



WEAR	SEVERE
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Machine Id
JOHN DEERE 644J C002750 (S/N DW6443X598071)
Component
Front Differential
Fluid
JOHN DEERE HY-GARD HYD/TRANS (30 QTS)

RECOMMENDATION

We advise that you check for the source of water entry. We advise that you check all areas where dirt can enter the system. 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		JR0225423	JR0208385	JR0157754
Sample Date		Client Info		17 Jul 2024	06 Mar 2024	15 Feb 2023
Machine Age	hrs	Client Info		21311	20786	19497
Oil Age	hrs	Client Info		19615	19686	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		None	N/A	N/A
Sample Status				SEVERE	SEVERE	ABNORMAL

WEAR

Gear wear is indicated.

Test	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184		340	508	498
Iron	ppm	ASTM D5185m	>500	▲ 2472	▲ 2110	▲ 1325
Chromium	ppm	ASTM D5185m	>10	3	3	2
Nickel	ppm	ASTM D5185m	>10	2	2	1
Titanium	ppm	ASTM D5185m		4	2	2
Silver	ppm	ASTM D5185m		<1	<1	0
Aluminum	ppm	ASTM D5185m	>25	● 33	● 30	● 26
Lead	ppm	ASTM D5185m	>25	<1	<1	1
Copper	ppm	ASTM D5185m	>100	6	4	2
Tin	ppm	ASTM D5185m	>10	0	1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

