



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
JOHN DEERE 644K 1DW644KZTED658665

Component
Hydraulic System

Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0217921	JR0199524	JR0172863
Sample Date		Client Info		17 May 2024	24 Jan 2024	05 May 2023
Machine Age	hrs	Client Info		13936	13381	12317
Oil Age	hrs	Client Info		13936	13381	12317
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Filter Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

PQ		ASTM D8184	>50	18	24	21
Iron	ppm	ASTM D5185m	>71	18	28	30
Chromium	ppm	ASTM D5185m	>11	8	13	14
Nickel	ppm	ASTM D5185m	>6	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		<1	0	<1
Aluminum	ppm	ASTM D5185m	>11	6	10	9
Lead	ppm	ASTM D5185m	>13	<1	0	0
Copper	ppm	ASTM D5185m	>21	3	4	5
Tin	ppm	ASTM D5185m	>5	0	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

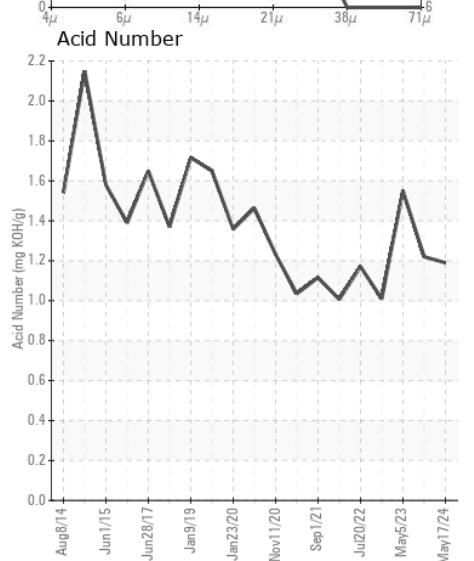
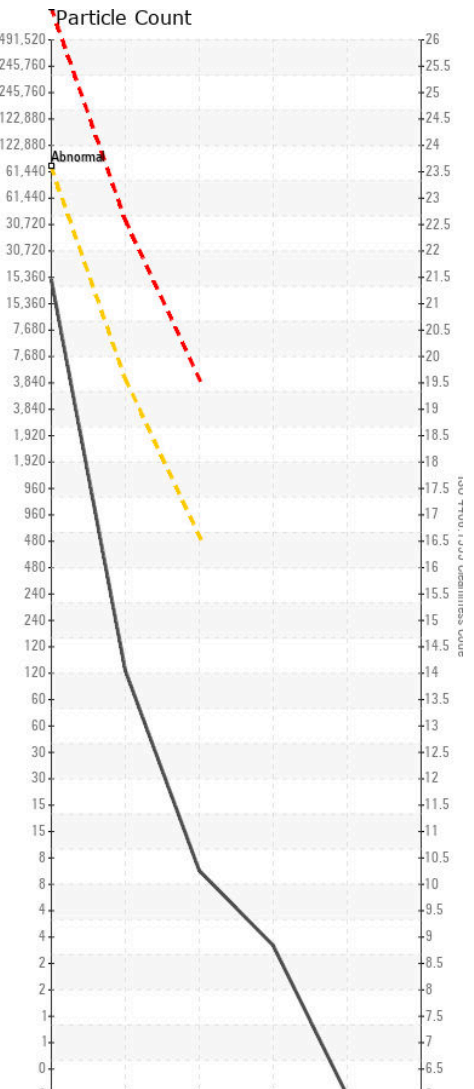
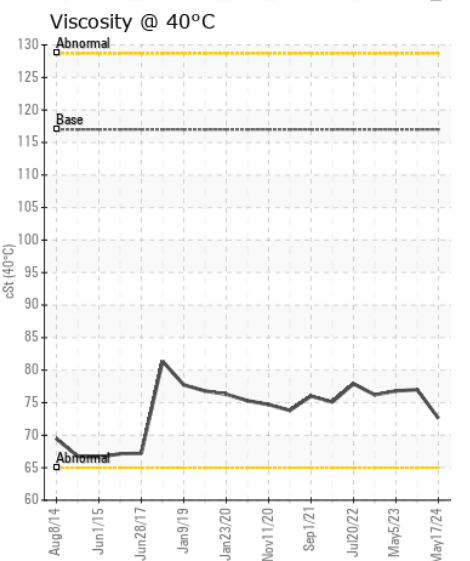
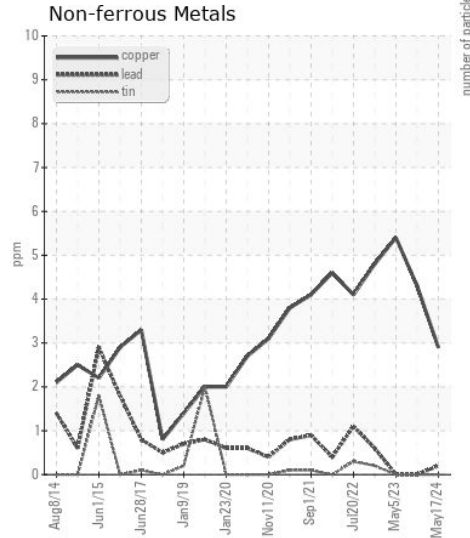
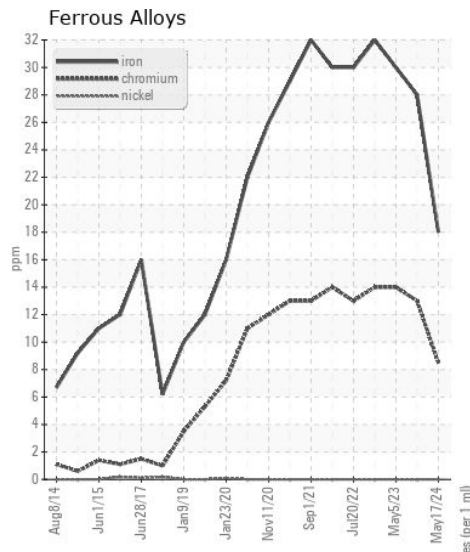
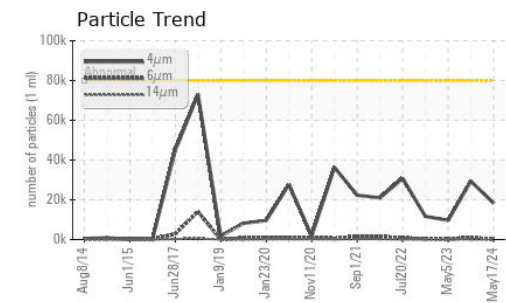
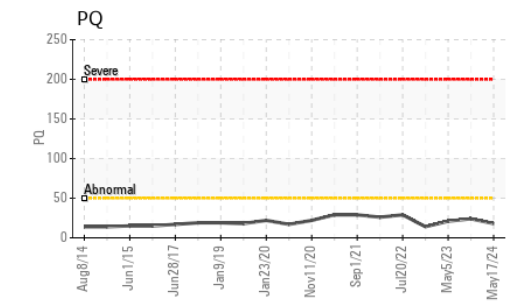
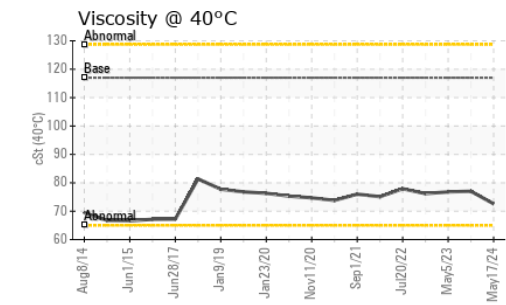
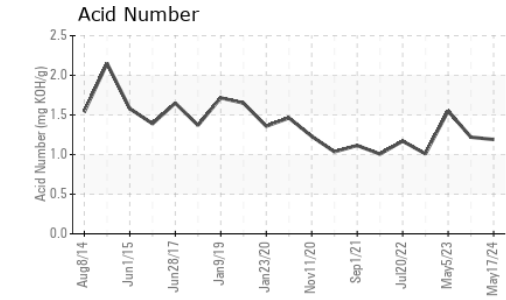
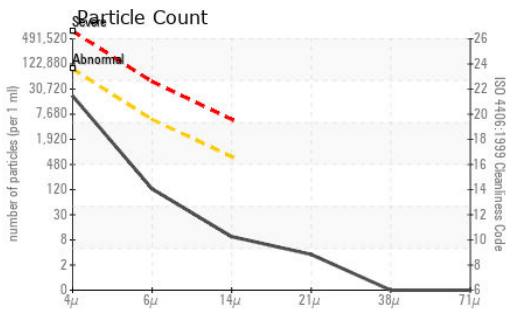
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>24	12	17	17
Potassium	ppm	ASTM D5185m	>20	<1	3	2
