



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Machine Id  
**JOHN DEERE 220DW 1FF220DWHDD041203**  
 Component  
**Hydraulic System**  
 Fluid  
**AW HYDRAULIC OIL ISO 46 (45 GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0212385</b>	JRMC466726	---
Sample Date		Client Info		<b>22 Apr 2024</b>	25 Mar 2019	---
Machine Age	hrs	Client Info		<b>8874</b>	4101	---
Oil Age	hrs	Client Info		<b>8874</b>	0	---
Filter Age	hrs	Client Info		<b>0</b>	0	---
Oil Changed		Client Info		<b>Changed</b>	Changed	---
Filter Changed		Client Info		<b>Changed</b>	Changed	---
Sample Status				<b>NORMAL</b>	ABNORMAL	---

### WEAR

All component wear rates are normal.

PQ		ASTM D8184	>50	<b>15</b>	20	---
Iron	ppm	ASTM D5185m	>32	<b>5</b>	16	---
Chromium	ppm	ASTM D5185m	>9	<b>&lt;1</b>	<1	---
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	---
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	---
Silver	ppm	ASTM D5185m		<b>0</b>	<1	---
Aluminum	ppm	ASTM D5185m	>9	<b>2</b>	<1	---
Lead	ppm	ASTM D5185m	>28	<b>0</b>	<1	---
Copper	ppm	ASTM D5185m	>50	<b>4</b>	3	---
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

