



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

Machine Id  
**HITACHI 85USB-5 HCMDEF60J00023328**

Component  
**Hydraulic System**

Fluid  
**JOHN DEERE ZINC-FREE HYDRAULIC OIL 46 (15 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0218647</b>	JR0199037	---
Sample Date		Client Info		<b>20 Jun 2024</b>	04 Jan 2024	---
Machine Age	hrs	Client Info		<b>1426</b>	1002	---
Oil Age	hrs	Client Info		<b>1426</b>	1002	---
Filter Age	hrs	Client Info		<b>424</b>	0	---
Oil Changed		Client Info		<b>Not Chngd</b>	Not Chngd	---
Filter Changed		Client Info		<b>Not Chngd</b>	Changed	---
Sample Status				<b>NORMAL</b>	NORMAL	---

**WEAR**

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184		<b>19</b>	19	---
Iron	ppm	ASTM D5185m	>20	<b>11</b>	17	---
Chromium	ppm	ASTM D5185m	>10	<b>0</b>	1	---
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	<1	---
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	---
Silver	ppm	ASTM D5185m		<b>0</b>	0	---
Aluminum	ppm	ASTM D5185m	>10	<b>&lt;1</b>	6	---
Lead	ppm	ASTM D5185m	>10	<b>0</b>	1	---
Copper	ppm	ASTM D5185m	>75	<b>3</b>	6	---
Tin	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

