



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



Machine Id  
**JOHN DEERE 310SE JR 0137448 (S/N NOT GIVEN)**  
 Component  
**Diesel Engine**  
 Fluid  
**{not provided} (--- QTS)**

### RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil and perform a filter service on this component if not already done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. 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>JR0137448</b>	---	---
Sample Date		Client Info		<b>28 Sep 2023</b>	---	---
Machine Age	hrs	Client Info		<b>5893</b>	---	---
Oil Age	hrs	Client Info		<b>0</b>	---	---
Filter Age	hrs	Client Info		<b>0</b>	---	---
Oil Changed		Client Info		<b>N/A</b>	---	---
Filter Changed		Client Info		<b>N/A</b>	---	---
Sample Status				<b>SEVERE</b>	---	---

### WEAR

Piston and cylinder wear is indicated. Bearing and/or bushing wear is indicated.

Iron	ppm	ASTM D5185m	>51	<b>▲ 680</b>	---	---
Chromium	ppm	ASTM D5185m	>11	<b>1</b>	---	---
Nickel	ppm	ASTM D5185m	>5	<b>2</b>	---	---
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
Silver	ppm	ASTM D5185m	>3	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185m	>31	<b>▲ 159</b>	---	---
Lead	ppm	ASTM D5185m	>26	<b>▲ 69</b>	---	---
Copper	ppm	ASTM D5185m	>26	<b>12</b>	---	---
Tin	ppm	ASTM D5185m	>4	<b>▲ 14</b>	---	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---