### CONTAMINATION

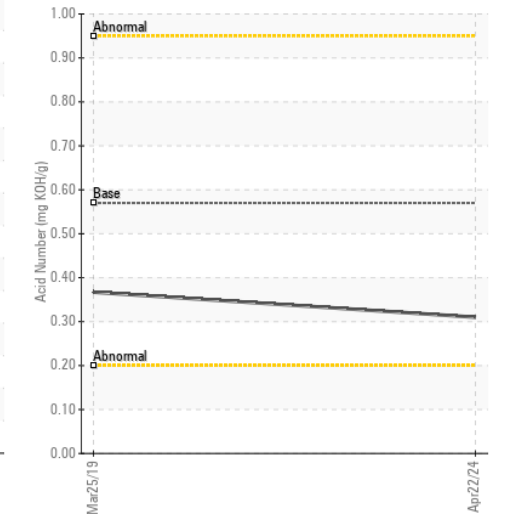
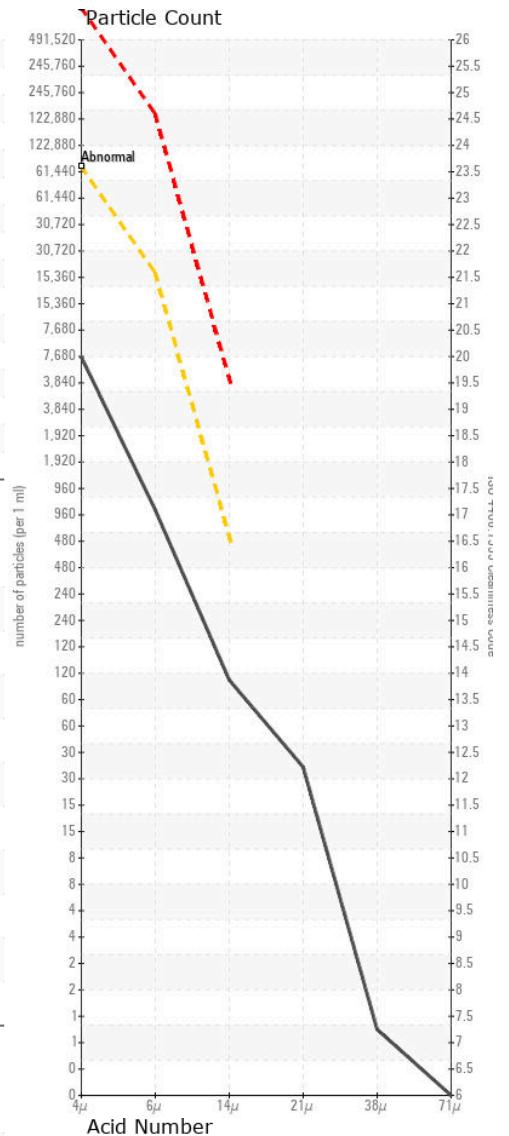
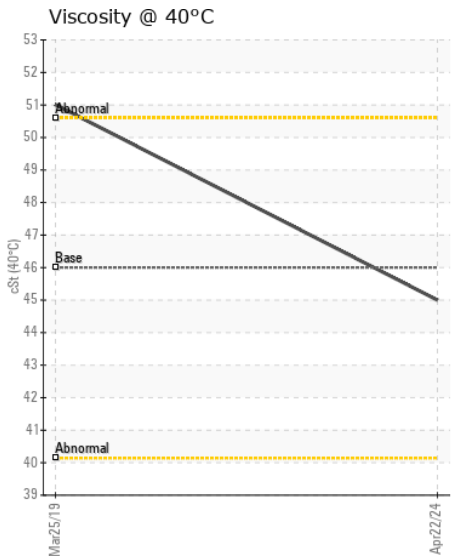
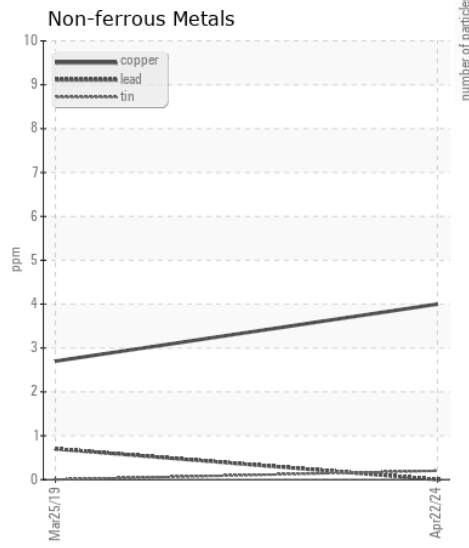
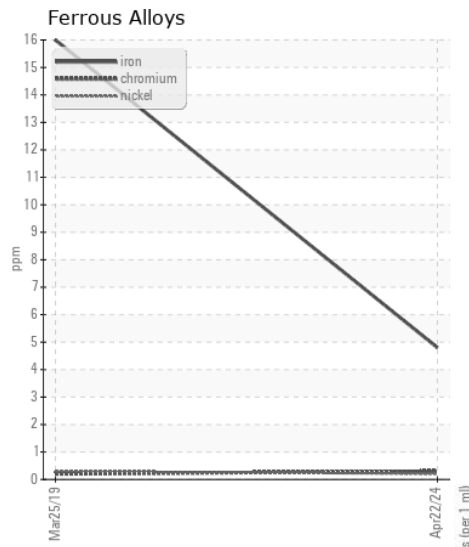
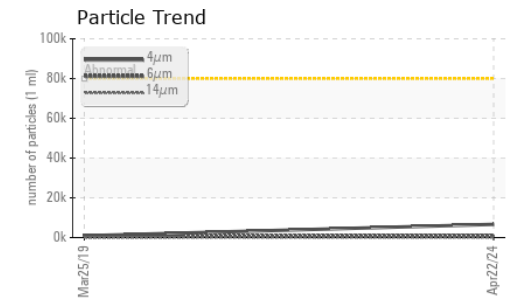
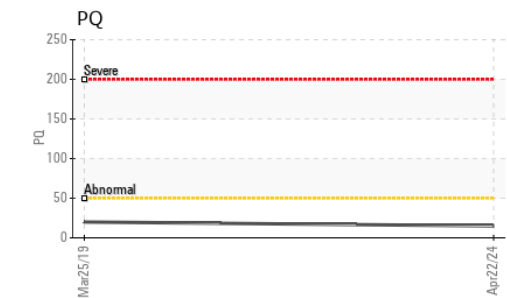
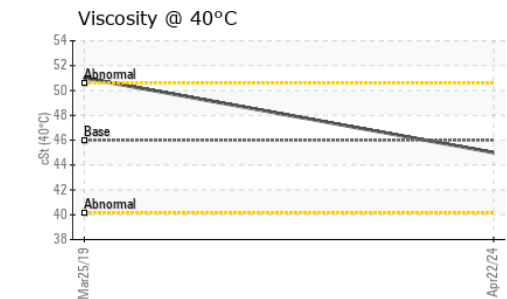
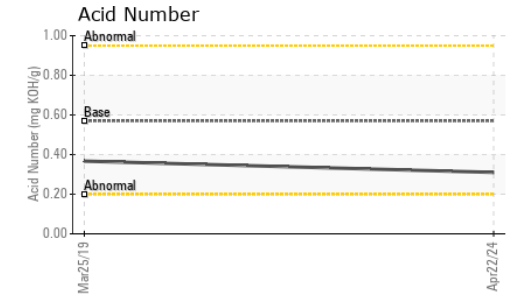
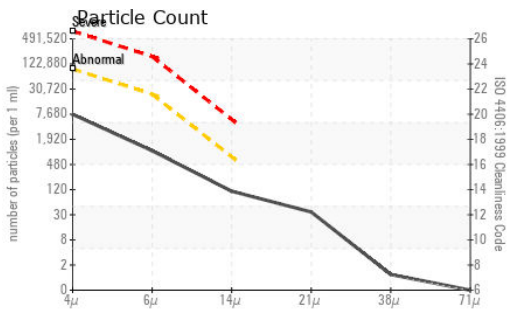
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>11	<b>3</b>	2	---
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	2	---
Water		WC Method	>0.075	<b>NEG</b>	NEG	---
Particles >4µm		ASTM D7647	>80000	<b>6654</b>	895	---
Particles >6µm		ASTM D7647	>20000	<b>897</b>	487	---
Particles >14µm		ASTM D7647	>640	<b>97</b>	83	---
Particles >21µm		ASTM D7647	>160	<b>31</b>	28	---
Particles >38µm		ASTM D7647	>40	<b>1</b>	4	---
Particles >71µm		ASTM D7647	>10	<b>0</b>	0	---
Oil Cleanliness		ISO 4406 (c)	>23/21/16	<b>20/17/14</b>	17/16/14	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	MILKY	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.075	<b>NEG</b>	0.2%	---

