



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



Area  
**[W48650]**  
 Machine Id  
**JOHN DEERE 824K 1DW824KXTHF680767**  
 Component  
**Diesel Engine**  
 Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)**

### RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0180651</b>	JR0180408	JR0180151
Sample Date		Client Info		<b>20 Dec 2023</b>	16 Oct 2023	30 Aug 2023
Machine Age	hrs	Client Info		<b>9291</b>	8567	8140
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>ATTENTION</b>	NORMAL	ATTENTION

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>51	<b>16</b>	15	13
Chromium	ppm	ASTM D5185m	>11	<b>1</b>	1	2
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	0
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>11</b>	15	15
Lead	ppm	ASTM D5185m	>26	<b>7</b>	2	4
Copper	ppm	ASTM D5185m	>26	<b>3</b>	2	<1
Tin	ppm	ASTM D5185m	>4	<b>1</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

Fuel content negligible. No other contaminants were detected in the oil.

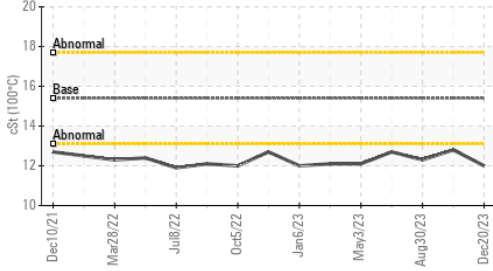
Silicon	ppm	ASTM D5185m	>22	<b>7</b>	7	5
Potassium	ppm	ASTM D5185m	>20	<b>11</b>	8	6
Fuel	%	ASTM D3524	>8.0	<b>4.1</b>	3.9	5.1
Water		WC Method	>0.21	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.2</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.6</b>	8.5	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.6</b>	21.3	22.5
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

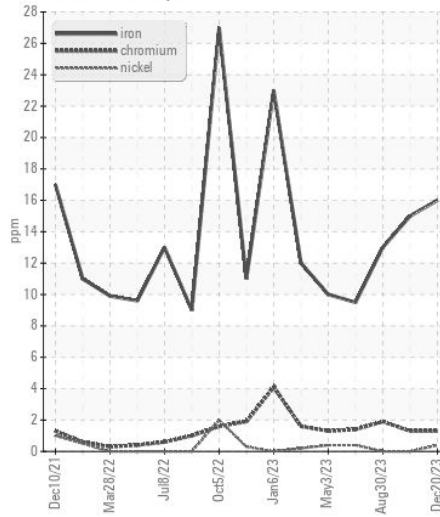
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m	>31	<b>&lt;1</b>	4	2
Boron	ppm	ASTM D5185m		<b>200</b>	214	139
Barium	ppm	ASTM D5185m		<b>3</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>247</b>	243	210
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>782</b>	769	719
Calcium	ppm	ASTM D5185m		<b>1344</b>	1403	1257
Phosphorus	ppm	ASTM D5185m		<b>824</b>	880	713
Zinc	ppm	ASTM D5185m		<b>1012</b>	1041	912
Sulfur	ppm	ASTM D5185m		<b>3223</b>	3013	3157
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.4</b>	15.9	16.7
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>7.5</b>	7.9	7.8
Visc @ 100°C	cSt	ASTM D445	15.4	<b>▲ 12.0</b>	12.8	▲ 12.3

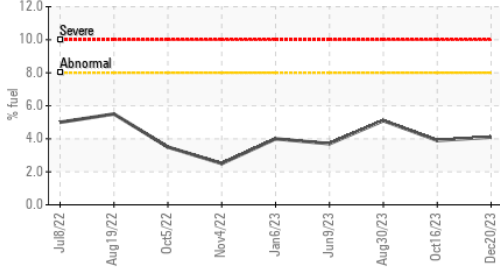
▲ Viscosity @ 100°C



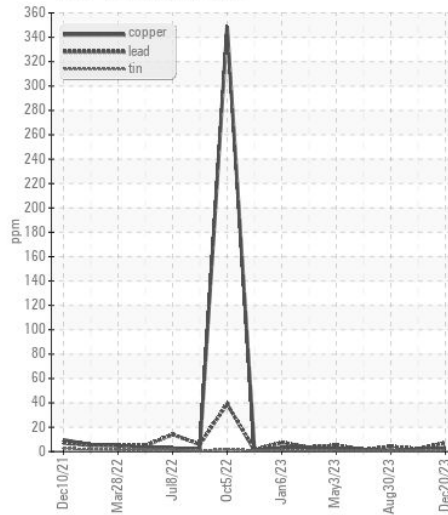
Ferrous Alloys



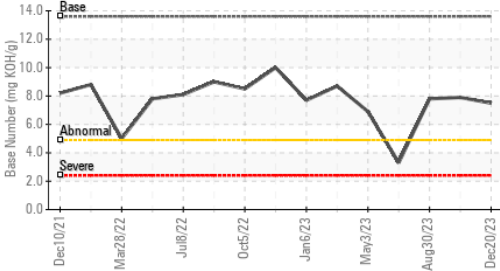
Fuel Dilution



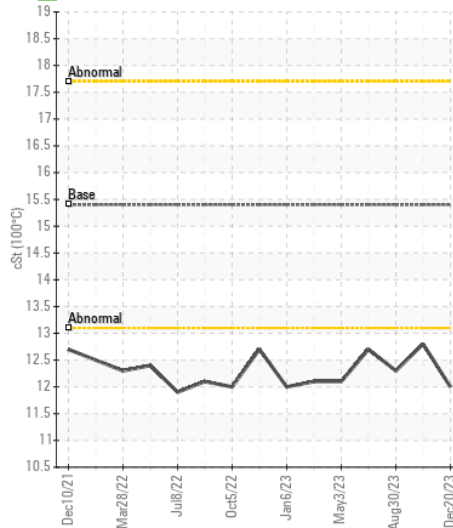
Non-ferrous Metals



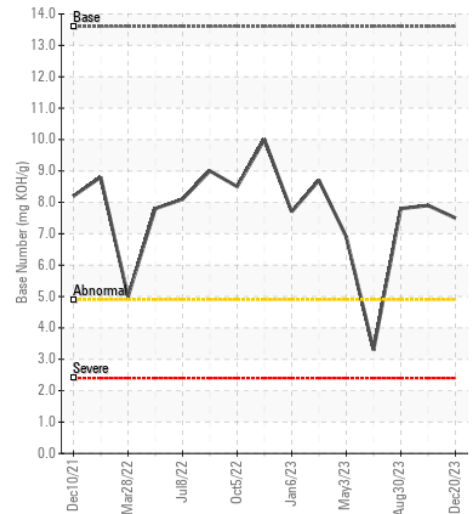
Base Number



▲ Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0180651 **Received** : 12 Jan 2024  
**Lab Number** : 06059144 **Diagnosed** : 16 Jan 2024  
**Unique Number** : 10830526 **Diagnostician** : Don Baldrige  
**Test Package** : CONST ( Additional Tests: FuelDilution, PercentFuel, TBN )

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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