



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

Machine Id  
**JOHN DEERE 345G 1FF345GXKMF020827**  
 Component  
**Hydraulic System**  
 Fluid  
**HITACHI HYDRAULIC SUPER EX 46HN (--- GAL)**

### RECOMMENDATION

Recommend drain oil if not already done. Reduce drain interval to 2000 hours or drain and flush and use recommended zinc free oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JR0214994</b>	JR0189055	JR0188750
Sample Date		Client Info		<b>10 May 2024</b>	03 Jan 2024	20 Sep 2023
Machine Age	hrs	Client Info		<b>4132</b>	3530	2994
Oil Age	hrs	Client Info		<b>2579</b>	2513	2478
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Changed</b>	Not Changed	Not Changed
Filter Changed		Client Info		<b>Changed</b>	Not Changed	Changed
Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

### WEAR

All component wear rates are normal.

PQ		ASTM D8184	>50	<b>14</b>	16	15
Iron	ppm	ASTM D5185m	>32	<b>8</b>	12	10
Chromium	ppm	ASTM D5185m	>9	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>9	<b>1</b>	2	2
Lead	ppm	ASTM D5185m	>28	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>50	<b>12</b>	10	9
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>LIGHT</b>	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

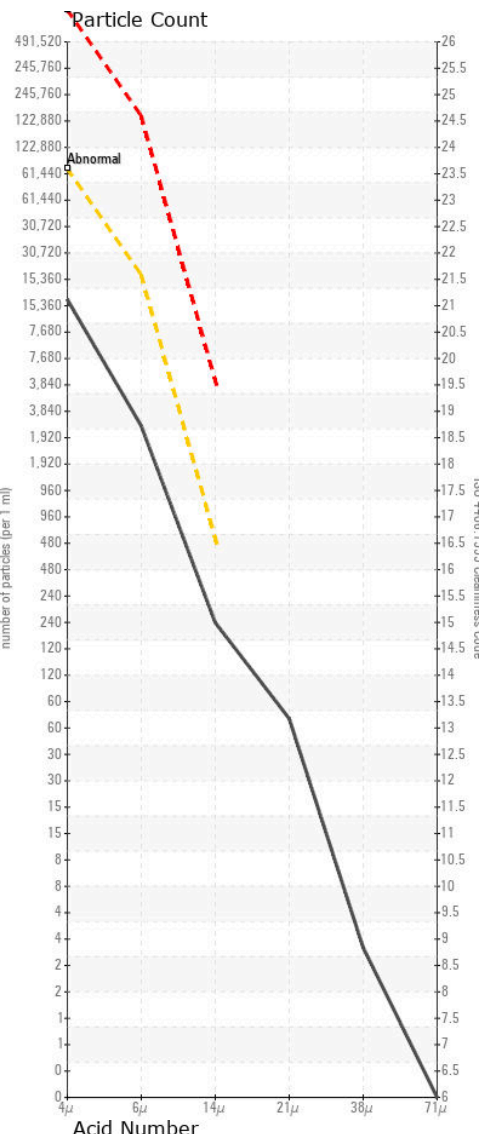
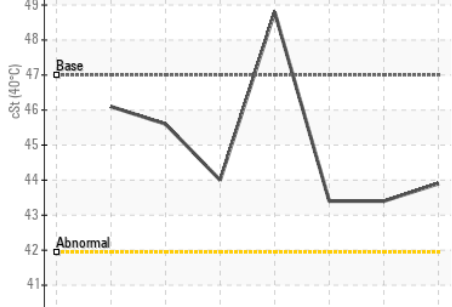
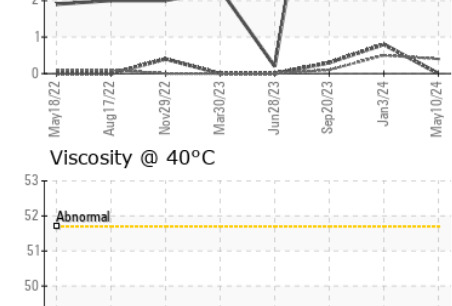
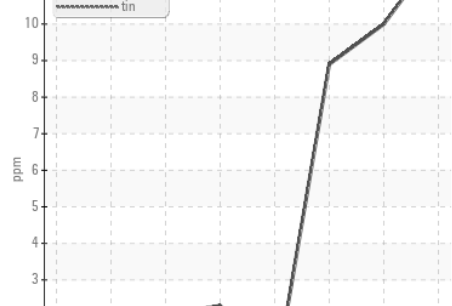
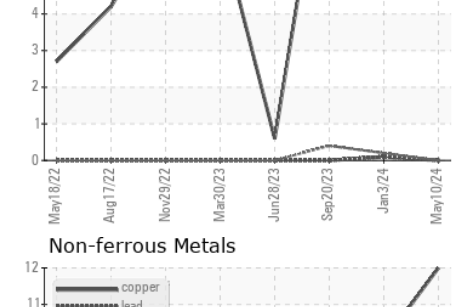
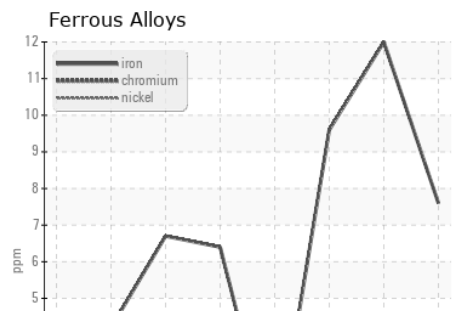
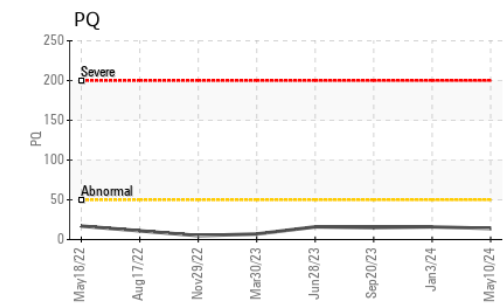
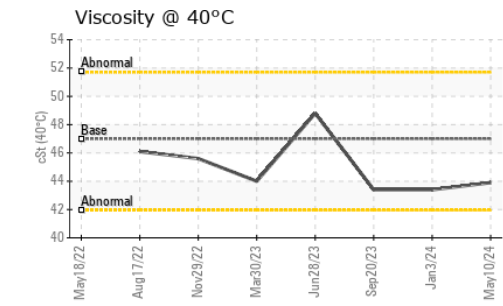
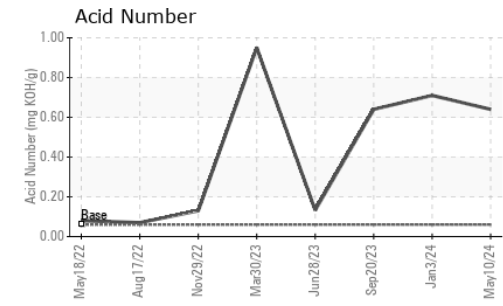
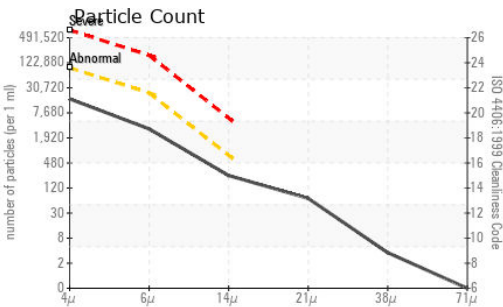
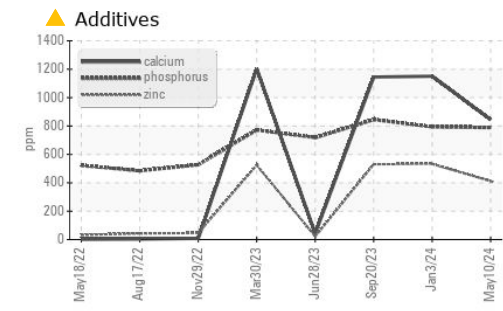