### 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	<b>0</b>	2	---
Boron	ppm	ASTM D5185m	5	<b>0</b>	1	---
Barium	ppm	ASTM D5185m	5	<b>0</b>	<1	---
Molybdenum	ppm	ASTM D5185m	5	<b>&lt;1</b>	2	---
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	---
Magnesium	ppm	ASTM D5185m	25	<b>2</b>	7	---
Calcium	ppm	ASTM D5185m	200	<b>14</b>	71	---
Phosphorus	ppm	ASTM D5185m	300	<b>417</b>	438	---
Zinc	ppm	ASTM D5185m	370	<b>195</b>	194	---
Sulfur	ppm	ASTM D5185m	2500	<b>609</b>	546	---
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	<b>0.31</b>	0.367	---
Visc @ 40°C	cSt	ASTM D445	46	<b>45.0</b>	51.01	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0212385  
**Lab Number** : 06157542  
**Unique Number** : 10992965  
**Test Package** : CONST ( Additional Tests: PQ )

**Received** : 23 Apr 2024  
**Tested** : 24 Apr 2024  
**Diagnosed** : 25 Apr 2024 - Jonathan Hester

**JRE - GARNER**  
 4161 AUBURN CHURCH RD  
 GARNER, NC  
 US 27529

Contact: RENN MASHBURN  
 renn.mashburn@jamesriverequipment.com

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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