



WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Machine Id
JOHN DEERE 310E 1DW310EXPLF706554
Component
Hydraulic System
Fluid
JOHN DEERE HYDRAU (--- GAL)

RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0220476	JR0206378	JR0189115
Sample Date		Client Info		15 Jun 2024	22 Mar 2024	03 Nov 2023
Machine Age	hrs	Client Info		4496	4216	4055
Oil Age	hrs	Client Info		4335	161	2095
Filter Age	hrs	Client Info		0	161	0
Oil Changed		Client Info		Not Chngd	Not Chngd	Changed
Filter Changed		Client Info		Not Chngd	N/A	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL

WEAR

The aluminum level is abnormal. All other component wear rates are normal.

Test	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184	>50	21	21	10
Iron	ppm	ASTM D5185m	>71	16	15	20
Chromium	ppm	ASTM D5185m	>11	<1	<1	1
Nickel	ppm	ASTM D5185m	>6	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>11	▲ 11	10	▲ 14
Lead	ppm	ASTM D5185m	>13	0	1	0
Copper	ppm	ASTM D5185m	>21	2	3	3
Tin	ppm	ASTM D5185m	>5	0	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

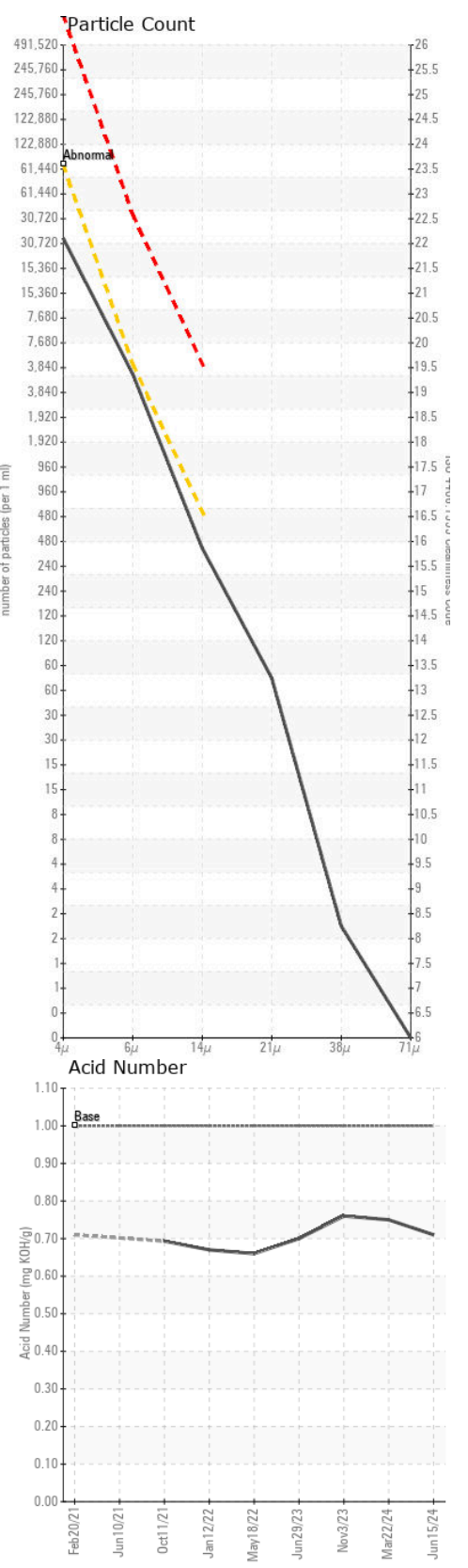
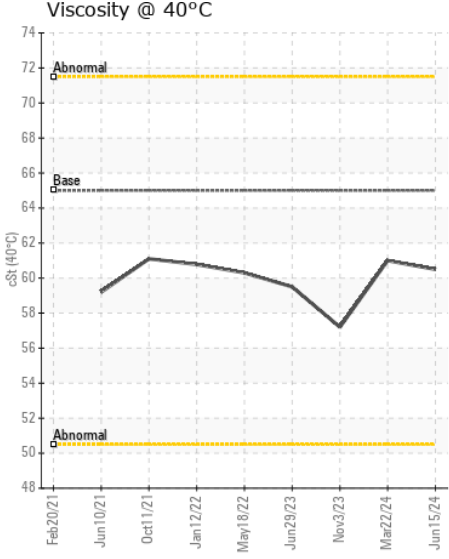
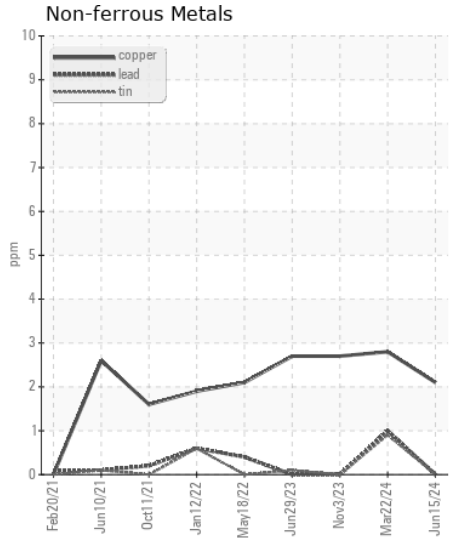
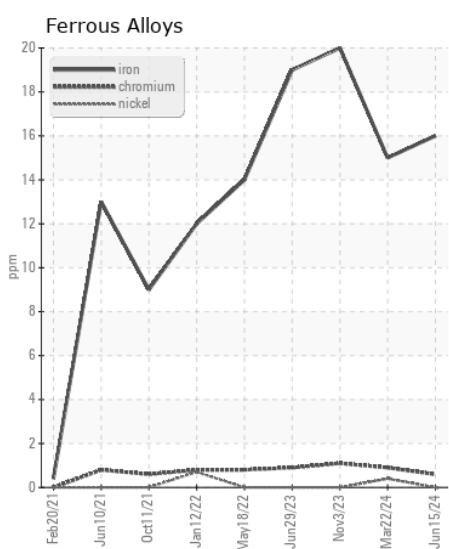
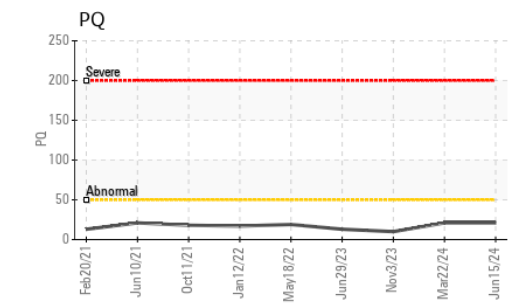
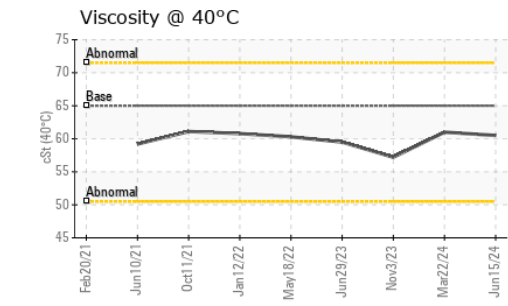
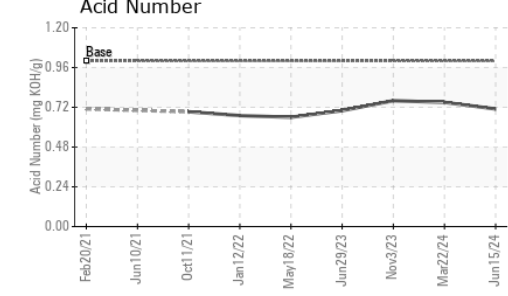
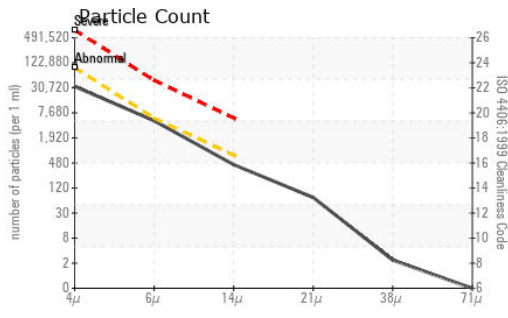
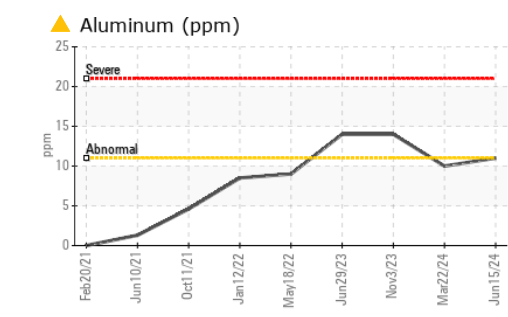
