



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Machine Id
JOHN DEERE 50G 1FF050GXCMH294166
 Component
Hydraulic System
 Fluid
HITACHI HYDRAULIC SUPER EX 46HN (--- QTS)

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		JR0218662	JR0183893	JR0166363
Sample Date		Client Info		14 Jun 2024	29 Aug 2023	24 Mar 2023
Machine Age	hrs	Client Info		2446	1956	1484
Oil Age	hrs	Client Info		490	0	1484
Filter Age	hrs	Client Info		0	0	1484
Oil Changed		Client Info		Not Changed	Changed	Not Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

PQ		ASTM D8184	>50	22	13	7
Iron	ppm	ASTM D5185m	>32	11	14	10
Chromium	ppm	ASTM D5185m	>9	<1	0	<1
Nickel	ppm	ASTM D5185m	>5	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>9	2	<1	<1
Lead	ppm	ASTM D5185m	>28	1	<1	0
Copper	ppm	ASTM D5185m	>50	4	3	4
Tin	ppm	ASTM D5185m	>5	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

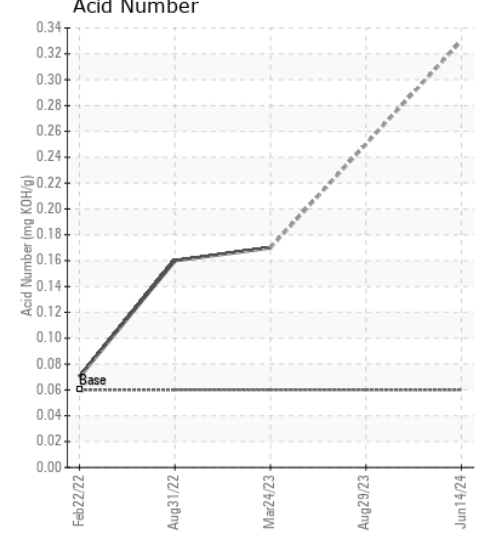
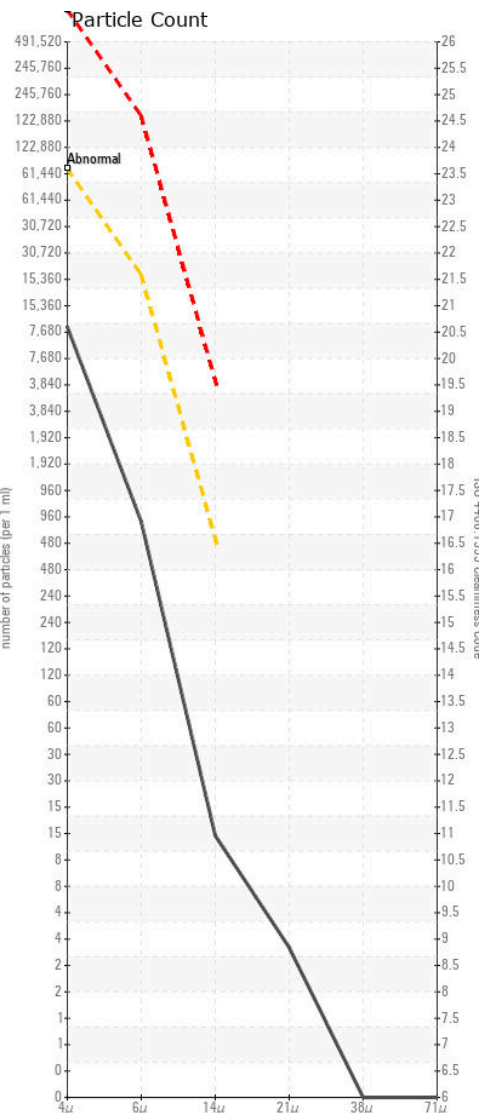
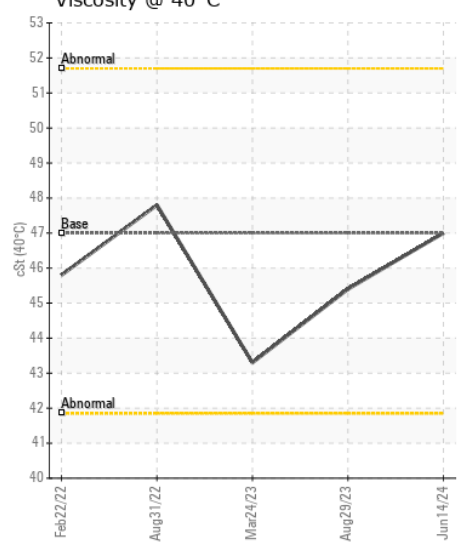
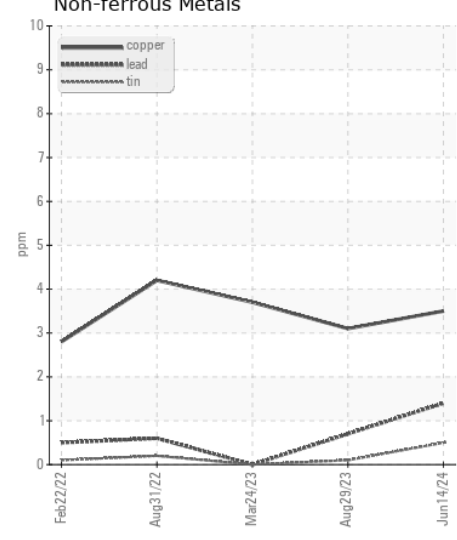
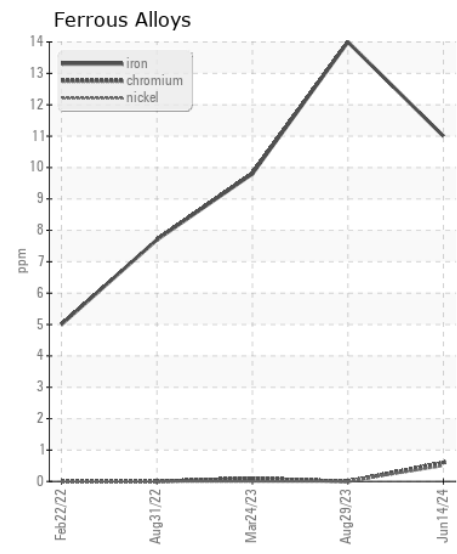
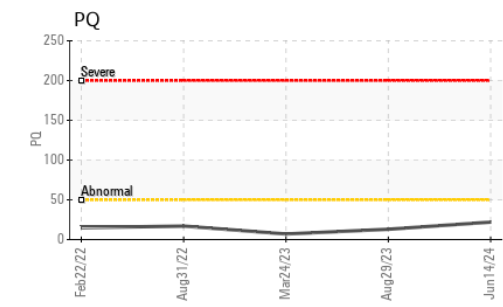
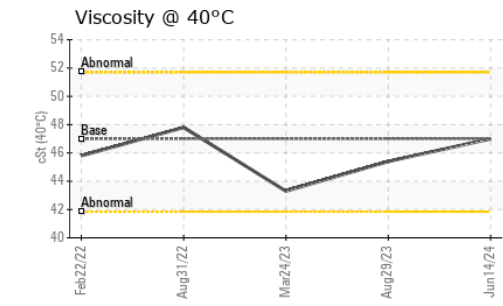
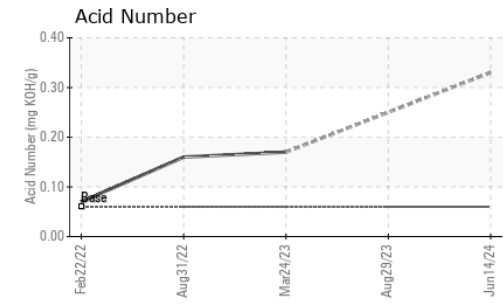
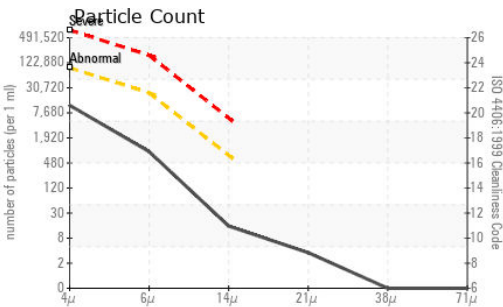
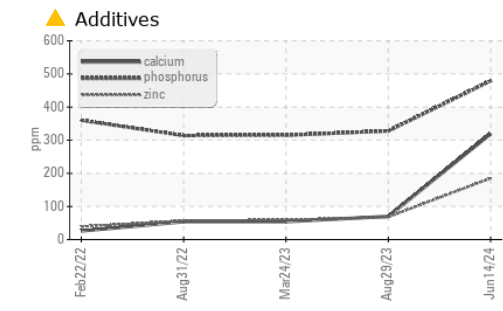
The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>11	4	2	<1
