



Area

[W68111]

Machine Id

JOHN DEERE 310E 1DW310EXKHF682023

Component

Center Differential

Fluid

JOHN DEERE HY-GARD HYDRAULIC/RANSMISSION (10 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. (Customer Sample Comment: W68111)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0219758	JR0142335	JR0150153
Sample Date		Client Info		25 Jun 2024	07 Mar 2023	03 Nov 2022
Machine Age	hrs	Client Info		7837	5093	4483
Oil Age	hrs	Client Info		2744	500	0
Filter Age	hrs	Client Info		0	500	0
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

Gear wear is indicated. Bearing and/or bushing wear is indicated.

PQ		ASTM D8184		407	278	5
Iron	ppm	ASTM D5185m	>500	▲ 1285	637	2
Chromium	ppm	ASTM D5185m	>10	8	4	0
Nickel	ppm	ASTM D5185m	>10	6	6	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	7	7	<1
Lead	ppm	ASTM D5185m	>25	<1	<1	0
Copper	ppm	ASTM D5185m	>100	▲ 261	▲ 149	0
Tin	ppm	ASTM D5185m	>10	10	7	0
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	MODER	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

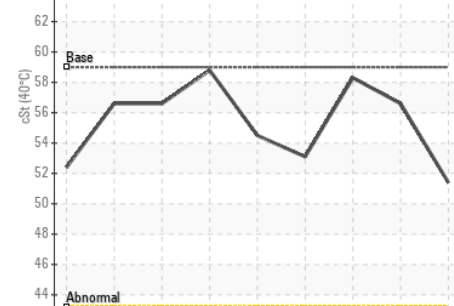
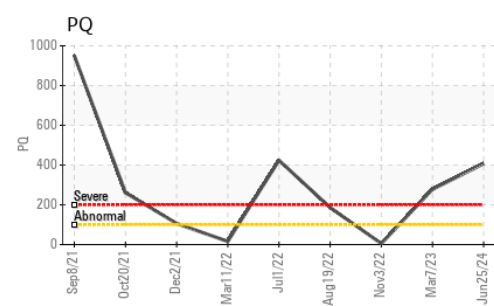
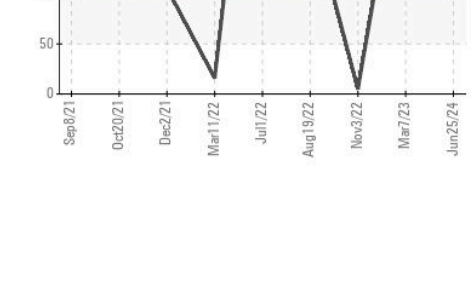
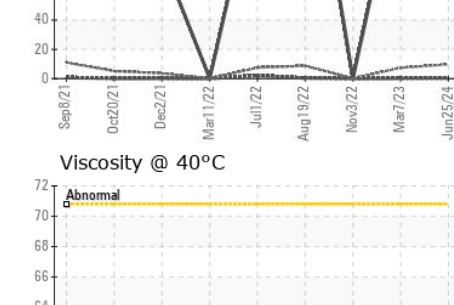
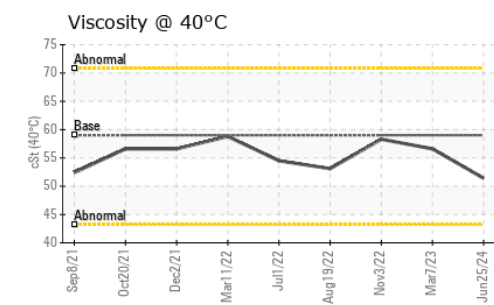
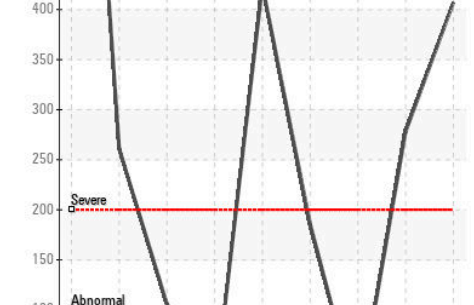
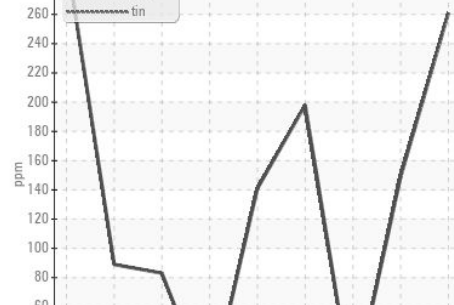
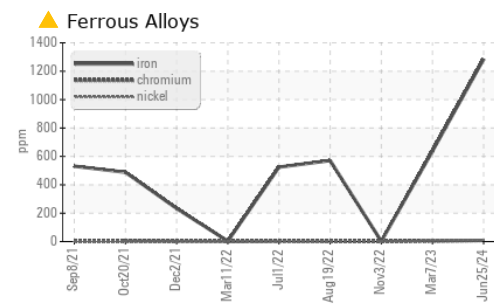
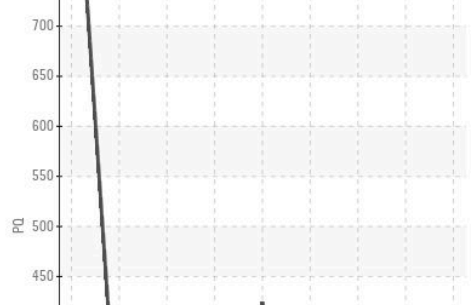
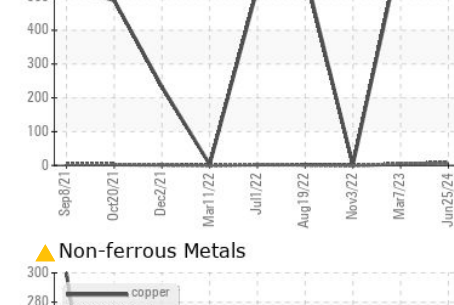
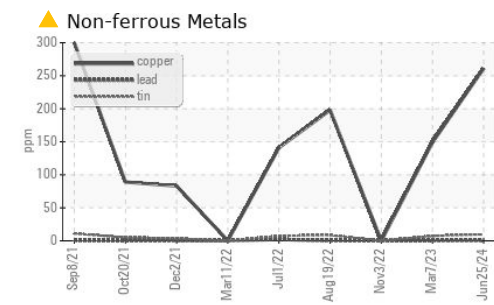
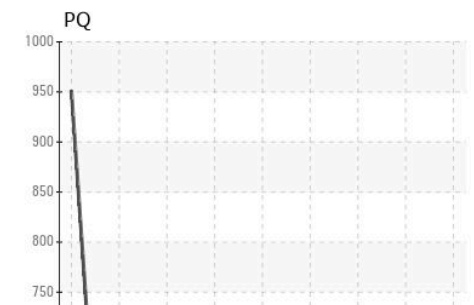
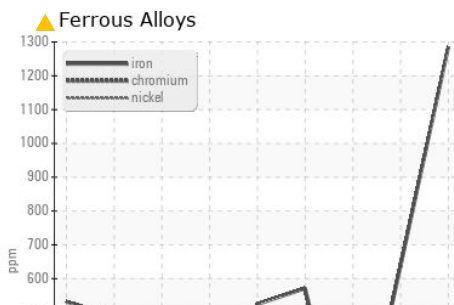
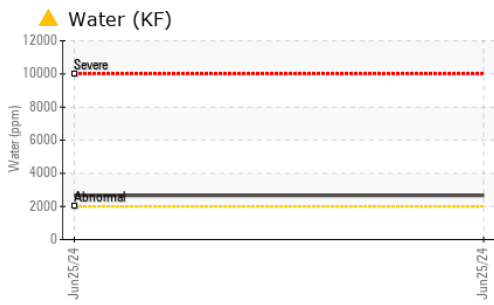
There is a light concentration of water present in the oil.