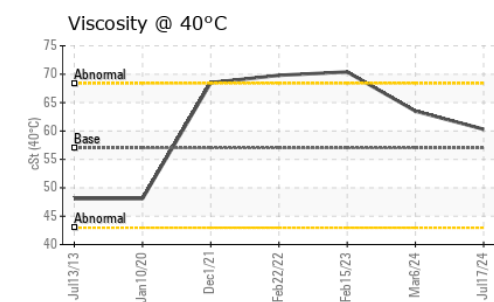
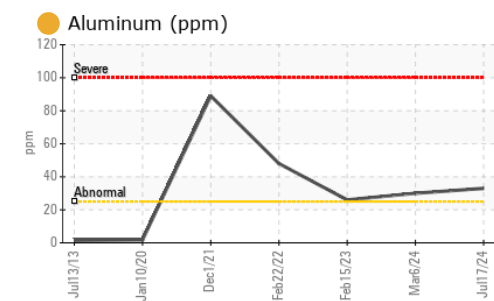
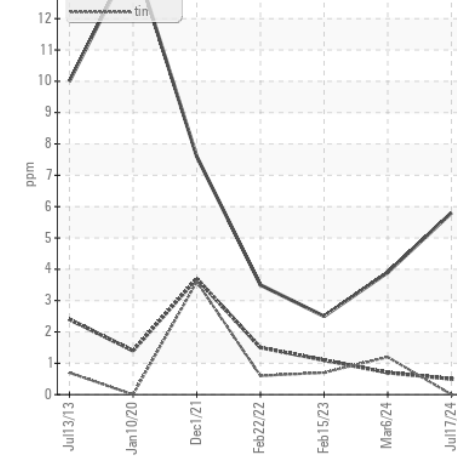
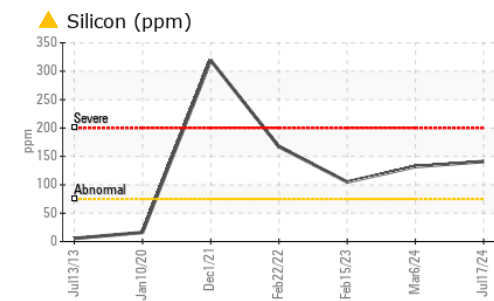
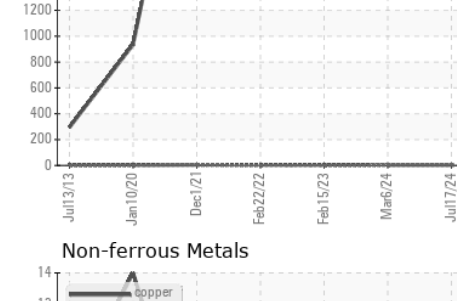
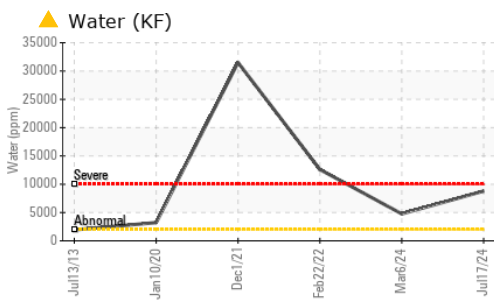
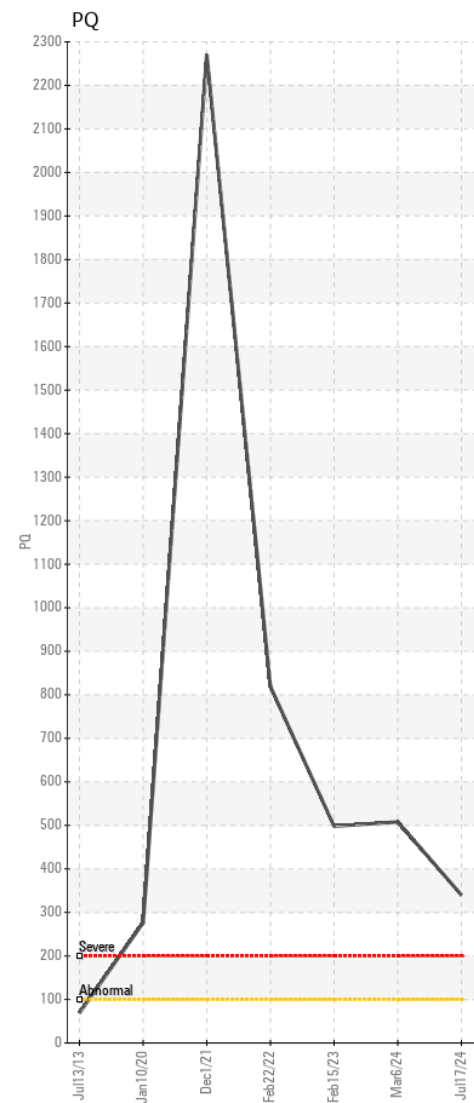
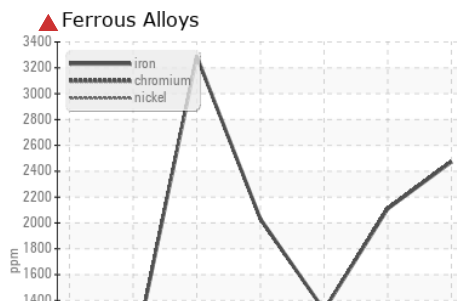
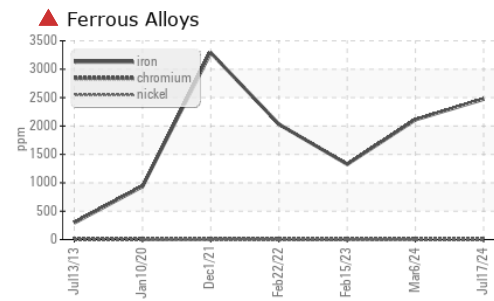
There is a high concentration of water present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>75	▲ 141	▲ 132	▲ 105
Potassium	ppm	ASTM D5185m	>20	6	4	2
Water	%	ASTM D6304	>.2	▲ 0.879	▲ 0.476	---
ppm Water	ppm	ASTM D6304	>2000	▲ 8790	▲ 4760	---
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	LIGHT
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%	▲ 0.2%	NEG

FLUID CONDITION

The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		0	6	4
Boron	ppm	ASTM D5185m	6	5	2	3
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	0	1	0	<1
Manganese	ppm	ASTM D5185m		21	19	12
Magnesium	ppm	ASTM D5185m	145	113	121	111
Calcium	ppm	ASTM D5185m	3570	3253	3181	3477
Phosphorus	ppm	ASTM D5185m	1290	1006	990	868
Zinc	ppm	ASTM D5185m	1640	1186	1155	1071
Sulfur	ppm	ASTM D5185m		4013	3504	3429
Visc @ 40°C	cSt	ASTM D445	57.0	60.3	63.5	70.4



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0225423 **Received** : 18 Jul 2024
Lab Number : 06240619 **Tested** : 19 Jul 2024
Unique Number : 11129453 **Diagnosed** : 20 Jul 2024 - Don Baldrige
Test Package : CONST (Additional Tests: KF, PQ)

TITAN VIRGINIA READY MIX LLC
 5700 LAKEWRIGHT DR, SUITE 300
 NORFOLK, VA
 US 23502
 Contact: ROBERT TAUBER
 rtauber@titanamerica.com
 T: (571)436-2579
 F:

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)