



WEAR	SEVERE
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
[W09043]
Machine Id
JOHN DEERE 644 P 1DW644PACNLZ15458
Component
Front Differential
Fluid
JOHN DEERE HY-GARD HYD/TRANS (6 GAL)

RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0197267	JR0197281	JR0156247
Sample Date		Client Info		24 Jun 2024	12 Feb 2024	21 Feb 2023
Machine Age	hrs	Client Info		1736	1504	962
Oil Age	hrs	Client Info		0	1504	0
Filter Age	hrs	Client Info		0	526	0
Oil Changed		Client Info		Not Changed	Not Changed	N/A
Filter Changed		Client Info		Not Changed	Not Changed	N/A
Sample Status				SEVERE	SEVERE	SEVERE

WEAR

Bearing and/or bushing wear is indicated.

PQ		ASTM D8184		37	23	16
Iron	ppm	ASTM D5185m	>500	177	143	147
Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Nickel	ppm	ASTM D5185m	>10	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	2	2
Lead	ppm	ASTM D5185m	>25	▲ 139	▲ 134	▲ 111
Copper	ppm	ASTM D5185m	>100	▲ 582	▲ 817	▲ 626
Tin	ppm	ASTM D5185m	>10	▲ 57	▲ 51	▲ 38
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

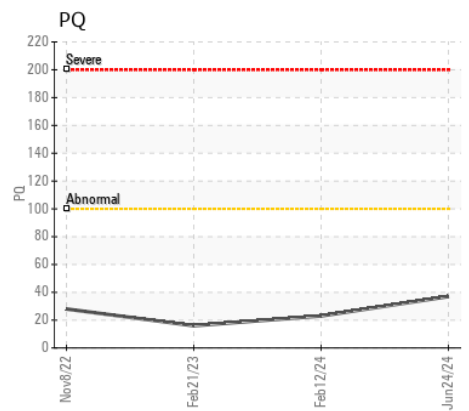
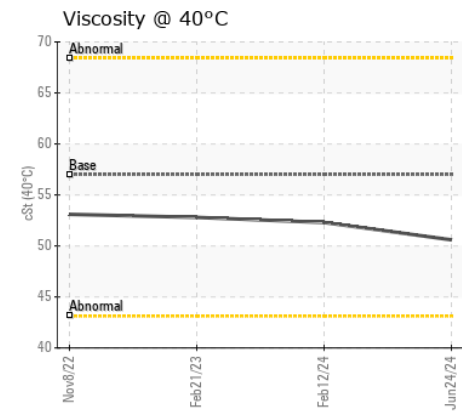
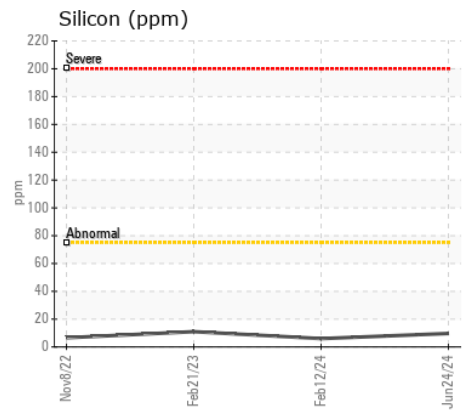
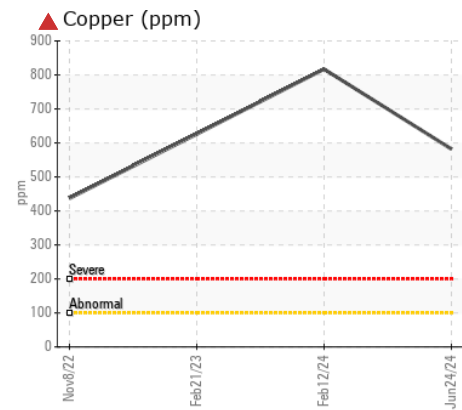
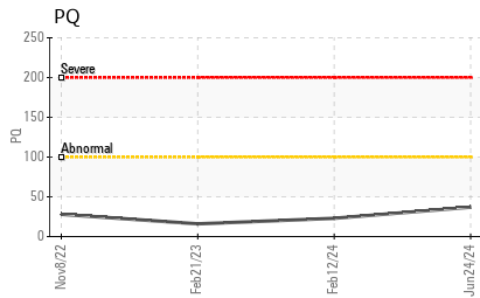
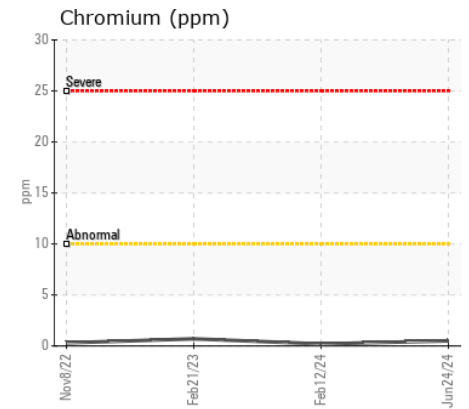