Silicon	ppm	ASTM D5185m	>75	14	11	6
Potassium	ppm	ASTM D5185m	>20	2	2	2
Water	%	ASTM D6304	>.2	▲ 0.266	---	---
ppm Water	ppm	ASTM D6304	>2000	▲ 2660	---	---
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>.2	0.2%	NEG	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		5	9	0
Boron	ppm	ASTM D5185m		17	23	2
Barium	ppm	ASTM D5185m		2	0	1
Molybdenum	ppm	ASTM D5185m		4	4	<1
Manganese	ppm	ASTM D5185m		14	9	<1
Magnesium	ppm	ASTM D5185m		92	91	95
Calcium	ppm	ASTM D5185m		3679	3649	3532
Phosphorus	ppm	ASTM D5185m		1191	1088	996
Zinc	ppm	ASTM D5185m		1389	1378	1219
Sulfur	ppm	ASTM D5185m		4517	4108	4068
Visc @ 40°C	cSt	ASTM D445	59	51.4	56.6	58.3



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0219758 **Received** : 27 Jun 2024
Lab Number : 06222536 **Tested** : 28 Jun 2024
Unique Number : 11100733 **Diagnosed** : 28 Jun 2024 - Angela Borella
Test Package : CONST (Additional Tests: KF, PQ)

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 F: (704)596-6198

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)