### CONTAMINATION

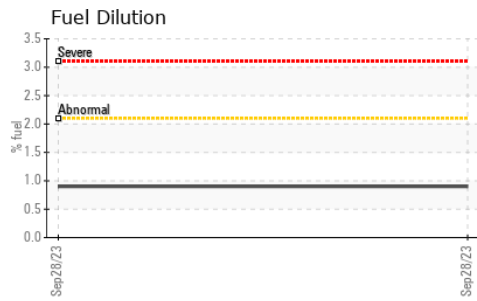
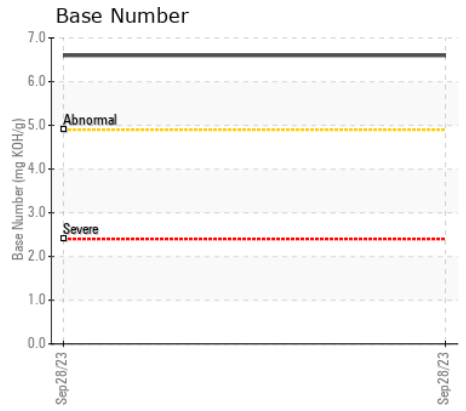
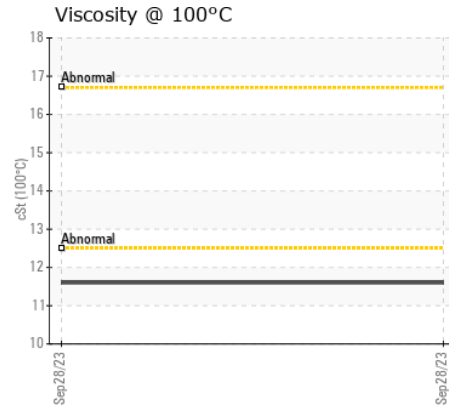
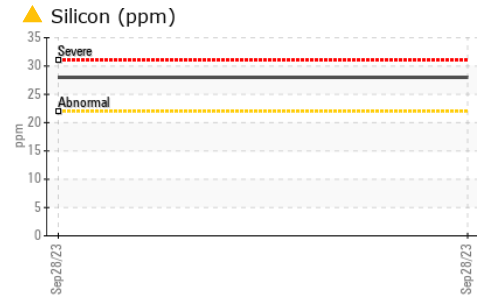
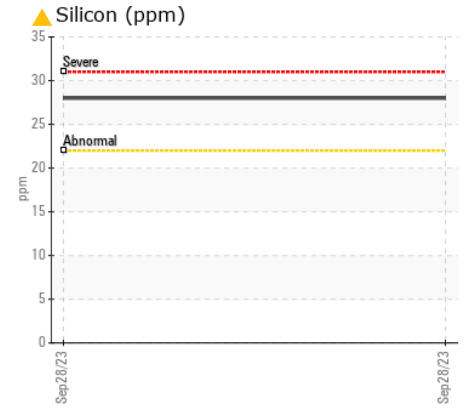
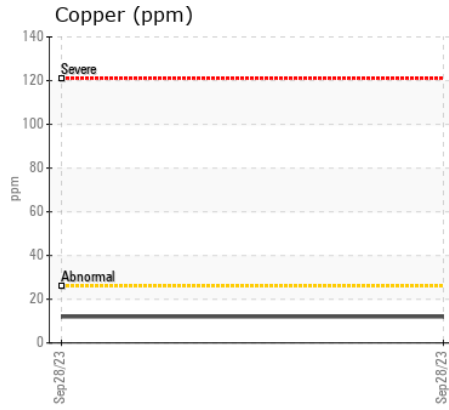
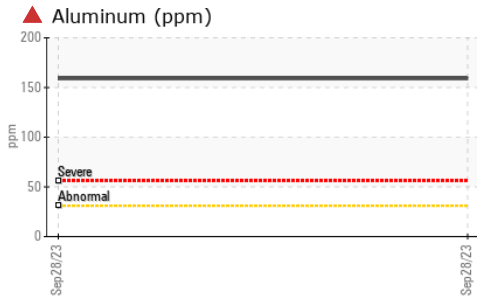
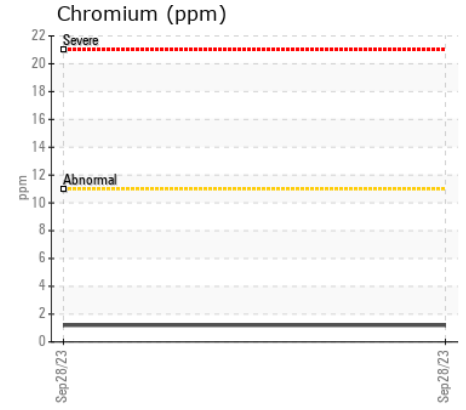
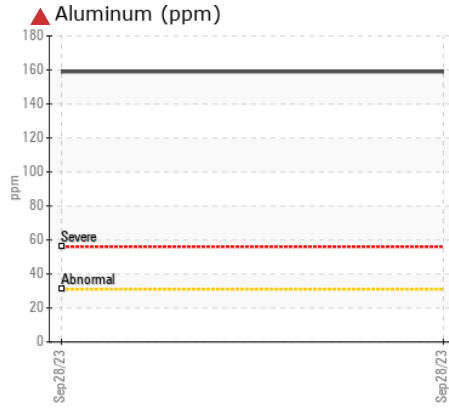
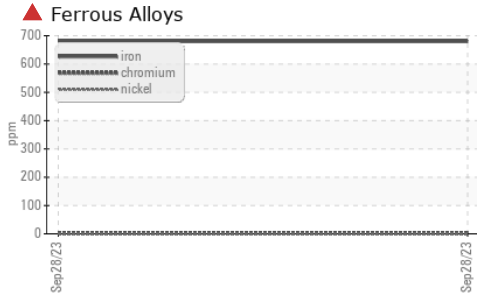
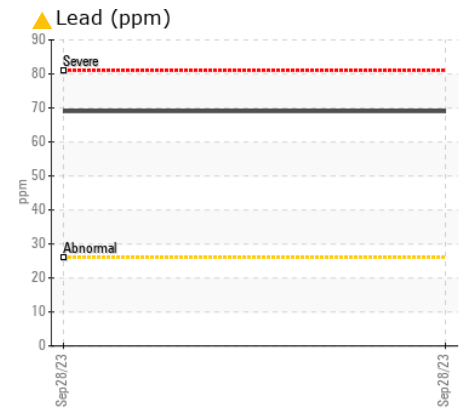
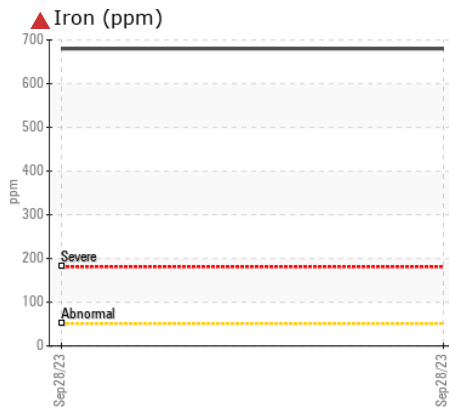
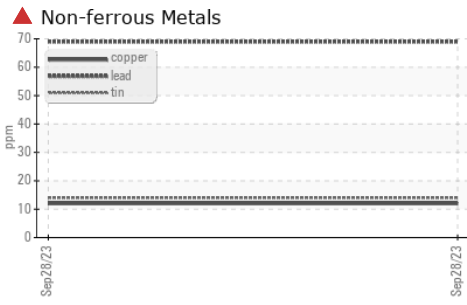
Fuel content negligible. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>22	<b>▲ 28</b>	---	---
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	---	---
Fuel	%	ASTM D3524	>2.1	<b>0.9</b>	---	---
Water		WC Method	>0.21	<b>NEG</b>	---	---
Glycol		WC Method		<b>NEG</b>	---	---
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	---	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.8</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.8</b>	---	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	---	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	---	---
Emulsified Water	scalar	*Visual	>0.21	<b>NEG</b>	---	---

### FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185m	>31	<b>6</b>	---	---
Boron	ppm	ASTM D5185m		<b>185</b>	---	---
Barium	ppm	ASTM D5185m		<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m		<b>126</b>	---	---
Manganese	ppm	ASTM D5185m		<b>8</b>	---	---
Magnesium	ppm	ASTM D5185m		<b>407</b>	---	---
Calcium	ppm	ASTM D5185m		<b>1469</b>	---	---
Phosphorus	ppm	ASTM D5185m		<b>797</b>	---	---
Zinc	ppm	ASTM D5185m		<b>959</b>	---	---
Sulfur	ppm	ASTM D5185m		<b>3470</b>	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>11.8</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		<b>6.6</b>	---	---
Visc @ 100°C	cSt	ASTM D445		<b>11.6</b>	---	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0137448 **Received** : 29 Sep 2023  
**Lab Number** : 05965146 **Tested** : 03 Oct 2023  
**Unique Number** : 10671697 **Diagnosed** : 03 Oct 2023 - Jonathan Hester  
**Test Package** : MOBCE ( 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)

**JRE - WILKESBORO**  
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