



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



Machine Id  
**JOHN DEERE 310E 1DW310EXJKF697842**  
Component  
**Rear Differential**  
Fluid  
**JOHN DEERE HY-GARD HYD/TRANS (--- GAL)**

### RECOMMENDATION

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0202817</b>	JR0191021	JR0161773
Sample Date		Client Info		<b>20 May 2024</b>	30 Nov 2023	15 Apr 2023
Machine Age	hrs	Client Info		<b>3990</b>	3649	0
Oil Age	hrs	Client Info		<b>0</b>	3649	1000
Filter Age	hrs	Client Info		<b>0</b>	0	1000
Oil Changed		Client Info		<b>Changed</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Changed</b>	Not Changd	Changed
Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

### WEAR

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

PQ		ASTM D8184		<b>264</b>	190	156
Iron	ppm	ASTM D5185m	>500	<b>620</b>	563	502
Chromium	ppm	ASTM D5185m	>10	<b>2</b>	2	2
Nickel	ppm	ASTM D5185m	>10	<b>&lt;1</b>	2	3
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>	1	4
Lead	ppm	ASTM D5185m	>25	<b>3</b>	0	0
Copper	ppm	ASTM D5185m	>100	<b>▲ 426</b>	▲ 446	▲ 400
Tin	ppm	ASTM D5185m	>10	<b>9</b>	9	8
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	MODER
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

