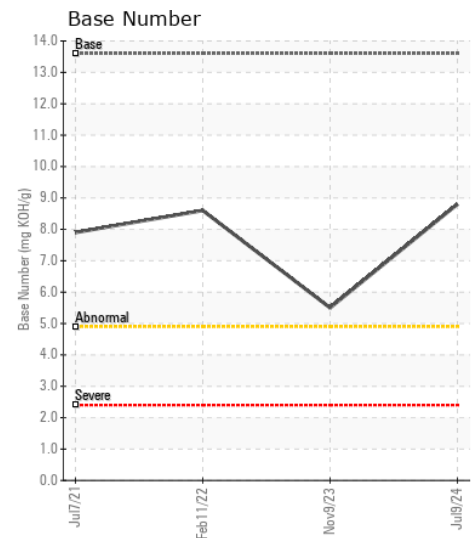
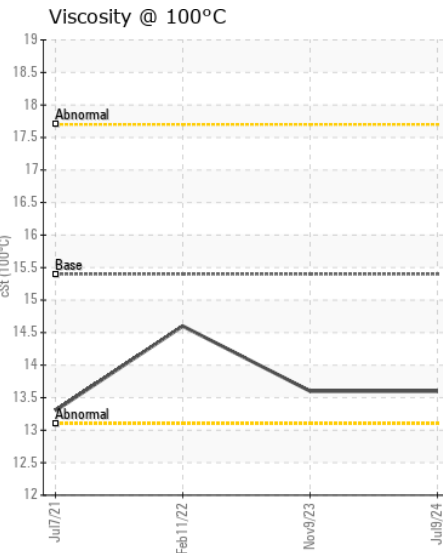
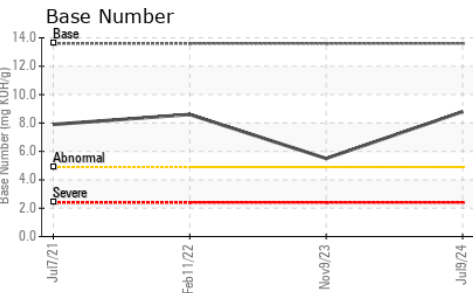
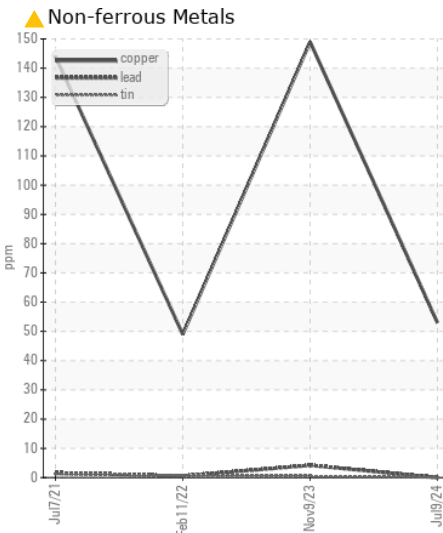
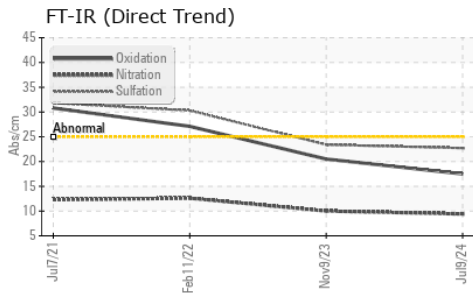
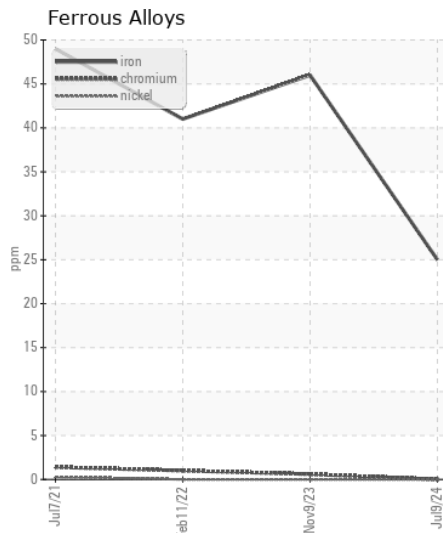
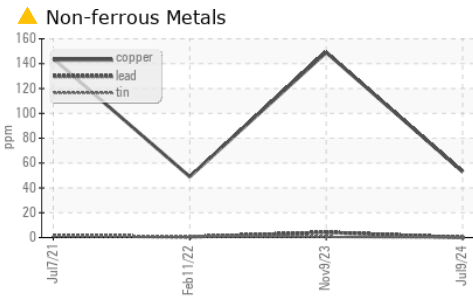
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>22	<b>20</b>	▲ 43	16
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	2
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>	0.3	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.4</b>	10.0	12.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.7</b>	23.4	30.3
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>3</b>	5	4
Boron	ppm	ASTM D5185m		<b>228</b>	127	113
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	3	0
Molybdenum	ppm	ASTM D5185m		<b>261</b>	257	269
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	2	1
Magnesium	ppm	ASTM D5185m		<b>850</b>	840	956
Calcium	ppm	ASTM D5185m		<b>1580</b>	1765	1763
Phosphorus	ppm	ASTM D5185m		<b>954</b>	959	1064
Zinc	ppm	ASTM D5185m		<b>1097</b>	1248	1138
Sulfur	ppm	ASTM D5185m		<b>3324</b>	2937	2193
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.5</b>	20.5	27.1
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>8.8</b>	5.5	8.6
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.6</b>	13.6	14.6



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0220288 **Received** : 15 Jul 2024  
**Lab Number** : 06235697 **Tested** : 16 Jul 2024  
**Unique Number** : 11124531 **Diagnosed** : 16 Jul 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: TBN )

**JRE - CHARLOTTE**  
 9550 STATESVILLE ROAD  
 CHARLOTTE, NC  
 US 28269

Contact: CHARLOTTE SHOP  
 myoung@jamesriverequipment.com

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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