Moderate concentration of visible dirt/debris present in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>24	15	12	18
Potassium	ppm	ASTM D5185m	>20	2	3	2
Water		WC Method	>0.075	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>80000	28639	28824	41975
Particles >6µm		ASTM D7647	>5000	4338	342	1514
Particles >14µm		ASTM D7647	>640	384	26	137
Particles >21µm		ASTM D7647	>160	63	8	44
Particles >38µm		ASTM D7647	>40	2	1	2
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>23/19/16	22/19/16	22/16/12	23/18/14
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	▲ MODER	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	>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	0	0	3
Boron	ppm	ASTM D5185m		4	1	0
Barium	ppm	ASTM D5185m		0	2	0
Molybdenum	ppm	ASTM D5185m		3	5	<1
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		13	14	0
Calcium	ppm	ASTM D5185m	87	105	135	100
Phosphorus	ppm	ASTM D5185m	727	624	650	614
Zinc	ppm	ASTM D5185m	900	846	901	821
Sulfur	ppm	ASTM D5185m	1500	1570	1756	1534
Acid Number (AN)	mg KOH/g	ASTM D8045	1.0	0.71	0.75	0.76
Visc @ 40°C	cSt	ASTM D445	65	60.5	61.0	57.2



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0220476 **Received** : 19 Jun 2024
Lab Number : 06214543 **Tested** : 20 Jun 2024
Unique Number : 11087407 **Diagnosed** : 21 Jun 2024 - Don Baldrige
Test Package : CONST (Additional Tests: PQ)

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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)