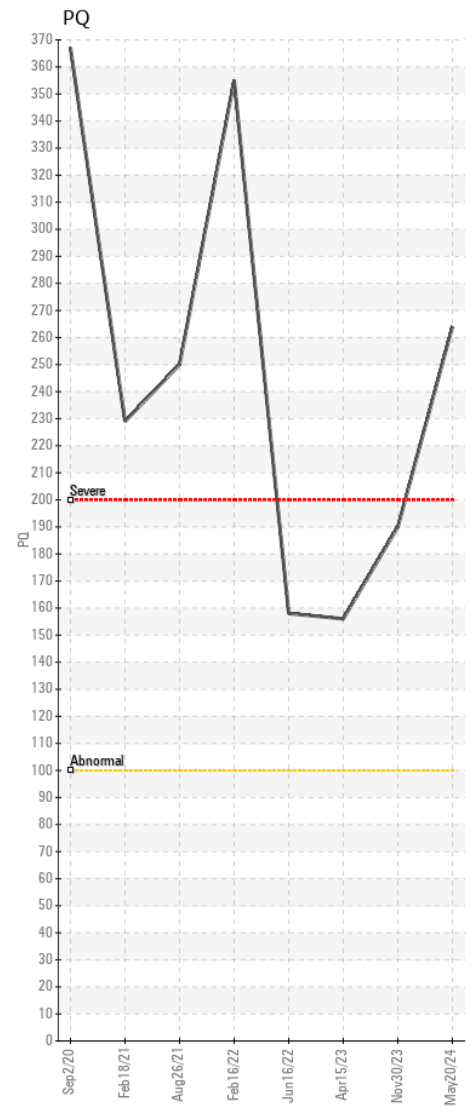
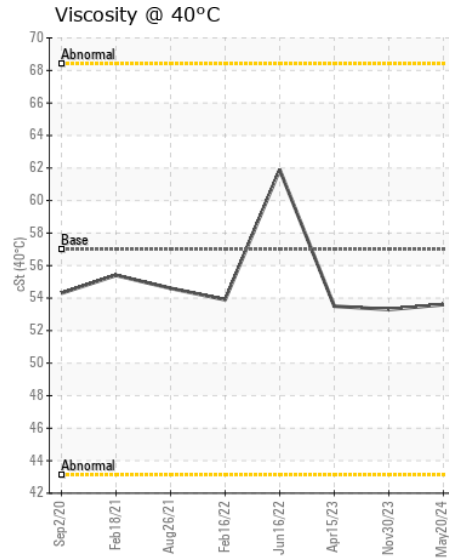
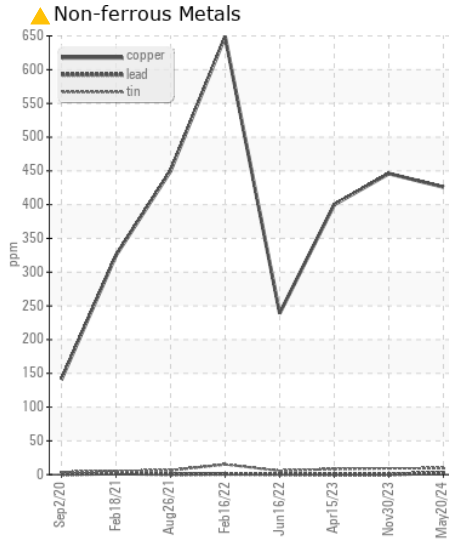
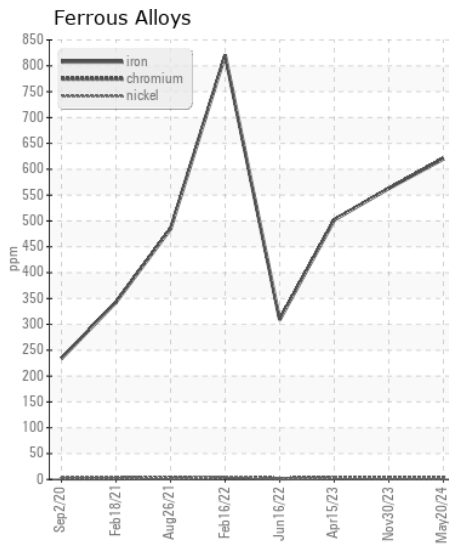
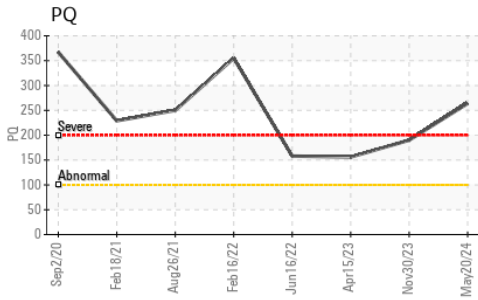
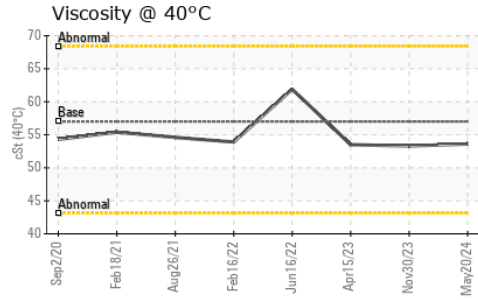
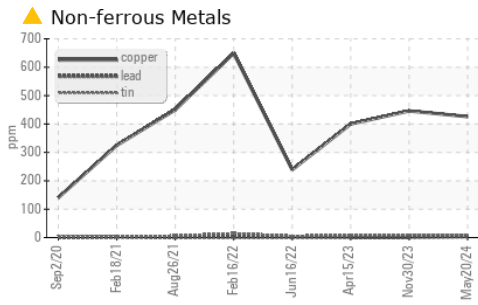
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>75	<b>14</b>	13	16
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>	LIGHT	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	▲ MODER
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.

Sodium	ppm	ASTM D5185m		<b>2</b>	5	2
Boron	ppm	ASTM D5185m	6	<b>6</b>	8	10
Barium	ppm	ASTM D5185m	0	<b>2</b>	0	2
Molybdenum	ppm	ASTM D5185m	0	<b>2</b>	2	3
Manganese	ppm	ASTM D5185m		<b>9</b>	9	9
Magnesium	ppm	ASTM D5185m	145	<b>83</b>	84	98
Calcium	ppm	ASTM D5185m	3570	<b>2805</b>	3038	3450
Phosphorus	ppm	ASTM D5185m	1290	<b>965</b>	951	1110
Zinc	ppm	ASTM D5185m	1640	<b>1139</b>	1148	1343
Sulfur	ppm	ASTM D5185m		<b>3578</b>	3019	4166
Visc @ 40°C	cSt	ASTM D445	57.0	<b>53.6</b>	53.3	53.5



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0202817 **Received** : 21 May 2024  
**Lab Number** : 06186421 **Tested** : 22 May 2024  
**Unique Number** : 11043173 **Diagnosed** : 23 May 2024 - Sean Felton  
**Test Package** : CONST ( Additional Tests: PQ )

**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)

T: (919)614-2260  
 F: (919)779-5432