**CONTAMINATION**

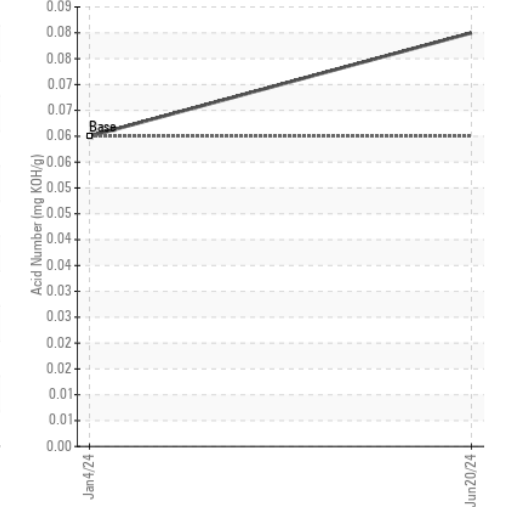
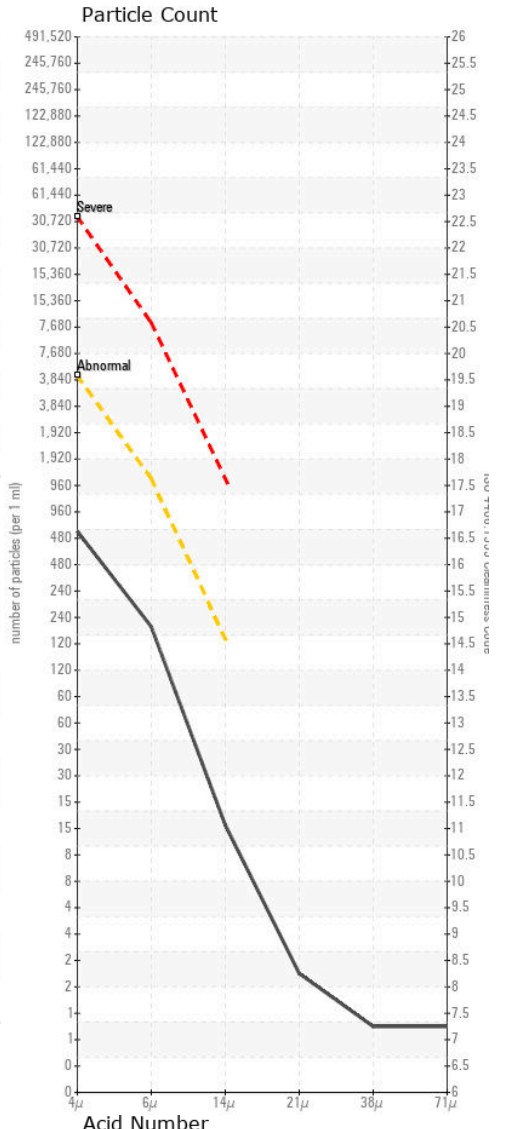
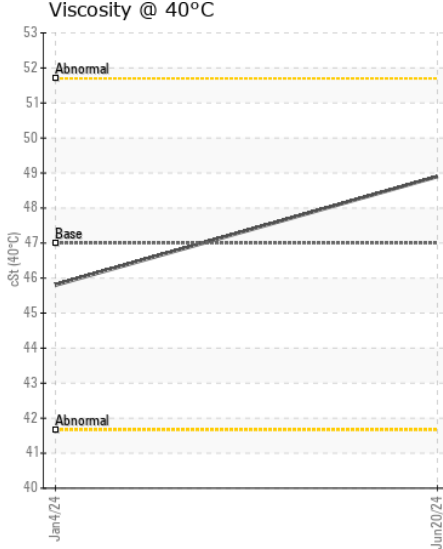
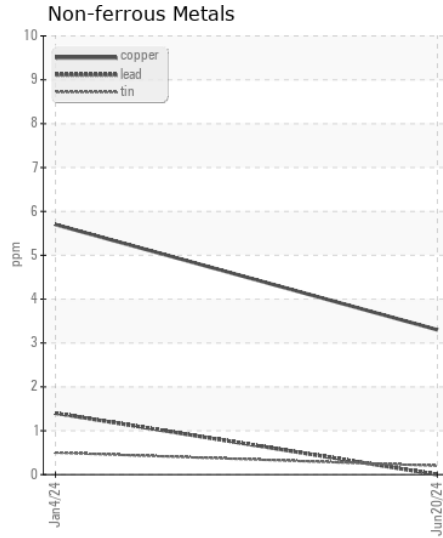
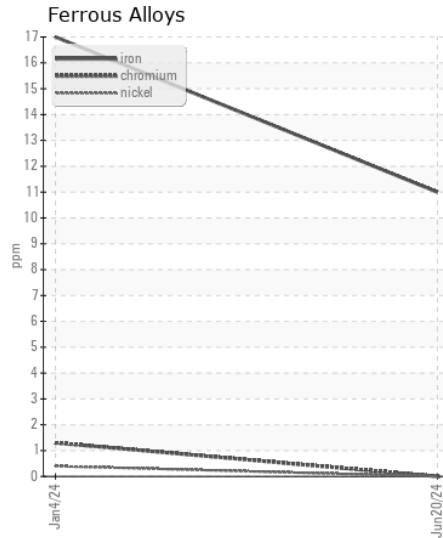
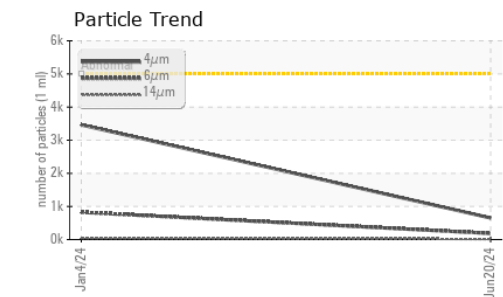
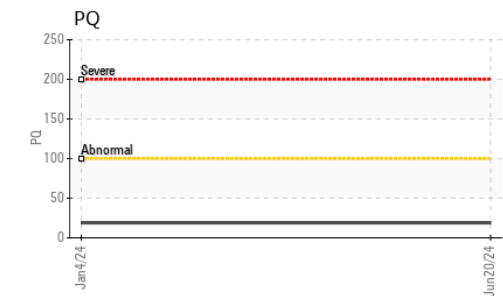
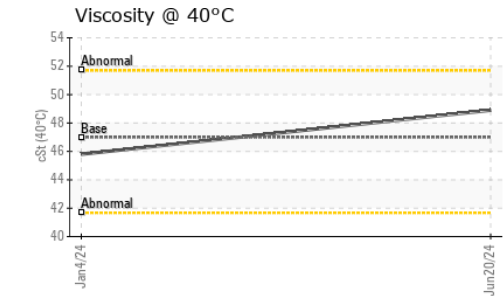
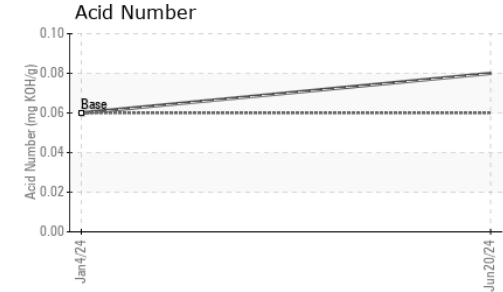
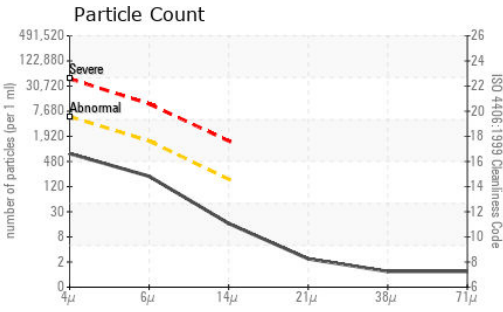
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185m	>20	<b>2</b>	3	---
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	8	---
Water		WC Method	>0.1	<b>NEG</b>	NEG	---
Particles >4µm		ASTM D7647	>5000	<b>652</b>	3463	---
Particles >6µm		ASTM D7647	>1300	<b>187</b>	825	---
Particles >14µm		ASTM D7647	>160	<b>14</b>	44	---
Particles >21µm		ASTM D7647	>40	<b>2</b>	12	---
Particles >38µm		ASTM D7647	>10	<b>1</b>	1	---
Particles >71µm		ASTM D7647	>3	<b>1</b>	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>17/15/11</b>	19/17/13	---
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	>0.1	<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		<b>4</b>	9	---
Boron	ppm	ASTM D5185m		<b>0</b>	<1	---
Barium	ppm	ASTM D5185m		<b>0</b>	7	---
Molybdenum	ppm	ASTM D5185m		<b>0</b>	2	---
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
Magnesium	ppm	ASTM D5185m		<b>&lt;1</b>	11	---
Calcium	ppm	ASTM D5185m		<b>2</b>	1919	---
Phosphorus	ppm	ASTM D5185m		<b>495</b>	494	---
Zinc	ppm	ASTM D5185m		<b>52</b>	903	---
Sulfur	ppm	ASTM D5185m		<b>688</b>	2278	---
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	<b>0.08</b>	0.06	---
Visc @ 40°C	cSt	ASTM D445	47	<b>48.9</b>	45.8	---



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0218647 **Received** : 24 Jun 2024  
**Lab Number** : 06218047 **Tested** : 25 Jun 2024  
**Unique Number** : 11096244 **Diagnosed** : 25 Jun 2024 - Wes Davis  
**Test Package** : CONST ( Additional Tests: PQ )

**JRE - MANASSAS PARK**  
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Certificate L2367  
 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)