



# OIL ANALYSIS REPORT

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



Area  
**{unassigned}**  
Machine Id  
**JOHN DEERE 644K 1DW644KZJKF694571**  
Component  
**Diesel Engine**  
Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (7 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LEC0043742</b>	LEC0027570	LEC0009033
Sample Date		Client Info		<b>01 Aug 2023</b>	16 Feb 2022	07 Apr 2021
Machine Age	hrs	Client Info		<b>3330</b>	1870	1224
Oil Age	hrs	Client Info		<b>1460</b>	646	625
Filter Age	hrs	Client Info		<b>1460</b>	646	625
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.

Iron	ppm	ASTM D5185m	>51	<b>51</b>	24	27
Chromium	ppm	ASTM D5185m	>11	<b>2</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>2</b>	1	3
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>31	<b>4</b>	3	0
Lead	ppm	ASTM D5185m	>26	<b>10</b>	2	2
Copper	ppm	ASTM D5185m	>26	<b>3</b>	2	5
Tin	ppm	ASTM D5185m	>4	<b>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.

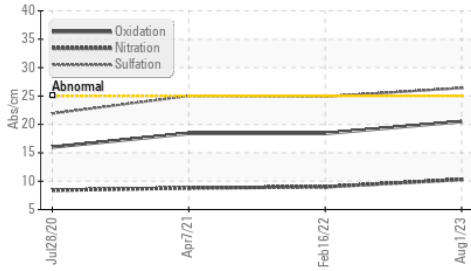
Silicon	ppm	ASTM D5185m	>120	<b>6</b>	6	4
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	2	3
Fuel	%	ASTM D3524	>2.1	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.21	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.6</b>	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.3</b>	9.0	8.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>26.4</b>	24.9	25
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

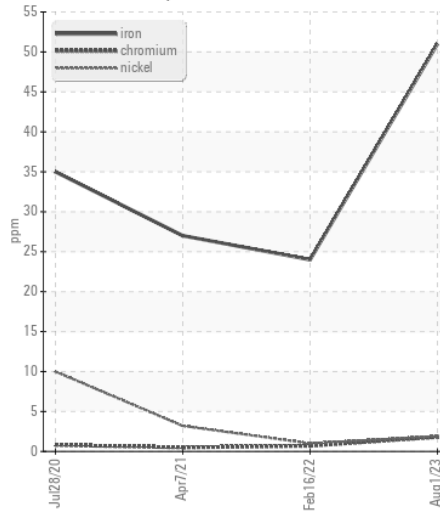
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>31	<b>3</b>	2	2
Boron	ppm	ASTM D5185m		<b>47</b>	199	203
Barium	ppm	ASTM D5185m		<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m		<b>230</b>	242	258
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>749</b>	847	767
Calcium	ppm	ASTM D5185m		<b>1708</b>	1562	1481
Phosphorus	ppm	ASTM D5185m		<b>835</b>	929	836
Zinc	ppm	ASTM D5185m		<b>1078</b>	1027	1023
Sulfur	ppm	ASTM D5185m		<b>3628</b>	2489	2545
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.5</b>	18.4	18.4
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>7.2</b>	9.1	8.9
Visc @ 100°C	cSt	ASTM D445	15.4	<b>12.6</b>	13.0	12.7

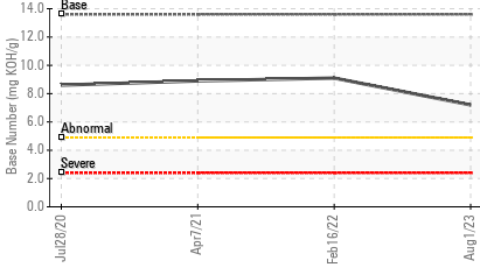
**FT-IR (Direct Trend)**



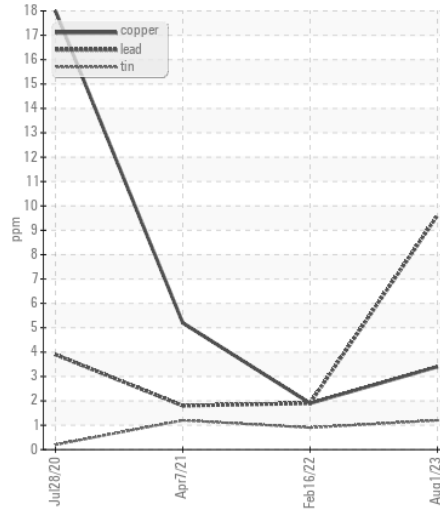
**Ferrous Alloys**



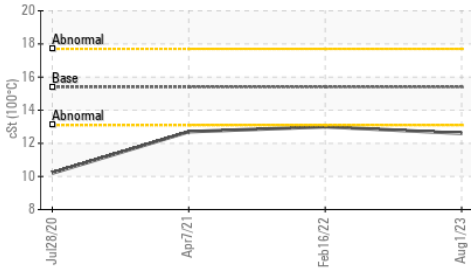
**Base Number**



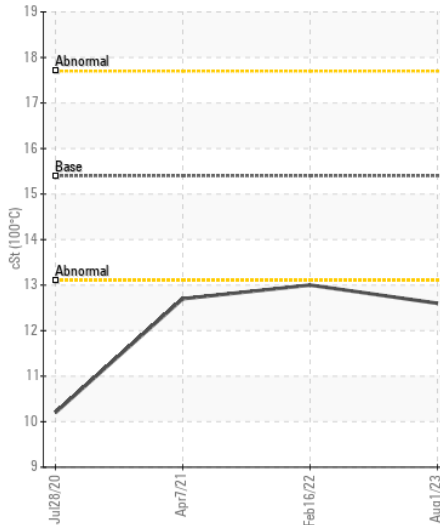
**Non-ferrous Metals**



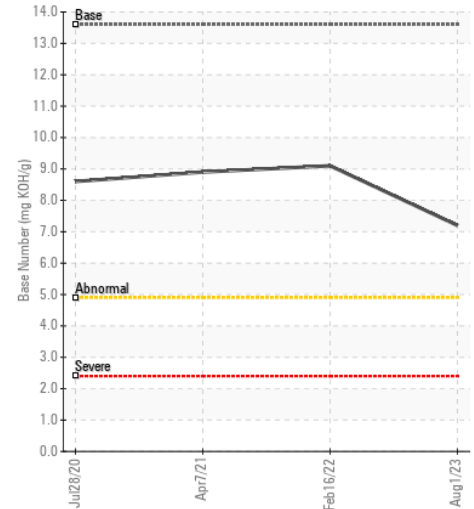
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0043742 **Received** : 03 Aug 2023  
**Lab Number** : 05915195 **Tested** : 08 Aug 2023  
**Unique Number** : 10587109 **Diagnosed** : 08 Aug 2023 - Doug Bogart  
**Test Package** : CONST ( Additional Tests: FuelDilution, PercentFuel, 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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