



# OIL ANALYSIS REPORT

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

Area

[127686]

Machine Id

JOHN DEERE 824L 1DW824LXVML712912

Component

Diesel Engine

Fluid

JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- QTS)

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WE0007958</b>	WE0006834	WE0006451
Sample Date		Client Info		<b>15 Jul 2024</b>	11 Apr 2024	05 Feb 2024
Machine Age	hrs	Client Info		<b>5107</b>	4524	4097
Oil Age	hrs	Client Info		<b>0</b>	0	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>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>51	<b>20</b>	21	22
Chromium	ppm	ASTM D5185m	>11	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>2</b>	2	4
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>31	<b>4</b>	4	5
Lead	ppm	ASTM D5185m	>26	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>26	<b>&lt;1</b>	2	0
Tin	ppm	ASTM D5185m	>4	<b>0</b>	1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	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.

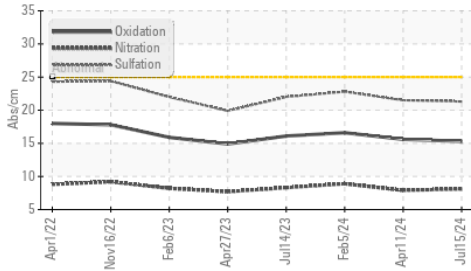
Silicon	ppm	ASTM D5185m	>22	<b>11</b>	9	9
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	3	<1
Fuel		WC Method	>2.1	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.21	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.4</b>	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.1</b>	7.9	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.3</b>	21.5	22.8
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

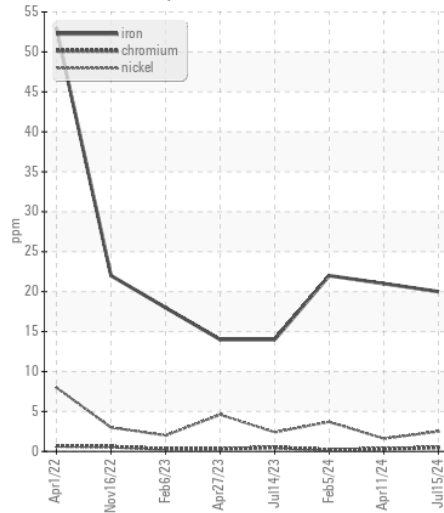
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>31	<b>3</b>	15	2
Boron	ppm	ASTM D5185m		<b>206</b>	235	231
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	1
Molybdenum	ppm	ASTM D5185m		<b>255</b>	228	282
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>824</b>	826	894
Calcium	ppm	ASTM D5185m		<b>1422</b>	1412	1419
Phosphorus	ppm	ASTM D5185m		<b>877</b>	842	947
Zinc	ppm	ASTM D5185m		<b>1002</b>	1018	1147
Sulfur	ppm	ASTM D5185m		<b>3187</b>	3458	3042
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.3</b>	15.6	16.6
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>8.9</b>	9.3	8.9
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.7</b>	14.2	14.1

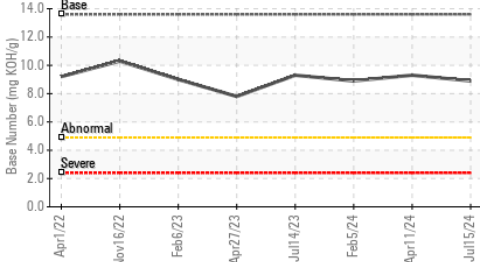
**FT-IR (Direct Trend)**



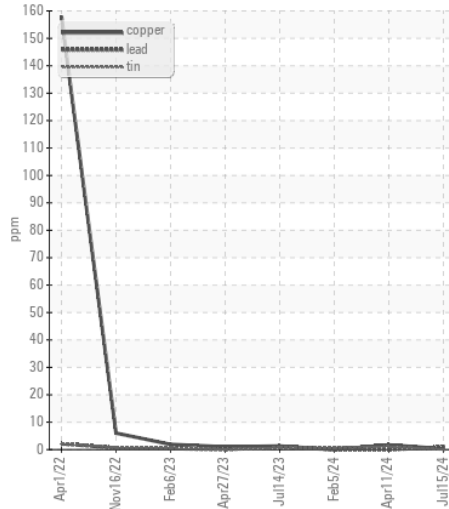
**Ferrous Alloys**



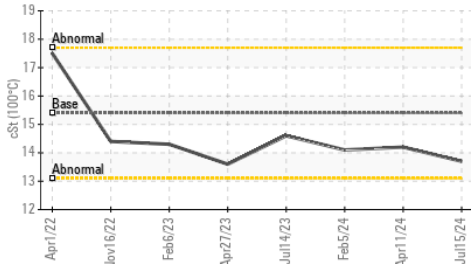
**Base Number**



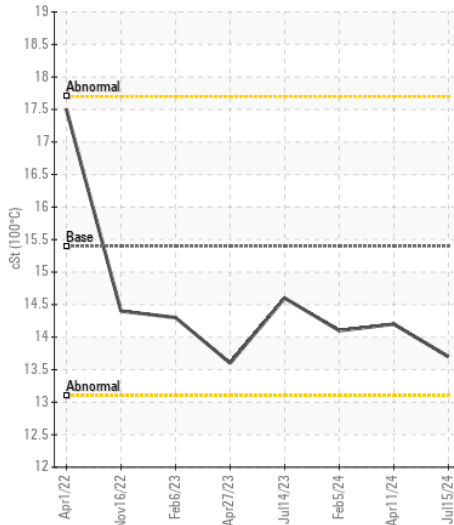
**Non-ferrous Metals**



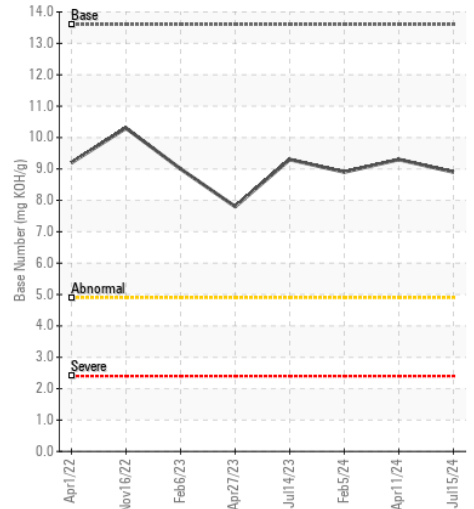
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WE0007958 **Received** : 18 Jul 2024  
**Lab Number** : 06239933 **Tested** : 18 Jul 2024  
**Unique Number** : 11128767 **Diagnosed** : 18 Jul 2024 - Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

**WARRIOR TRACTOR AND EQUIPMENT - NORTHPORT**  
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 US 35476  
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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)