



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

Machine Id  
**JOHN DEERE 296389**

Component  
**Hydraulic System**

Fluid  
**HITACHI HYDRAULIC SUPER EX 46HN (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor. ( Customer Sample Comment:  
Top Up Amount: .5 QTS )

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0217861</b>	JR0168842	---
Sample Date		Client Info		<b>20 May 2024</b>	21 Apr 2023	---
Machine Age	hrs	Client Info		<b>979</b>	500	---
Oil Age	hrs	Client Info		<b>979</b>	500	---
Filter Age	hrs	Client Info		<b>979</b>	500	---
Oil Changed		Client Info		<b>Oil Added</b>	Not Changd	---
Filter Changed		Client Info		<b>Changed</b>	Not Changd	---
Sample Status				<b>NORMAL</b>	NORMAL	---

### WEAR

All component wear rates are normal.

PQ		ASTM D8184	>50	<b>16</b>	12	---
Iron	ppm	ASTM D5185m	>32	<b>5</b>	4	---
Chromium	ppm	ASTM D5185m	>9	<b>0</b>	0	---
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	0	---
Titanium	ppm	ASTM D5185m		<b>0</b>	0	---
Silver	ppm	ASTM D5185m		<b>0</b>	0	---
Aluminum	ppm	ASTM D5185m	>9	<b>0</b>	0	---
Lead	ppm	ASTM D5185m	>28	<b>1</b>	<1	---
Copper	ppm	ASTM D5185m	>50	<b>&lt;1</b>	3	---
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

