



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

Machine Id  
**EPIROC TMG21SED0180**

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>JR0205523</b>	JR0187961	---
Sample Date		Client Info		<b>13 Mar 2024</b>	08 Nov 2023	---
Machine Age	hrs	Client Info		<b>30422</b>	3500	---
Oil Age	hrs	Client Info		<b>26922</b>	3500	---
Filter Age	hrs	Client Info		<b>0</b>	0	---
Oil Changed		Client Info		<b>Changed</b>	Changed	---
Filter Changed		Client Info		<b>Changed</b>	Changed	---
Sample Status				<b>NORMAL</b>	MARGINAL	---

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>13</b>	16	---
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	<1	---
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	---
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	---
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	---
Aluminum	ppm	ASTM D5185m	>20	<b>&lt;1</b>	7	---
Lead	ppm	ASTM D5185m	>40	<b>0</b>	2	---
Copper	ppm	ASTM D5185m	>330	<b>4</b>	8	---
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

### CONTAMINATION

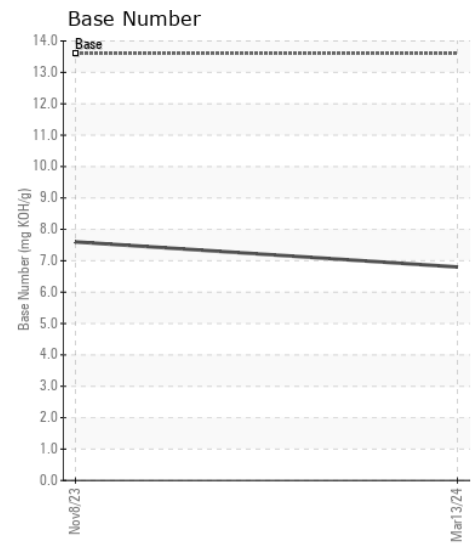
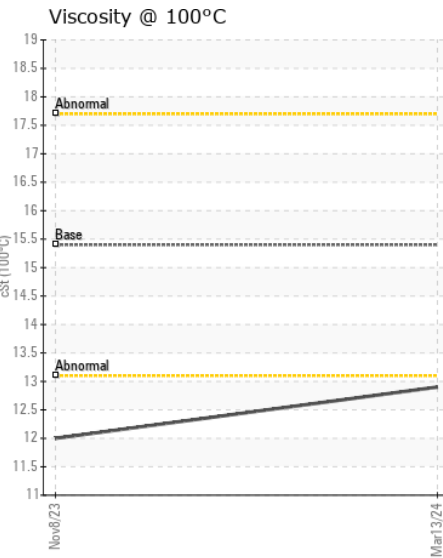
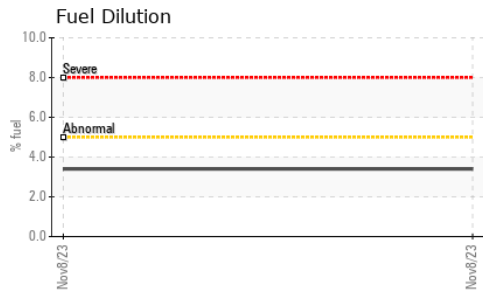
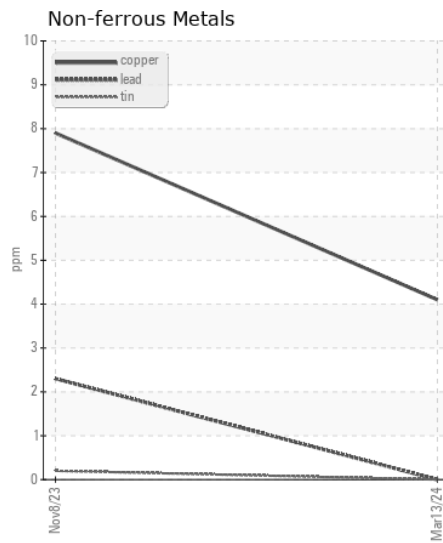
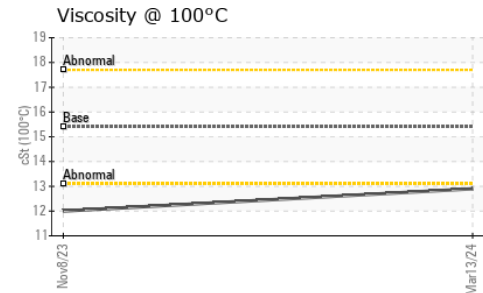
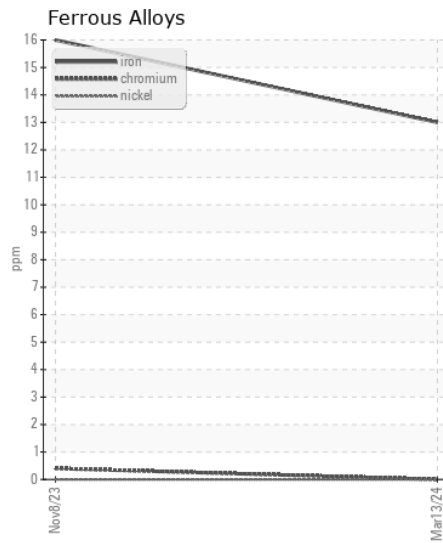
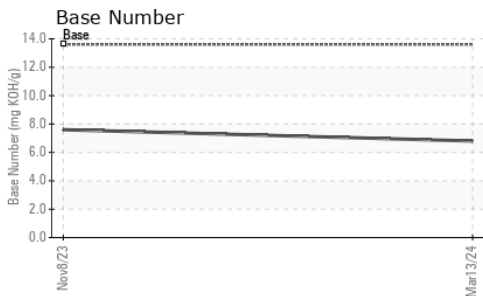
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	11	---
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	6	---
Fuel	%	ASTM D3524	>5	<b>&lt;1.0</b>	▲ 3.4	---
Water		WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol		WC Method		<b>NEG</b>	NEG	---
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.4	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.9</b>	9.2	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.6</b>	23.8	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	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		<b>&lt;1</b>	<1	---
Boron	ppm	ASTM D5185m		<b>39</b>	95	---
Barium	ppm	ASTM D5185m		<b>0</b>	7	---
Molybdenum	ppm	ASTM D5185m		<b>51</b>	261	---
Manganese	ppm	ASTM D5185m		<b>0</b>	0	---
Magnesium	ppm	ASTM D5185m		<b>288</b>	807	---
Calcium	ppm	ASTM D5185m		<b>1997</b>	1438	---
Phosphorus	ppm	ASTM D5185m		<b>981</b>	840	---
Zinc	ppm	ASTM D5185m		<b>1132</b>	1022	---
Sulfur	ppm	ASTM D5185m		<b>3847</b>	3279	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.5</b>	17.8	---
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>6.8</b>	7.6	---
Visc @ 100°C	cSt	ASTM D445	15.4	<b>12.9</b>	12.0	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0205523 **Received** : 19 Mar 2024  
**Lab Number** : 06122063 **Tested** : 19 Mar 2024  
**Unique Number** : 10936214 **Diagnosed** : 19 Mar 2024 - Jonathan Hester  
**Test Package** : CONST ( Additional Tests: FuelDilution, TBN )

**JRE - CHARLOTTE**  
 9550 STATESVILLE ROAD  
 CHARLOTTE, NC  
 US 28269

Contact: CHARLOTTE SHOP  
 myoung@jamesriverequipment.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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