Potassium	ppm	ASTM D5185m	>20	<1	<1	<1
Water		WC Method	>0.075	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>80000	10114	18207	12520
Particles >6µm		ASTM D7647	>20000	790	2126	1859
Particles >14µm		ASTM D7647	>640	13	88	91
Particles >21µm		ASTM D7647	>160	3	16	16
Particles >38µm		ASTM D7647	>40	0	1	0
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>23/21/16	21/17/11	21/18/14	21/18/14
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

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

Sodium	ppm	ASTM D5185m	>21	<1	<1	1
Boron	ppm	ASTM D5185m		<1	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		1	0	<1
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		10	13	14
Calcium	ppm	ASTM D5185m		319	70	54
Phosphorus	ppm	ASTM D5185m	827	479	328	315
Zinc	ppm	ASTM D5185m	0	▲ 185	68	59
Sulfur	ppm	ASTM D5185m	13	1261	1840	1792
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.33	---	0.17
Visc @ 40°C	cSt	ASTM D445	47	47.0	45.4	43.3



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0218662
Lab Number : 06211499
Unique Number : 11084363
Test Package : CONST (Additional Tests: PQ)
Received : 17 Jun 2024
Tested : 18 Jun 2024
Diagnosed : 18 Jun 2024 - Don Baldrige

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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)