### CONTAMINATION

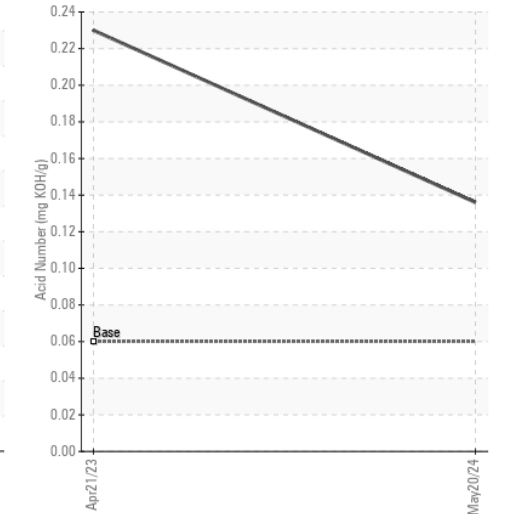
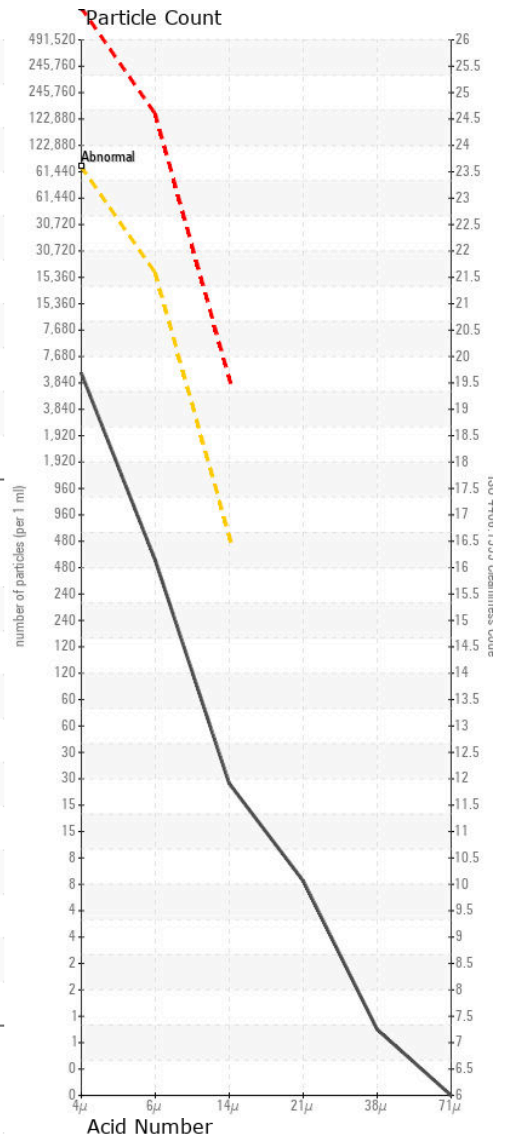
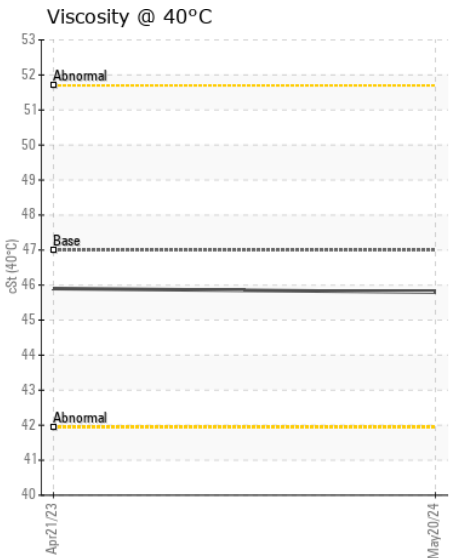
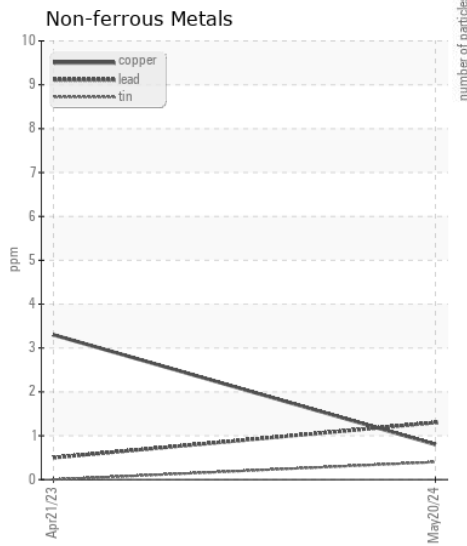
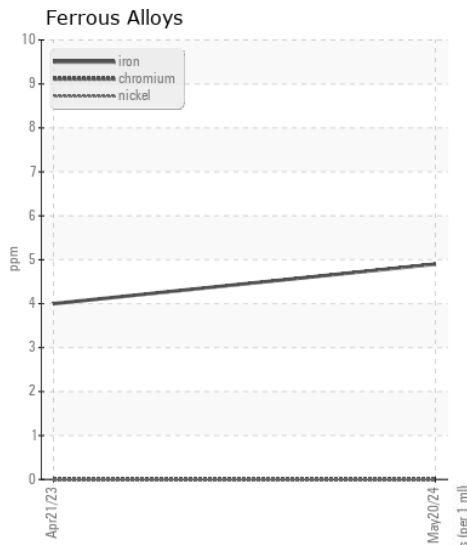
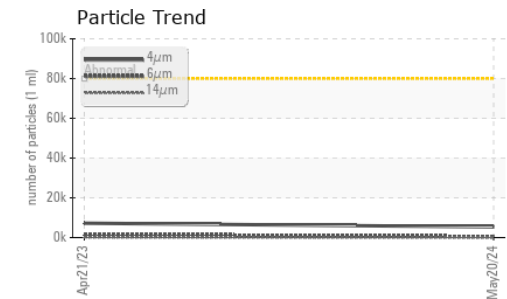
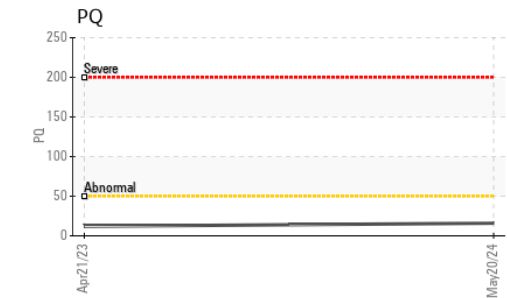
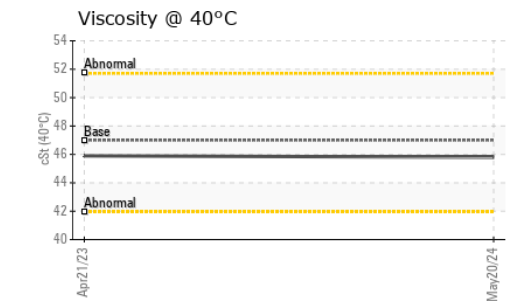
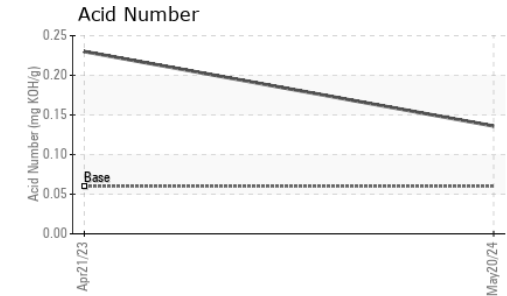
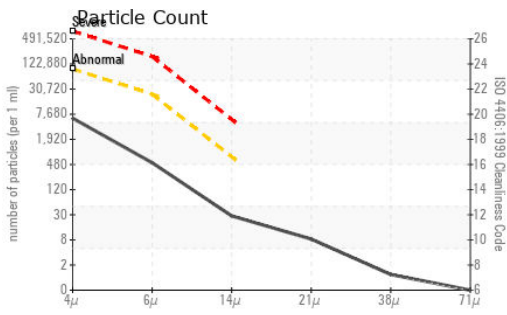
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>11	<b>1</b>	<1	---
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	1	---
Water		WC Method	>0.075	<b>NEG</b>	NEG	---
Particles >4µm		ASTM D7647	>80000	<b>5373</b>	7242	---
Particles >6µm		ASTM D7647	>20000	<b>464</b>	1589	---
Particles >14µm		ASTM D7647	>640	<b>25</b>	117	---
Particles >21µm		ASTM D7647	>160	<b>7</b>	40	---
Particles >38µm		ASTM D7647	>40	<b>1</b>	3	---
Particles >71µm		ASTM D7647	>10	<b>0</b>	0	---
Oil Cleanliness		ISO 4406 (c)	>23/21/16	<b>20/16/12</b>	20/18/14	---
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>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.075	<b>NEG</b>	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	<b>1</b>	0	---
Boron	ppm	ASTM D5185m		<b>0</b>	0	---
Barium	ppm	ASTM D5185m		<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185m		<b>&lt;1</b>	0	---
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
Magnesium	ppm	ASTM D5185m		<b>2</b>	6	---
Calcium	ppm	ASTM D5185m		<b>&lt;1</b>	1	---
Phosphorus	ppm	ASTM D5185m	827	<b>398</b>	398	---
Zinc	ppm	ASTM D5185m	0	<b>39</b>	43	---
Sulfur	ppm	ASTM D5185m	13	<b>1051</b>	947	---
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	<b>0.136</b>	0.23	---
Visc @ 40°C	cSt	ASTM D445	47	<b>45.8</b>	45.9	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0217861 **Received** : 21 May 2024  
**Lab Number** : 06186053 **Tested** : 22 May 2024  
**Unique Number** : 11042805 **Diagnosed** : 23 May 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: PQ )

**NPL CONSTRUCTION**  
 7611 COPPERMINE DR  
 MANASSAS, VA  
 US 20109-2668  
 Contact: BRANDON

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)

T:  
F: