



WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Machine Id
JOHN DEERE 310E 1DW310EXKMF711403
Component
Hydraulic System
Fluid
JOHN DEERE HYDRAU (30 GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend you service the filters on this component. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0218756	JR0194584	JR0183459
Sample Date		Client Info		07 Jun 2024	01 Jan 2024	12 Sep 2023
Machine Age	hrs	Client Info		4185	3526	3137
Oil Age	hrs	Client Info		0	0	3137
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	Not Changd
Filter Changed		Client Info		N/A	N/A	Not Changd
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

PQ		ASTM D8184	>50	17	16	12
Iron	ppm	ASTM D5185m	>71	11	2	10
Chromium	ppm	ASTM D5185m	>11	2	0	2
Nickel	ppm	ASTM D5185m	>6	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>11	4	0	3
Lead	ppm	ASTM D5185m	>13	0	0	<1
Copper	ppm	ASTM D5185m	>21	2	0	3
Tin	ppm	ASTM D5185m	>5	0	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

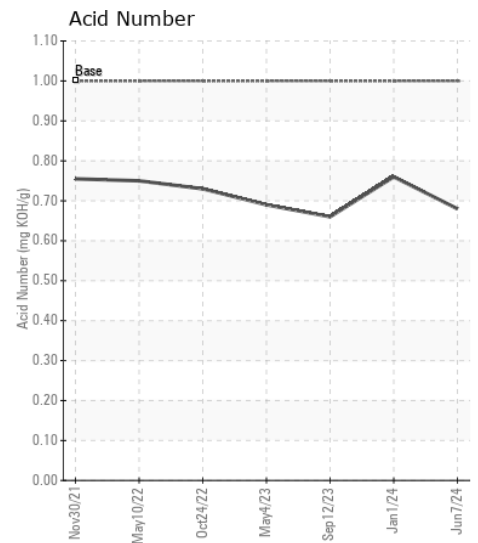
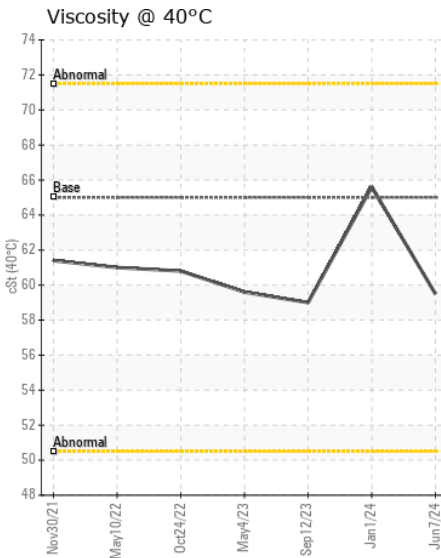
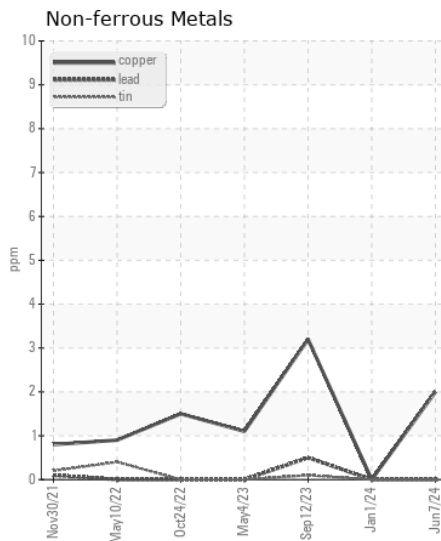
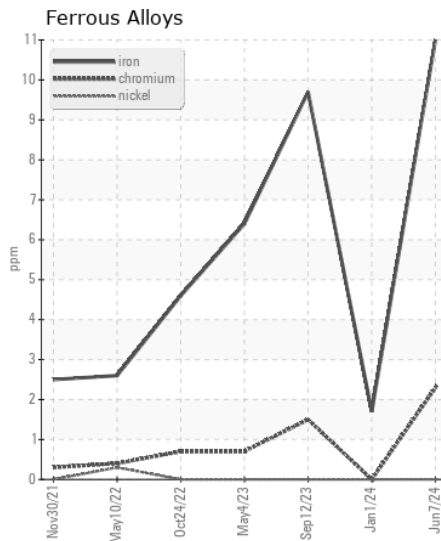
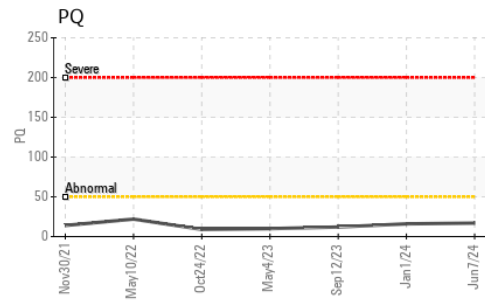
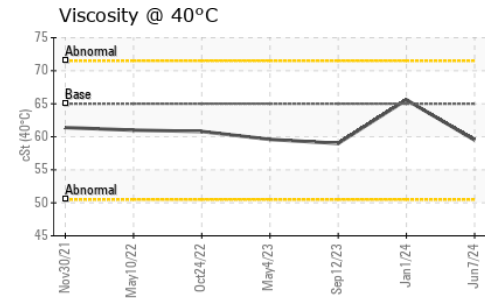
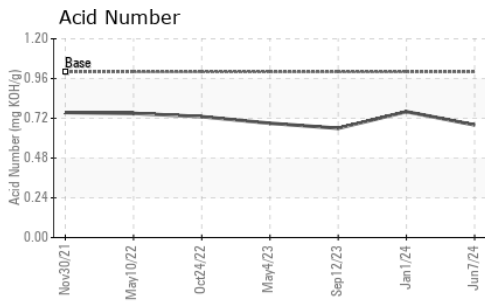
Moderate concentration of visible dirt/debris present in the oil.

Silicon	ppm	ASTM D5185m	>24	5	<1	3
Potassium	ppm	ASTM D5185m	>20	2	0	1
Water		WC Method	>0.075	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>80000	---	● 107935	▲ 34180
Particles >6µm		ASTM D7647	>5000	---	▲ 22563	882
Particles >14µm		ASTM D7647	>640	---	309	63
Particles >21µm		ASTM D7647	>160	---	46	14
Particles >38µm		ASTM D7647	>40	---	0	1
Particles >71µm		ASTM D7647	>10	---	0	1
Oil Cleanliness		ISO 4406 (c)	>23/19/16	---	▲ 24/22/15	▲ 22/17/13
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	▲ MODER	LIGHT	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	>0.075	NEG	NEG	NEG

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>21	1	0	<1
Boron	ppm	ASTM D5185m		0	2	0
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		0	0	<1
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		2	0	4
Calcium	ppm	ASTM D5185m	87	153	166	98
Phosphorus	ppm	ASTM D5185m	727	651	718	637
Zinc	ppm	ASTM D5185m	900	912	912	889
Sulfur	ppm	ASTM D5185m	1500	1975	1785	2023
Acid Number (AN)	mg KOH/g	ASTM D8045	1.0	0.68	0.76	0.66
Visc @ 40°C	cSt	ASTM D445	65	59.5	65.6	59.0



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : JR0218756

Lab Number : 06209991

Unique Number : 11082855

Test Package : CONST (Additional Tests: PQ)

Received : 14 Jun 2024

Tested : 17 Jun 2024

Diagnosed : 17 Jun 2024 - Don Baldrige

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)

JRE - ASHEVILLE

101 BRUCE DRIVE

ASHEVILLE, NC

US 28806

Contact: Randy Warren

randy.warren@jamesriverequipment.com

T: (528)667-0176

F: (828)667-4865