



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



Machine Id  
**JOHN DEERE 644K 1DW644KZAED661834**  
Component  
**Diesel Engine**  
Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0212445</b>	JR0197515	JR0175156
Sample Date		Client Info		<b>18 Apr 2024</b>	15 Jan 2024	18 May 2023
Machine Age	hrs	Client Info		<b>11523</b>	11098	10147
Oil Age	hrs	Client Info		<b>425</b>	951	500
Filter Age	hrs	Client Info		<b>0</b>	0	500
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>13</b>	12	14
Chromium	ppm	ASTM D5185m	>11	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	0	<1
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>	3	3
Lead	ppm	ASTM D5185m	>26	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>26	<b>2</b>	<1	0
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	<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

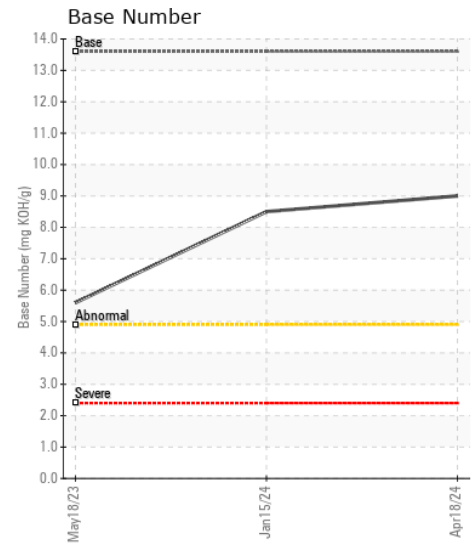
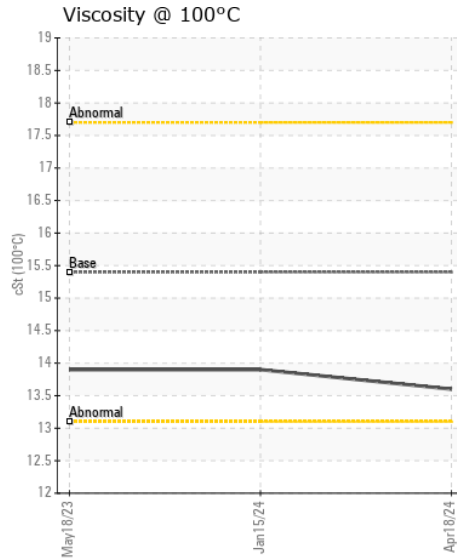
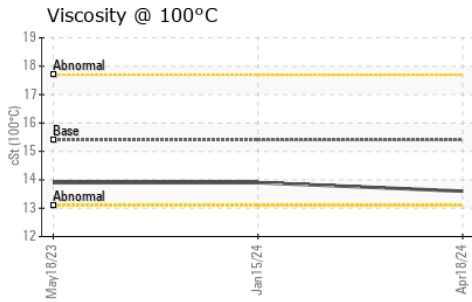
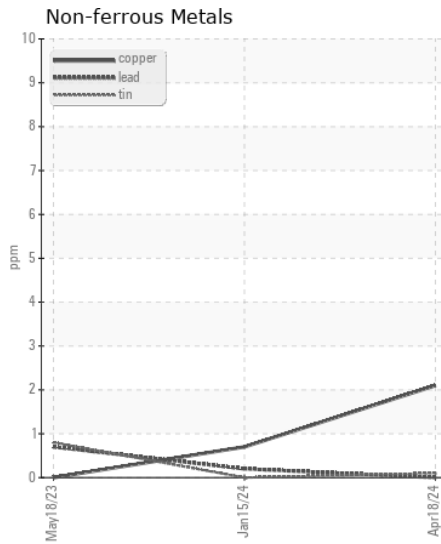
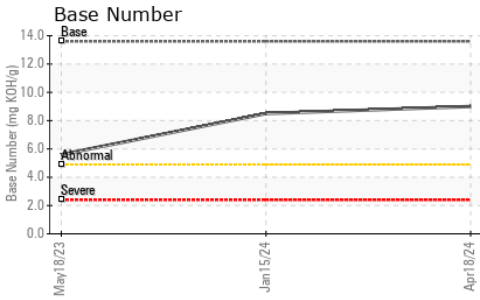
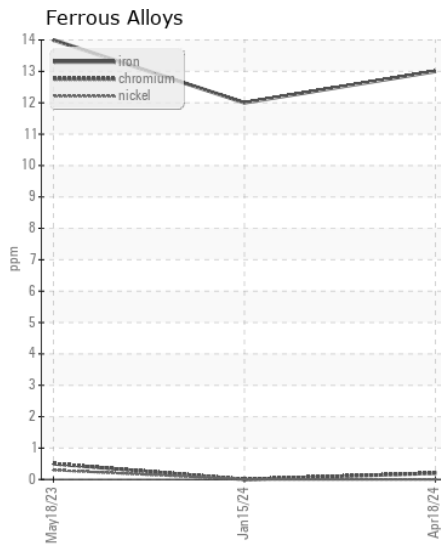
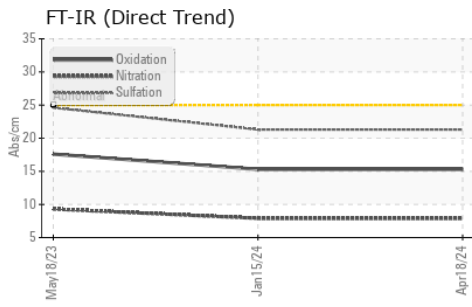
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>22	<b>6</b>	6	3
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	7
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>	0.4	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.9</b>	7.9	9.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.3</b>	21.3	24.6
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>	<1	2
Boron	ppm	ASTM D5185m		<b>304</b>	253	101
Barium	ppm	ASTM D5185m		<b>2</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>257</b>	246	10
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>837</b>	875	48
Calcium	ppm	ASTM D5185m		<b>1480</b>	1467	2354
Phosphorus	ppm	ASTM D5185m		<b>956</b>	884	1075
Zinc	ppm	ASTM D5185m		<b>1094</b>	1112	1331
Sulfur	ppm	ASTM D5185m		<b>3506</b>	3089	4650
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.3</b>	15.3	17.6
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>9.0</b>	8.5	5.6
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.6</b>	13.9	13.9



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0212445 **Received** : 22 Apr 2024  
**Lab Number** : 06155671 **Tested** : 23 Apr 2024  
**Unique Number** : 10991094 **Diagnosed** : 24 Apr 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: TBN )

**JRE - GARNER**  
 4161 AUBURN CHURCH RD  
 GARNER, NC  
 US 27529

Contact: RALEIGH SHOP  
 sean.betts@jamesriverequipment.com; catherine.anastasio@wearcheck.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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