



# OIL ANALYSIS REPORT

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



Area  
**Store 9 - Marietta [144624]**  
Machine Id  
**JOHN DEERE 333G 1T0333GMPHF318415**  
Component  
**Diesel Engine**  
Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (3 GAL)**

## RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LEC0041568</b>	LEC0000378	---
Sample Date		Client Info		<b>10 Nov 2023</b>	05 Apr 2019	---
Machine Age	hrs	Client Info		<b>1289</b>	316	---
Oil Age	hrs	Client Info		<b>478</b>	316	---
Filter Age	hrs	Client Info		<b>478</b>	316	---
Oil Changed		Client Info		<b>Not Chngd</b>	Changed	---
Filter Changed		Client Info		<b>Not Chngd</b>	Changed	---
Sample Status				<b>ABNORMAL</b>	ABNORMAL	---

## 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.

Iron	ppm	ASTM D5185m	>51	<b>27</b>	26	---
Chromium	ppm	ASTM D5185m	>11	<b>&lt;1</b>	<1	---
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	<1	---
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	<1	---
Aluminum	ppm	ASTM D5185m	>31	<b>▲ 7</b>	9	---
Lead	ppm	ASTM D5185m	>26	<b>0</b>	<1	---
Copper	ppm	ASTM D5185m	>26	<b>▲ 46</b>	▲ 122	---
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

