



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
JOHN DEERE 310E 1DW310EXPNF713863
Component
Middle Differential
Fluid
JOHN DEERE HY-GARD HYD/TRANS (24 QTS)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. 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		JR0199332	JR0183873	JR0174828
Sample Date		Client Info		17 Jan 2024	24 Aug 2023	23 May 2023
Machine Age	hrs	Client Info		1969	1447	944
Oil Age	hrs	Client Info		978	959	488
Filter Age	hrs	Client Info		978	959	488
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Not Changd	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

Bearing and/or bushing wear is indicated.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184		175	148	157
Iron	ppm	ASTM D5185m	>500	334	217	194
Chromium	ppm	ASTM D5185m	>10	2	2	2
Nickel	ppm	ASTM D5185m	>10	8	3	5
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m		0	<1	0
Aluminum	ppm	ASTM D5185m	>25	2	4	2
Lead	ppm	ASTM D5185m	>25	▲ 16	12	6
Copper	ppm	ASTM D5185m	>100	▲ 164	▲ 120	89
Tin	ppm	ASTM D5185m	>10	▲ 10	7	7
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	LIGHT	MODER
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

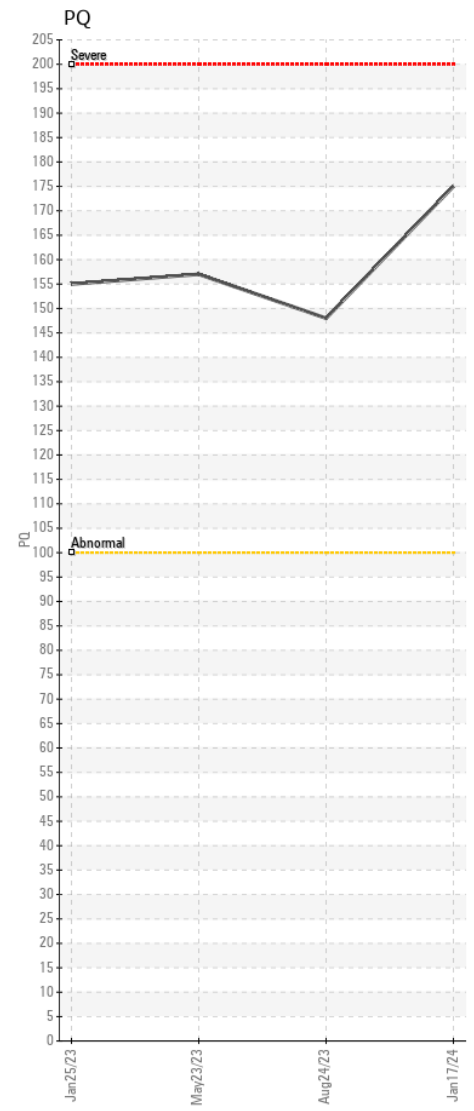
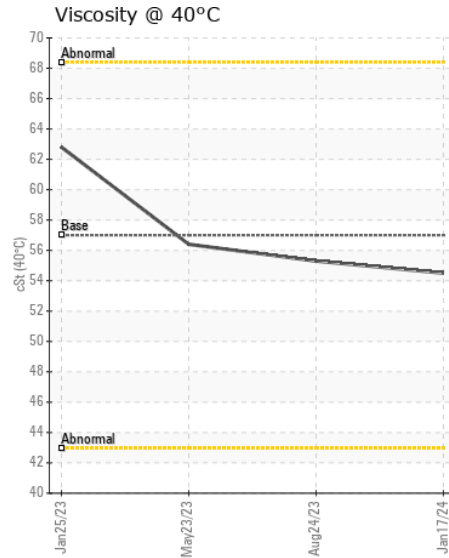
