



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



Area  
**[W52449]**  
 Machine Id  
**JOHN DEERE 644K 1DW644KZCHF681183**  
 Component  
**Diesel Engine**  
 Fluid  
**{not provided} (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0150938</b>	JR0143509	JR0134514
Sample Date		Client Info		<b>14 Dec 2022</b>	14 Oct 2022	13 Jul 2022
Machine Age	hrs	Client Info		<b>9609</b>	9323	8804
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>N/A</b>	N/A	Changed
Filter Changed		Client Info		<b>N/A</b>	N/A	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>51	<b>15</b>	24	46
Chromium	ppm	ASTM D5185m	>11	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>31	<b>2</b>	3	4
Lead	ppm	ASTM D5185m	>26	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>26	<b>0</b>	<1	2
Tin	ppm	ASTM D5185m	>4	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	<1
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.

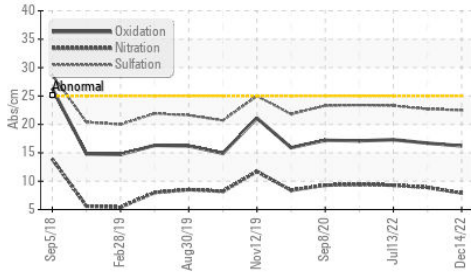
Silicon	ppm	ASTM D5185m	>22	<b>6</b>	6	6
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	0
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.21	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.9</b>	8.9	9.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.5</b>	22.7	23.3
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

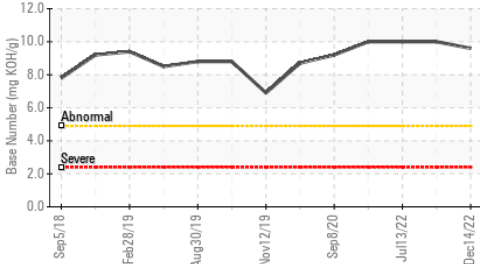
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>31	<b>1</b>	<1	2
Boron	ppm	ASTM D5185m		<b>268</b>	228	241
Barium	ppm	ASTM D5185m		<b>0</b>	0	5
Molybdenum	ppm	ASTM D5185m		<b>231</b>	237	261
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>751</b>	791	791
Calcium	ppm	ASTM D5185m		<b>1435</b>	1484	1503
Phosphorus	ppm	ASTM D5185m		<b>893</b>	895	891
Zinc	ppm	ASTM D5185m		<b>1046</b>	1064	1107
Sulfur	ppm	ASTM D5185m		<b>3476</b>	3576	3528
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.2</b>	16.7	17.3
Base Number (BN)	mg KOH/g	ASTM D2896		<b>9.6</b>	10.0	10.0
Visc @ 100°C	cSt	ASTM D445		<b>13.5</b>	13.5	13.3

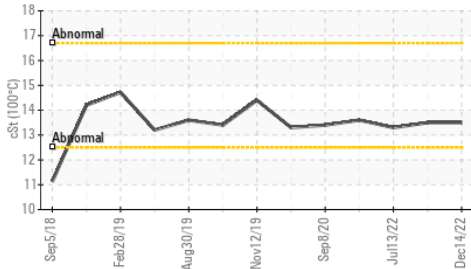
**FT-IR (Direct Trend)**



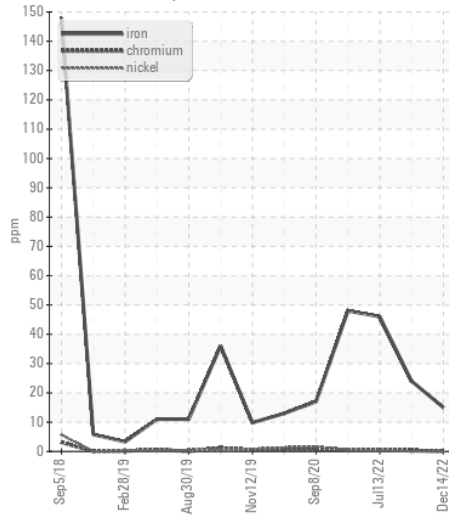
**Base Number**



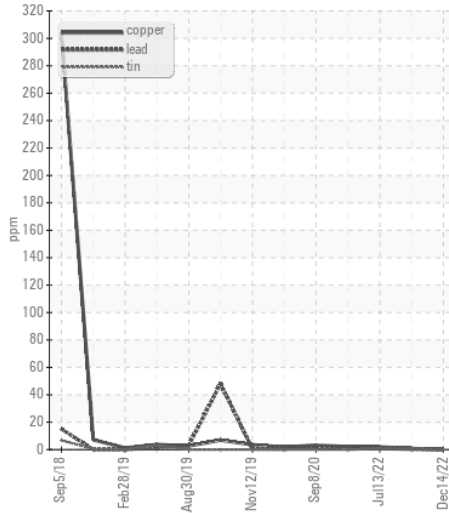
**Viscosity @ 100°C**



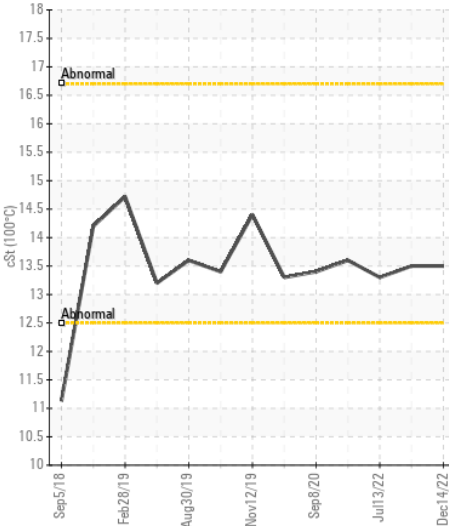
**Ferrous Alloys**



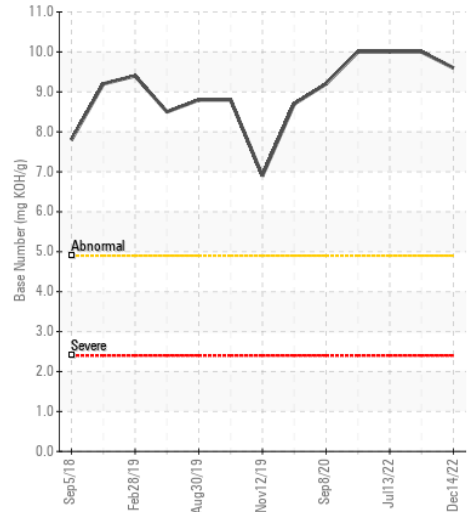
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513

**Sample No.** : JR0150938

**Lab Number** : 05722932

**Unique Number** : 10267513

**Test Package** : CONST ( Additional Tests: TBN )

**Received** : 21 Dec 2022

**Tested** : 22 Dec 2022

**Diagnosed** : 22 Dec 2022 - Wes Davis

**JRE - CHARLOTTE**

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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)