## CONTAMINATION

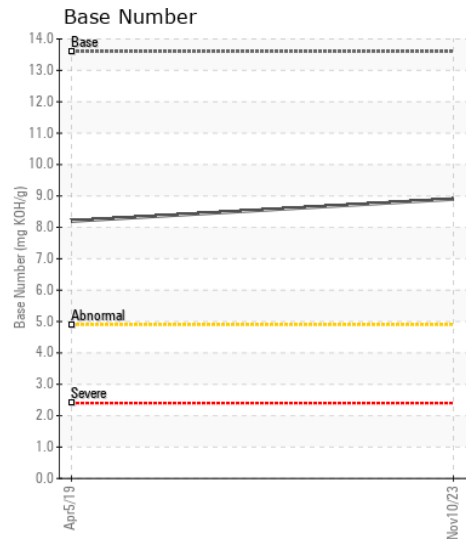
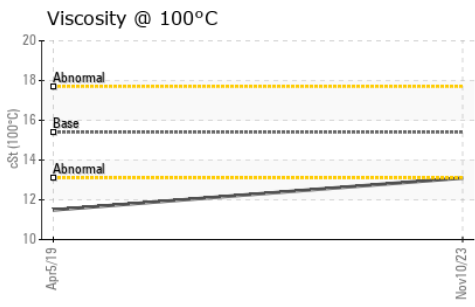
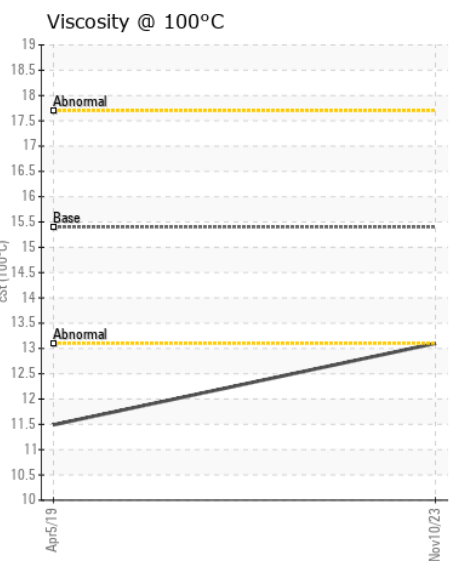
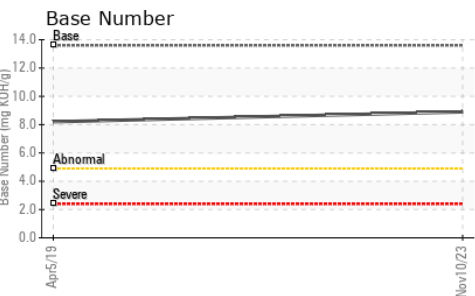
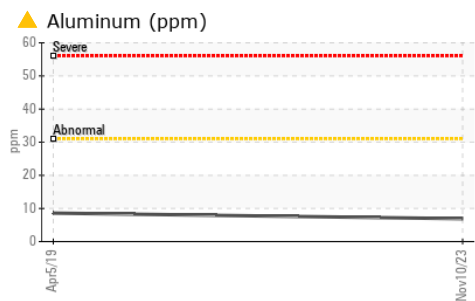
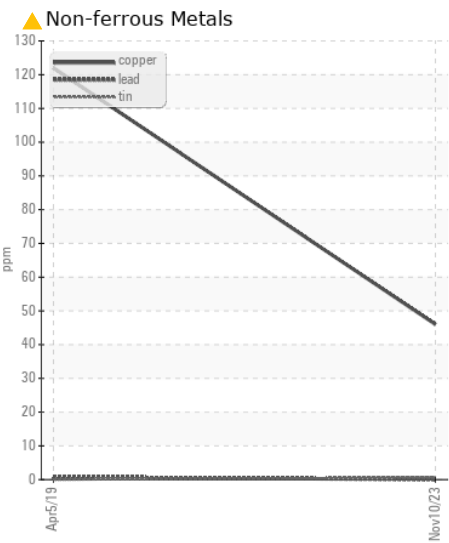
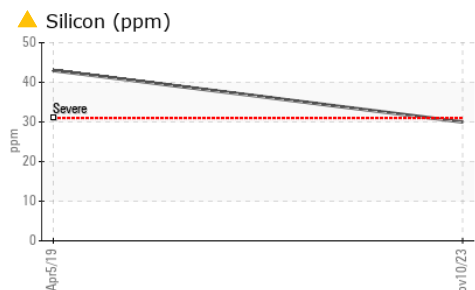
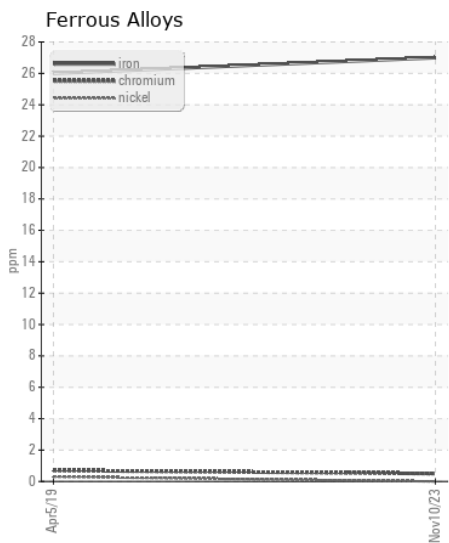
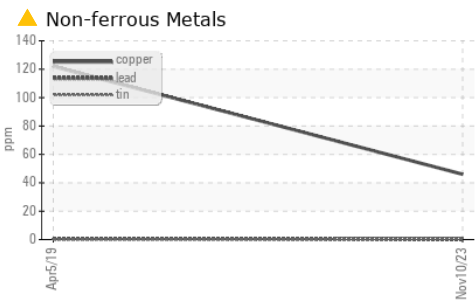
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>120	<b>▲ 30</b>	▲ 43	---
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	0	---
Fuel		WC Method	>2.1	<b>&lt;1.0</b>	<1.0	---
Water		WC Method	>0.21	<b>NEG</b>	NEG	---
Glycol		WC Method		<b>NEG</b>	NEG	---
Soot %	%	*ASTM D7844	>3	<b>0.7</b>	0.2	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.0</b>	9.3	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>24.9</b>	22.1	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.21	<b>NEG</b>	NEG	---

## 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.

Sodium	ppm	ASTM D5185m	>31	<b>&lt;1</b>	10	---
Boron	ppm	ASTM D5185m		<b>303</b>	184	---
Barium	ppm	ASTM D5185m		<b>0</b>	1	---
Molybdenum	ppm	ASTM D5185m		<b>103</b>	226	---
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	1	---
Magnesium	ppm	ASTM D5185m		<b>549</b>	741	---
Calcium	ppm	ASTM D5185m		<b>1610</b>	1666	---
Phosphorus	ppm	ASTM D5185m		<b>751</b>	827	---
Zinc	ppm	ASTM D5185m		<b>941</b>	1029	---
Sulfur	ppm	ASTM D5185m		<b>2551</b>	2723	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>18.9</b>	17.3	---
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>8.9</b>	8.2	---
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.1</b>	11.49	---



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0041568 **Received** : 14 Nov 2023  
**Lab Number** : 06006770 **Tested** : 15 Nov 2023  
**Unique Number** : 10740532 **Diagnosed** : 16 Nov 2023 - Sean Felton  
**Test Package** : CONST ( Additional Tests: TBN )

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Certificate L2367  
 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)