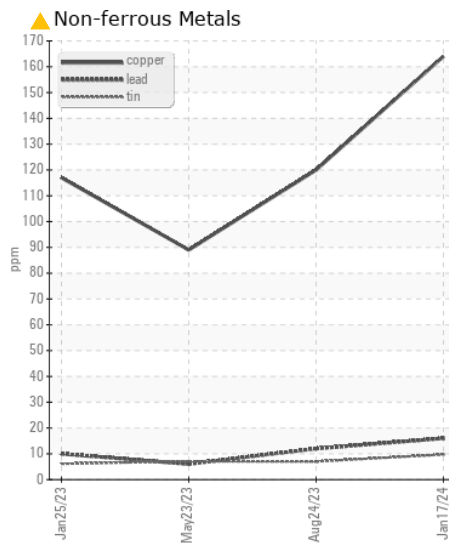
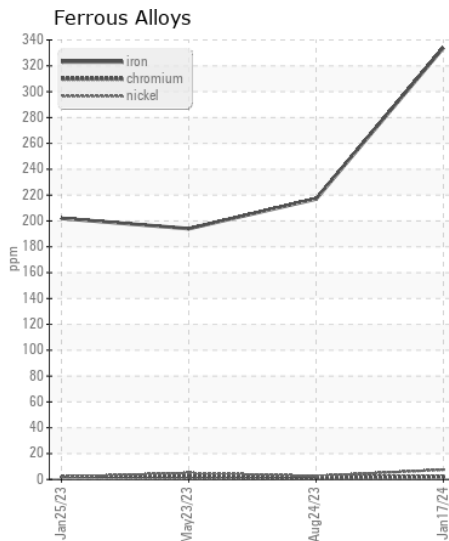
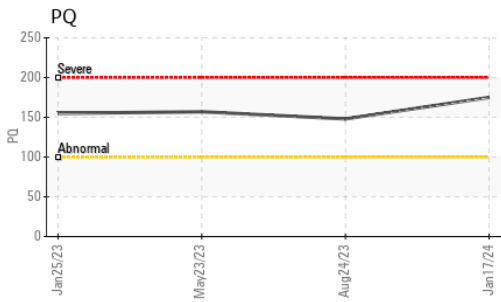
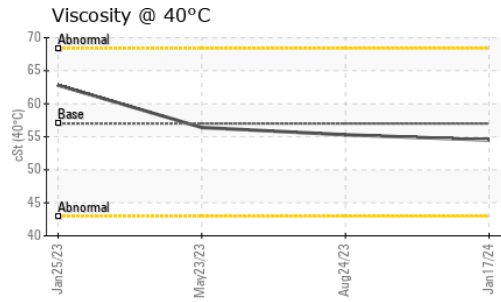
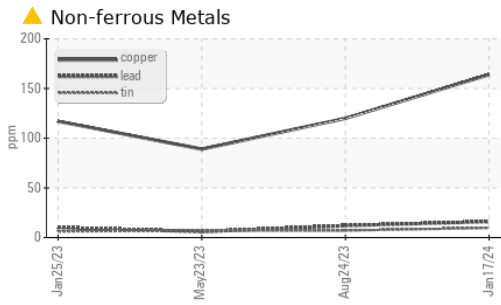
There is no indication of any contamination in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Silicon	ppm	ASTM D5185m	>75	11	10	10
Potassium	ppm	ASTM D5185m	>20	2	3	<1
Water		WC Method	>.2	NEG	NEG	NEG
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	NEG	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		6	8	10
Boron	ppm	ASTM D5185m	6	42	46	44
Barium	ppm	ASTM D5185m	0	1	3	0
Molybdenum	ppm	ASTM D5185m	0	6	7	7
Manganese	ppm	ASTM D5185m		37	23	34
Magnesium	ppm	ASTM D5185m	145	89	95	99
Calcium	ppm	ASTM D5185m	3570	3198	3703	3492
Phosphorus	ppm	ASTM D5185m	1290	1029	1117	1080
Zinc	ppm	ASTM D5185m	1640	1277	1385	1344
Sulfur	ppm	ASTM D5185m		3403	4021	4119
Visc @ 40°C	cSt	ASTM D445	57.0	54.5	55.3	56.4



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0199332 **Received** : 18 Jan 2024
Lab Number : 06065155 **Diagnosed** : 22 Jan 2024
Unique Number : 10836537 **Diagnostician** : Sean Felton
Test Package : CONST (Additional Tests: PQ)

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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)