



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
[W51964]

Machine Id
JOHN DEERE 470 P 1FF470PACNF000010

Component
Hydraulic System

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

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0211399	JR0199995	JR0180992
Sample Date		Client Info		21 May 2024	22 Feb 2024	16 Nov 2023
Machine Age	hrs	Client Info		3479	2965	2444
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Filter Changed		Client Info		Not Chngd	Changed	Not Chngd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184	>50	19	17	13
Iron	ppm	ASTM D5185m	>32	0	<1	3
Chromium	ppm	ASTM D5185m	>9	0	0	<1
Nickel	ppm	ASTM D5185m	>5	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>9	0	0	<1
Lead	ppm	ASTM D5185m	>28	0	0	<1
Copper	ppm	ASTM D5185m	>50	0	0	1
Tin	ppm	ASTM D5185m	>5	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

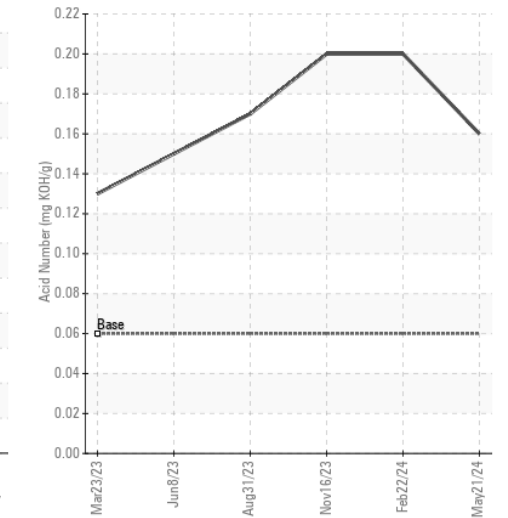
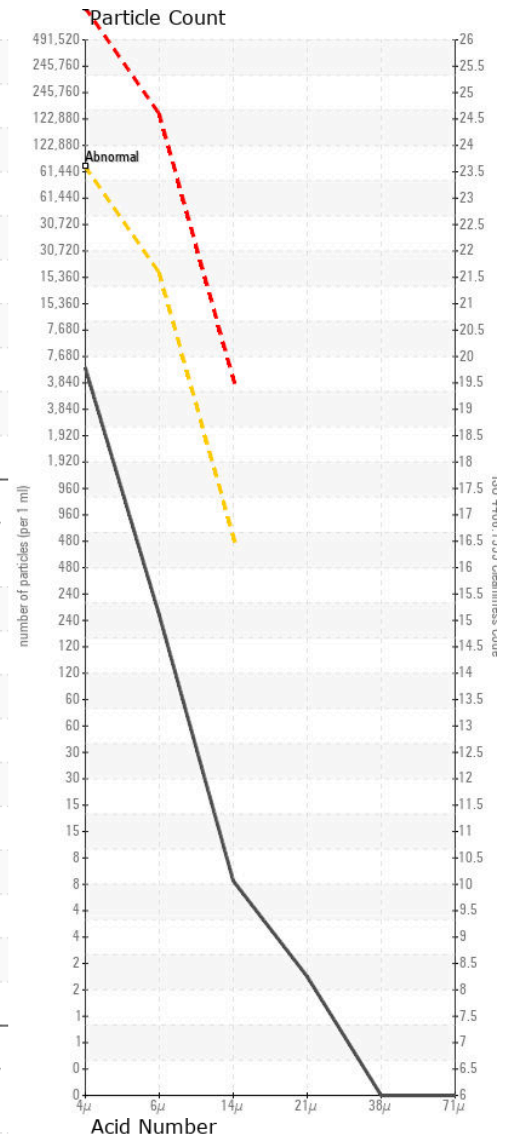
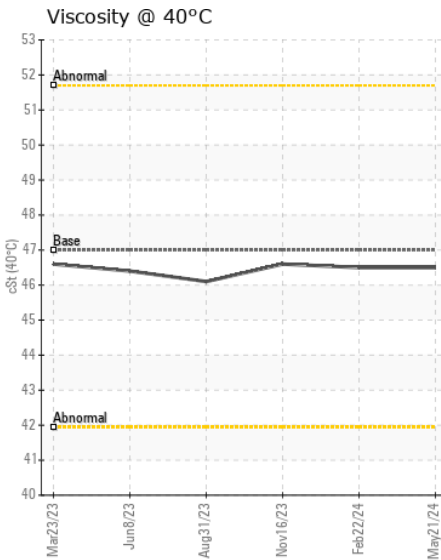
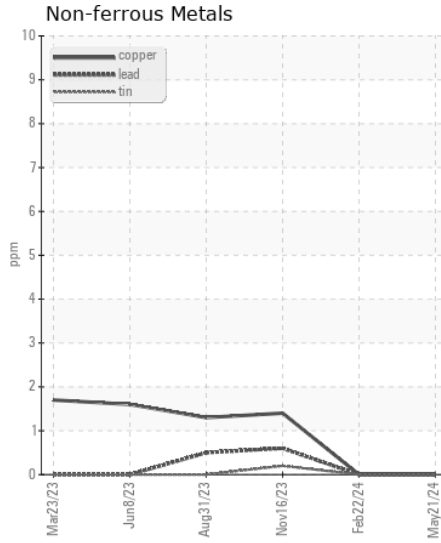
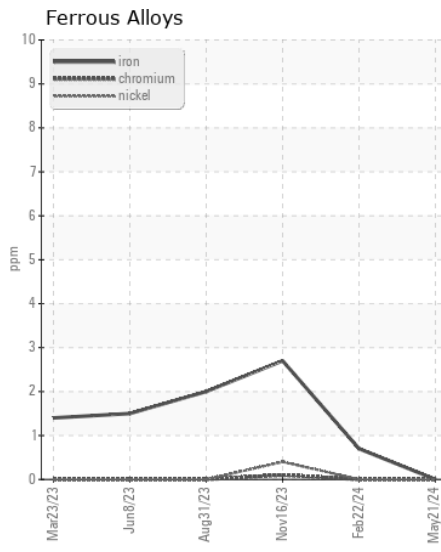
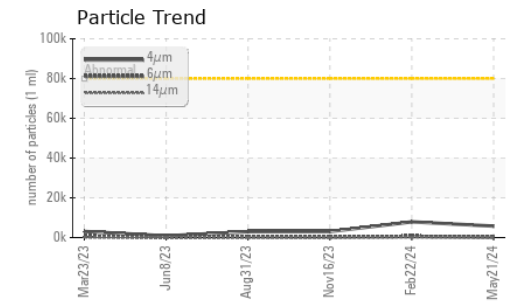
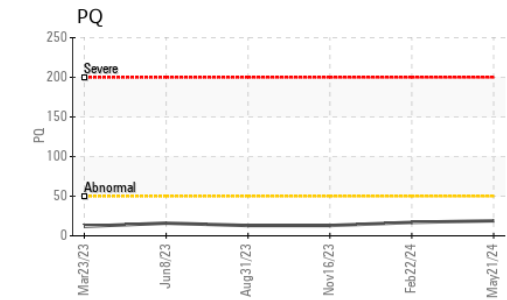
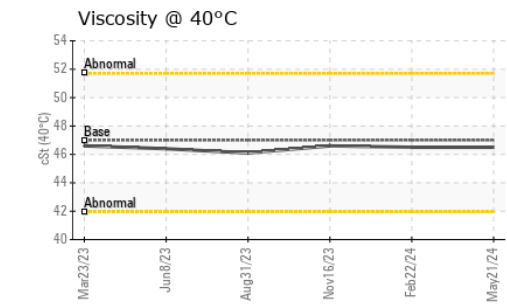
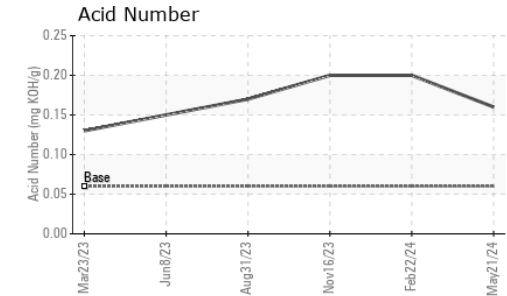
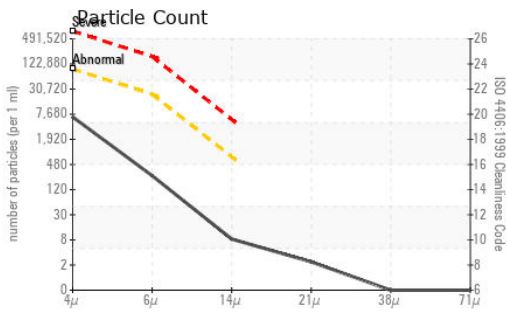
