



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



Machine Id  
**JOHN DEERE 310E 1DW310EXLMF711960**  
Component  
**Rear Differential**  
Fluid  
**JOHN DEERE HY-GARD HYD/TRANS (--- GAL)**

### RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0212932</b>	JR0190835	JR0185934
Sample Date		Client Info		<b>10 Apr 2024</b>	20 Nov 2023	01 Sep 2023
Machine Age	hrs	Client Info		<b>3482</b>	3012	2532
Oil Age	hrs	Client Info		<b>2499</b>	3012	503
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Changed</b>	Not Changed	Not Changed
Filter Changed		Client Info		<b>Not Changed</b>	Not Changed	Not Changed
Sample Status				<b>ABNORMAL</b>	ABNORMAL	NORMAL

### WEAR

The copper level is abnormal. All other component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184		<b>122</b>	64	79
Iron	ppm	ASTM D5185m	>500	<b>189</b>	127	151
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	1
Nickel	ppm	ASTM D5185m	>10	<b>2</b>	2	2
Titanium	ppm	ASTM D5185m		<b>0</b>	0	<1
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>1</b>	2	10
Lead	ppm	ASTM D5185m	>25	<b>12</b>	10	9
Copper	ppm	ASTM D5185m	>100	<b>▲ 307</b>	▲ 260	201
Tin	ppm	ASTM D5185m	>10	<b>10</b>	9	7
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