The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>11	<b>3</b>	4	3
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	2	2
Water		WC Method	>0.075	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>80000	<b>14479</b>	37814	17172
Particles >6µm		ASTM D7647	>20000	<b>2762</b>	13948	5229
Particles >14µm		ASTM D7647	>640	<b>211</b>	1137	381
Particles >21µm		ASTM D7647	>160	<b>60</b>	190	70
Particles >38µm		ASTM D7647	>40	<b>3</b>	3	2
Particles >71µm		ASTM D7647	>10	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>23/21/16	<b>21/19/15</b>	22/21/17	21/20/16
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	LIGHT
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.075	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

Zinc level above manufacturer's recommendations. The AN level is acceptable for this fluid.

Sodium	ppm	ASTM D5185m	>21	<b>2</b>	0	0
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>0</b>	8	0
Molybdenum	ppm	ASTM D5185m		<b>&lt;1</b>	2	1
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>4</b>	6	4
Calcium	ppm	ASTM D5185m		<b>845</b>	1151	1144
Phosphorus	ppm	ASTM D5185m	827	<b>789</b>	794	845
Zinc	ppm	ASTM D5185m	0	<b>▲ 412</b>	▲ 533	▲ 530
Sulfur	ppm	ASTM D5185m	13	<b>1408</b>	1515	1660
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	<b>0.64</b>	0.71	0.64
Visc @ 40°C	cSt	ASTM D445	47	<b>43.9</b>	43.4	43.4



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0214994 **Received** : 13 May 2024  
**Lab Number** : 06177026 **Tested** : 14 May 2024  
**Unique Number** : 11023079 **Diagnosed** : 14 May 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: PQ )

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