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>11	<1	<1	1
Potassium	ppm	ASTM D5185m	>20	0	0	1
Water		WC Method	>0.075	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>80000	5763	7916	3017
Particles >6µm		ASTM D7647	>20000	227	646	231
Particles >14µm		ASTM D7647	>640	7	13	18
Particles >21µm		ASTM D7647	>160	2	5	8
Particles >38µm		ASTM D7647	>40	0	1	1
Particles >71µm		ASTM D7647	>10	0	0	1
Oil Cleanliness		ISO 4406 (c)	>23/21/16	20/15/10	20/17/11	19/15/11
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	0	0	0
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	<1	<1
Molybdenum	ppm	ASTM D5185m		0	0	<1
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		0	1	<1
Calcium	ppm	ASTM D5185m		0	24	<1
Phosphorus	ppm	ASTM D5185m	827	521	505	554
Zinc	ppm	ASTM D5185m	0	8	16	10
Sulfur	ppm	ASTM D5185m	13	68	109	42
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.16	0.20	0.20
Visc @ 40°C	cSt	ASTM D445	47	46.5	46.5	46.6



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0211399 **Received** : 28 May 2024
Lab Number : 06192090 **Tested** : 29 May 2024
Unique Number : 11048842 **Diagnosed** : 30 May 2024 - Angela Borella
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)

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