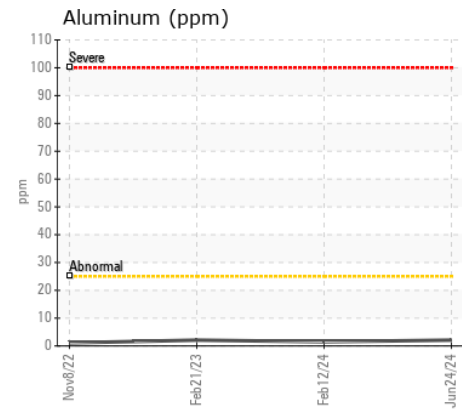
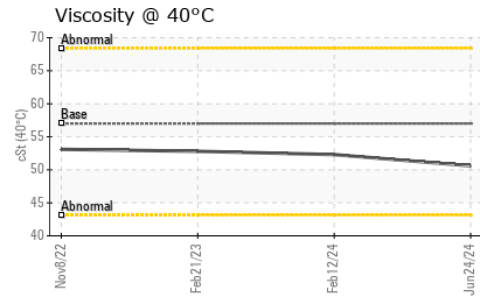
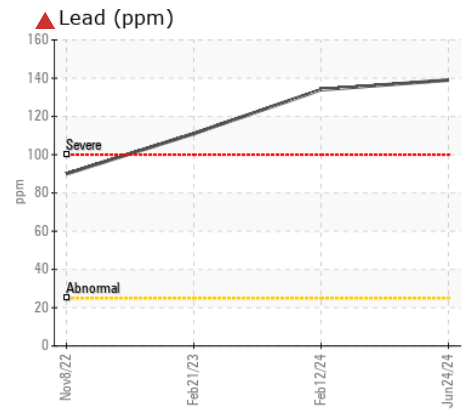
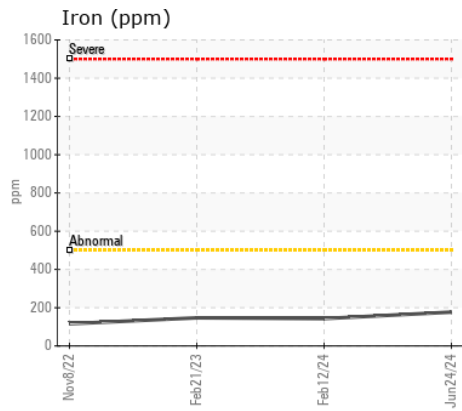
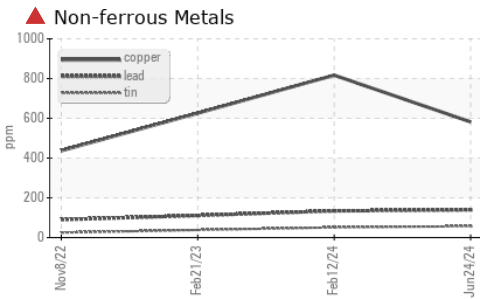
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>75	10	6	11
Potassium	ppm	ASTM D5185m	>20	<1	3	3
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 oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185m		9	1	4
Boron	ppm	ASTM D5185m	6	<1	0	0
Barium	ppm	ASTM D5185m	0	3	13	0
Molybdenum	ppm	ASTM D5185m	0	1	1	<1
Manganese	ppm	ASTM D5185m		8	5	5
Magnesium	ppm	ASTM D5185m	145	87	81	76
Calcium	ppm	ASTM D5185m	3570	3204	2901	2970
Phosphorus	ppm	ASTM D5185m	1290	992	984	925
Zinc	ppm	ASTM D5185m	1640	1015	1053	993
Sulfur	ppm	ASTM D5185m		3852	3659	3434
Visc @ 40°C	cSt	ASTM D445	57.0	50.6	52.3	52.8



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0197267 **Received** : 26 Jun 2024
Lab Number : 06221481 **Tested** : 27 Jun 2024
Unique Number : 11099678 **Diagnosed** : 28 Jun 2024 - Sean Felton
Test Package : MOBCE (Additional Tests: PQ)

JRE - HOPE MILLS/FAYETTEVILLE
 5039 HWY 301 SOUTH
 HOPE MILLS, NC
 US 28348

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)

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