



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

Machine Id  
**JOHN DEERE 291291**  
 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>JR0213017</b>	JR0085698	JR0046795
Sample Date		Client Info		<b>10 Apr 2024</b>	21 Apr 2021	28 Apr 2020
Machine Age	hrs	Client Info		<b>2580</b>	1230	453
Oil Age	hrs	Client Info		<b>500</b>	500	453
Filter Age	hrs	Client Info		<b>500</b>	500	453
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	ABNORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>51	<b>32</b>	18	25
Chromium	ppm	ASTM D5185m	>11	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>1</b>	<1	1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	11
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>31	<b>6</b>	8	4
Lead	ppm	ASTM D5185m	>26	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m	>26	<b>2</b>	1	6
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

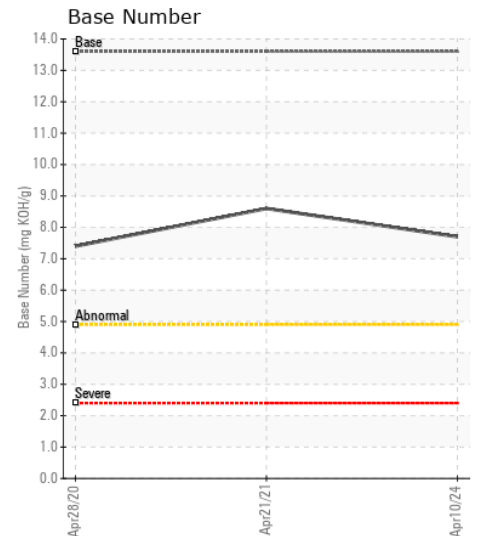
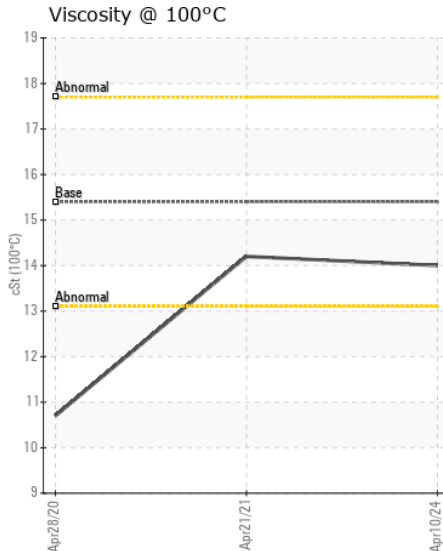
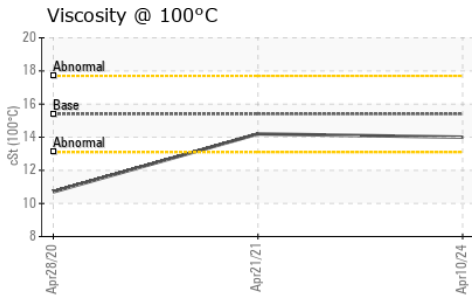
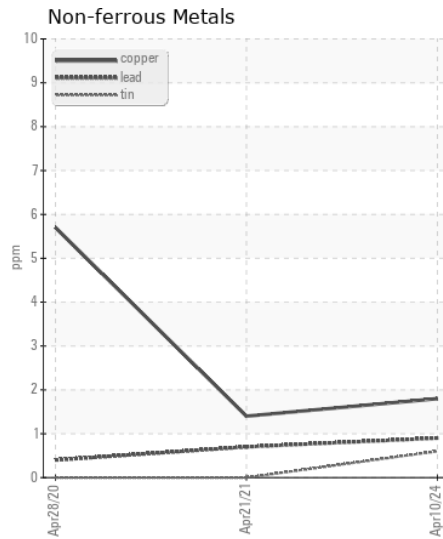
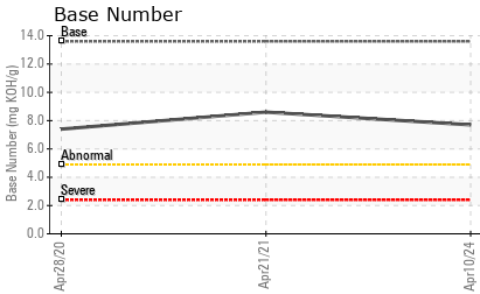
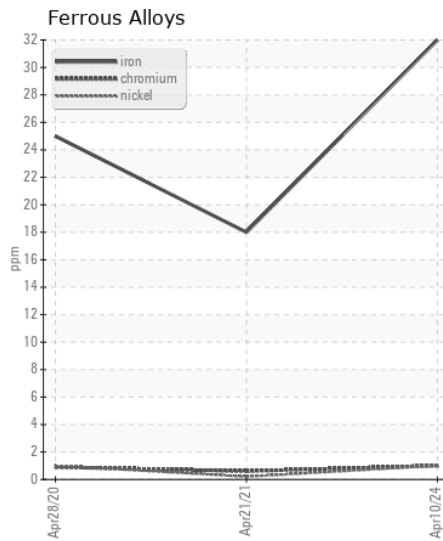
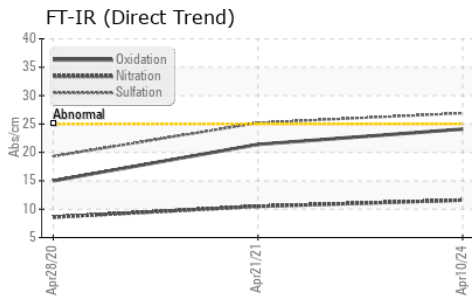
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>22	<b>18</b>	17	49
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	36	▲ 214
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>0.5</b>	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.6</b>	10.5	8.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>26.9</b>	25.2	19.3
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>3</b>	3	10
Boron	ppm	ASTM D5185m		<b>97</b>	169	204
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	2
Molybdenum	ppm	ASTM D5185m		<b>255</b>	214	167
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>848</b>	724	62
Calcium	ppm	ASTM D5185m		<b>1553</b>	1641	2659
Phosphorus	ppm	ASTM D5185m		<b>889</b>	875	714
Zinc	ppm	ASTM D5185m		<b>1068</b>	1057	896
Sulfur	ppm	ASTM D5185m		<b>3442</b>	2433	2148
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>24.1</b>	21.4	15
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>7.7</b>	8.6	7.4
Visc @ 100°C	cSt	ASTM D445	15.4	<b>14.0</b>	14.2	10.7



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0213017 **Received** : 11 Apr 2024  
**Lab Number** : 06145569 **Tested** : 12 Apr 2024  
**Unique Number** : 10970377 **Diagnosed** : 14 Apr 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: TBN )

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

Contact: RALEIGH SHOP  
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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)

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