



# OIL ANALYSIS REPORT

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



Area  
**Store 2 - Beaver [RO#148195]**  
Machine Id  
**JOHN DEERE 310G T0310GX949926**  
Component  
**Diesel Engine**  
Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (9 QTS)**

## RECOMMENDATION

Oil and filter 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>LEC0048457</b>	LEC0032510	LEC0022535
Sample Date		Client Info		<b>22 Feb 2024</b>	15 Aug 2022	02 Aug 2021
Machine Age	hrs	Client Info		<b>2869</b>	2614	2371
Oil Age	hrs	Client Info		<b>255</b>	243	343
Filter Age	hrs	Client Info		<b>255</b>	243	343
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## WEAR

The lead level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>51	<b>38</b>	▲ 88	38
Chromium	ppm	ASTM D5185m	>11	<b>1</b>	2	1
Nickel	ppm	ASTM D5185m	>5	<b>1</b>	1	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>31	<b>5</b>	5	0
Lead	ppm	ASTM D5185m	>26	<b>▲ 31</b>	▲ 39	▲ 41
Copper	ppm	ASTM D5185m	>26	<b>2</b>	2	4
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	1
Vanadium	ppm	ASTM D5185m		<b>0</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.

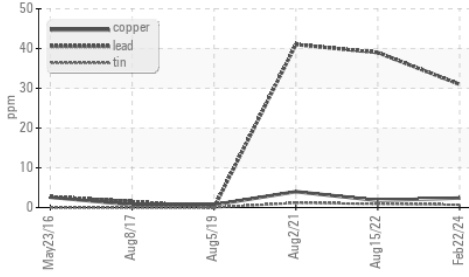
Silicon	ppm	ASTM D5185m	>120	<b>7</b>	7	8
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	2	1
Fuel		WC Method	>2.1	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.21	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.6</b>	0.6	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.2</b>	11.2	10.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.5</b>	24.5	23.9
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

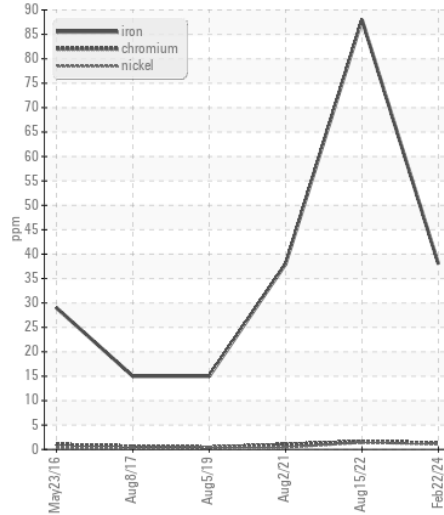
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>31	<b>2</b>	2	<1
Boron	ppm	ASTM D5185m		<b>216</b>	225	299
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>258</b>	270	275
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	1	<1
Magnesium	ppm	ASTM D5185m		<b>825</b>	812	845
Calcium	ppm	ASTM D5185m		<b>1465</b>	1523	1722
Phosphorus	ppm	ASTM D5185m		<b>910</b>	941	1016
Zinc	ppm	ASTM D5185m		<b>1118</b>	1141	1162
Sulfur	ppm	ASTM D5185m		<b>3201</b>	3328	2870
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>19.7</b>	20.3	20.8
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>8.2</b>	10.3	8.3
Visc @ 100°C	cSt	ASTM D445	15.4	<b>15.1</b>	15.2	15.3

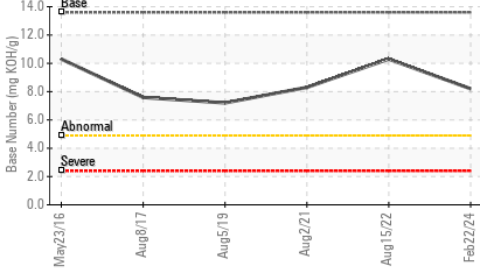
▲ Non-ferrous Metals



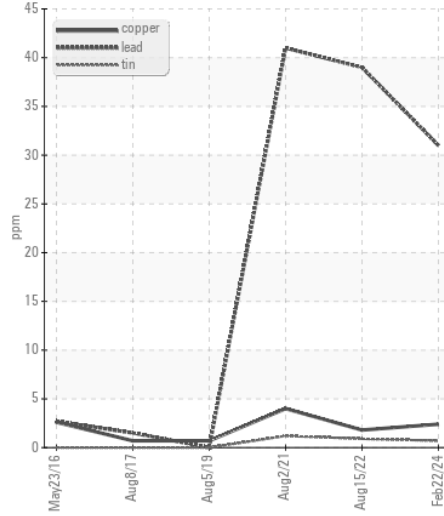
Ferrous Alloys



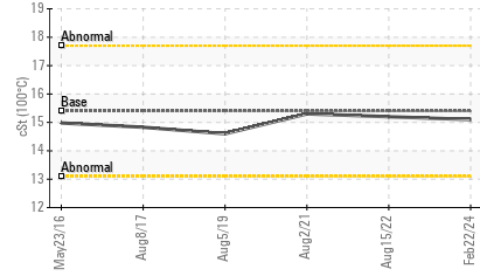
Base Number



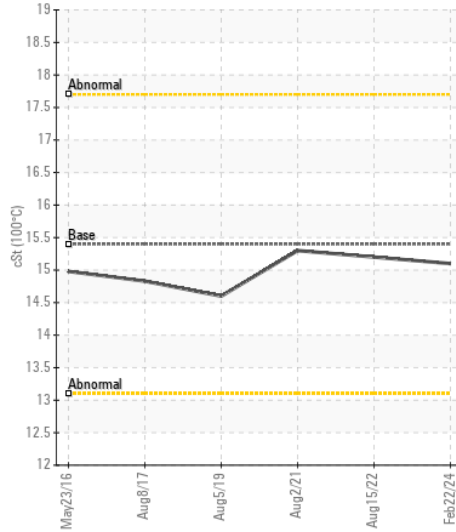
▲ Non-ferrous Metals



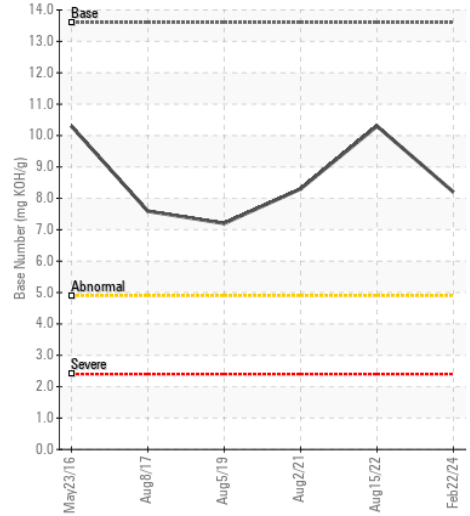
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0048457 **Received** : 28 Feb 2024  
**Lab Number** : 06102781 **Tested** : 29 Feb 2024  
**Unique Number** : 10901011 **Diagnosed** : 29 Feb 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: TBN )

**LESLIE EQUIPMENT COMPANY**  
 105 TENNIS CENTER DR.  
 MARIETTA, OH  
 US 45750-9765  
 Contact: LEANNE KENDALL  
 KendalLeanne@lec1.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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