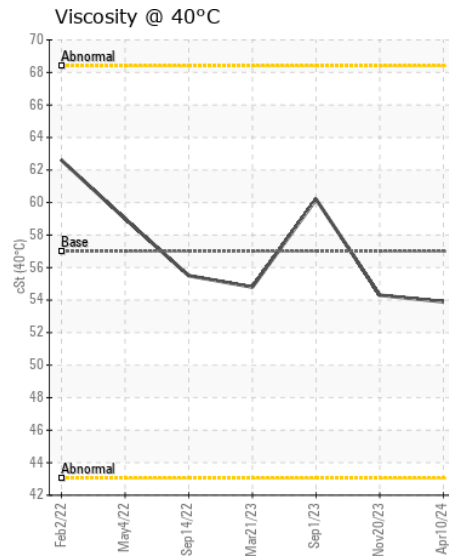
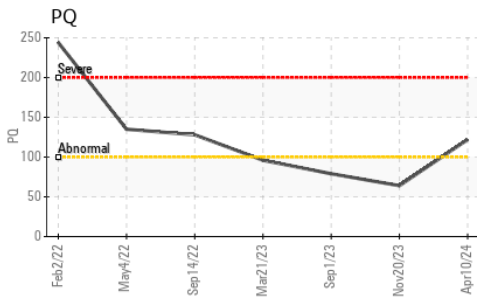
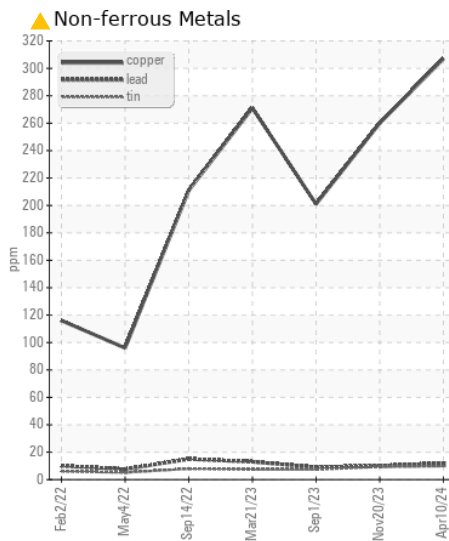
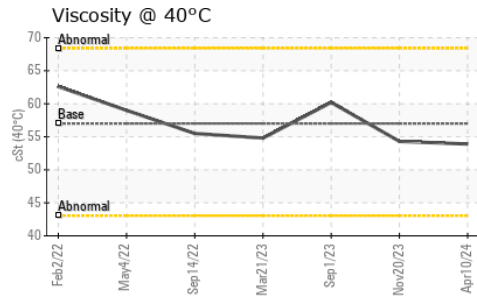
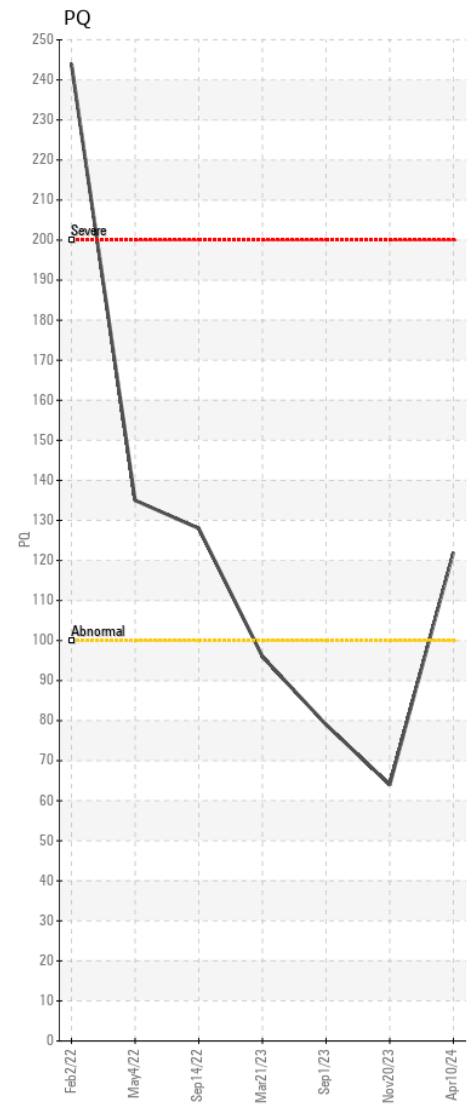
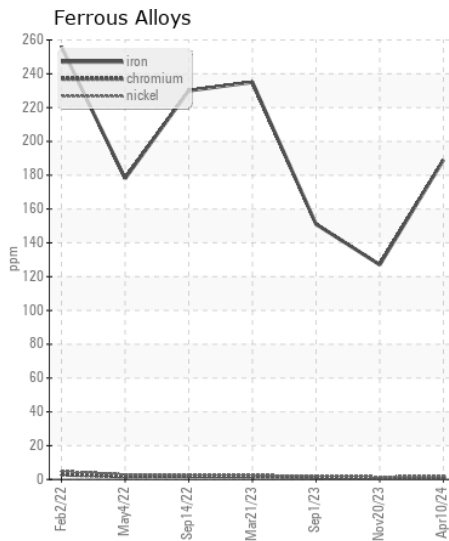
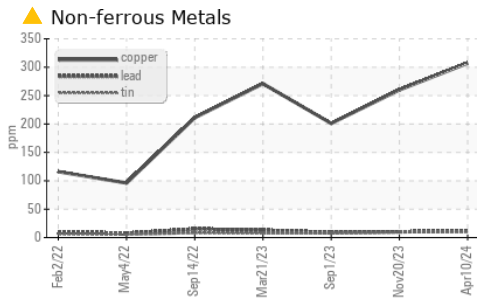
There is no indication of any contamination in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Silicon	ppm	ASTM D5185m	>75	<b>11</b>	9	17
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	2
Water		WC Method	>.2	<b>NEG</b>	NEG	NEG
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	LIGHT
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	>.2	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sodium	ppm	ASTM D5185m		<b>4</b>	3	4
Boron	ppm	ASTM D5185m	6	<b>10</b>	9	11
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	2
Molybdenum	ppm	ASTM D5185m	0	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m		<b>10</b>	9	14
Magnesium	ppm	ASTM D5185m	145	<b>83</b>	89	90
Calcium	ppm	ASTM D5185m	3570	<b>3117</b>	3331	3504
Phosphorus	ppm	ASTM D5185m	1290	<b>959</b>	1024	1047
Zinc	ppm	ASTM D5185m	1640	<b>1168</b>	1260	1282
Sulfur	ppm	ASTM D5185m		<b>3665</b>	3435	3784
Visc @ 40°C	cSt	ASTM D445	57.0	<b>53.9</b>	54.3	60.2



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0212932 **Received** : 11 Apr 2024  
**Lab Number** : 06146148 **Tested** : 12 Apr 2024  
**Unique Number** : 10976226 **Diagnosed** : 15 Apr 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: PQ )

**JRE - GARNER**  
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Certificate L2367  
 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)