Water		WC Method	>0.075	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>80000	18297	29337	9654
Particles >6µm		ASTM D7647	>5000	110	1055	131
Particles >14µm		ASTM D7647	>640	8	68	14
Particles >21µm		ASTM D7647	>160	3	18	6
Particles >38µm		ASTM D7647	>40	0	1	0
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>23/19/16	21/14/10	22/17/13	20/14/11
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	>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	3	4	5
Boron	ppm	ASTM D5185m		83	134	149
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		78	121	141
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		438	615	614
Calcium	ppm	ASTM D5185m		1528	1277	1459
Phosphorus	ppm	ASTM D5185m		917	927	903
Zinc	ppm	ASTM D5185m		1081	1047	1076
Sulfur	ppm	ASTM D5185m		3285	3188	3662
Acid Number (AN)	mg KOH/g	ASTM D8045		1.19	1.22	1.55
Visc @ 40°C	cSt	ASTM D445	117	72.6	77.0	76.8



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0217921 **Received** : 23 May 2024
Lab Number : 06189713 **Tested** : 25 May 2024
Unique Number : 11046465 **Diagnosed** : 30 May 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: PQ)

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 - MANASSAS PARK
 9107 OWENS DRIVE
 MANASSAS PARK, VA
 US 20111
 Contact: DON VEST
 dvest@jamesriverequipment.com
 T: (703)631-8500
 F: (703)631-4715