



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL



Machine Id
JOHN DEERE 210G 1FF210GXCKF528087

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		JR0203302	JR0140029	JR0116967
Sample Date		Client Info		13 Feb 2024	05 Oct 2022	15 Feb 2022
Machine Age	hrs	Client Info		2487	1479	1043
Oil Age	hrs	Client Info		2487	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	Not Chngd	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

PQ		ASTM D8184	>50	10	11	15
Iron	ppm	ASTM D5185m	>32	3	4	3
Chromium	ppm	ASTM D5185m	>9	<1	0	0
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>9	1	1	<1
Lead	ppm	ASTM D5185m	>28	3	4	2
Copper	ppm	ASTM D5185m	>50	1	1	2
Tin	ppm	ASTM D5185m	>5	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

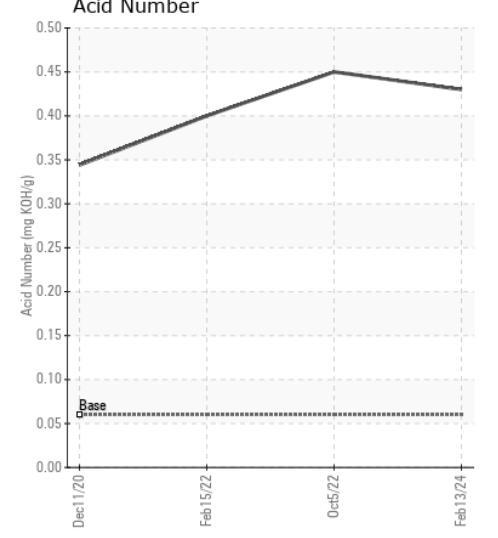
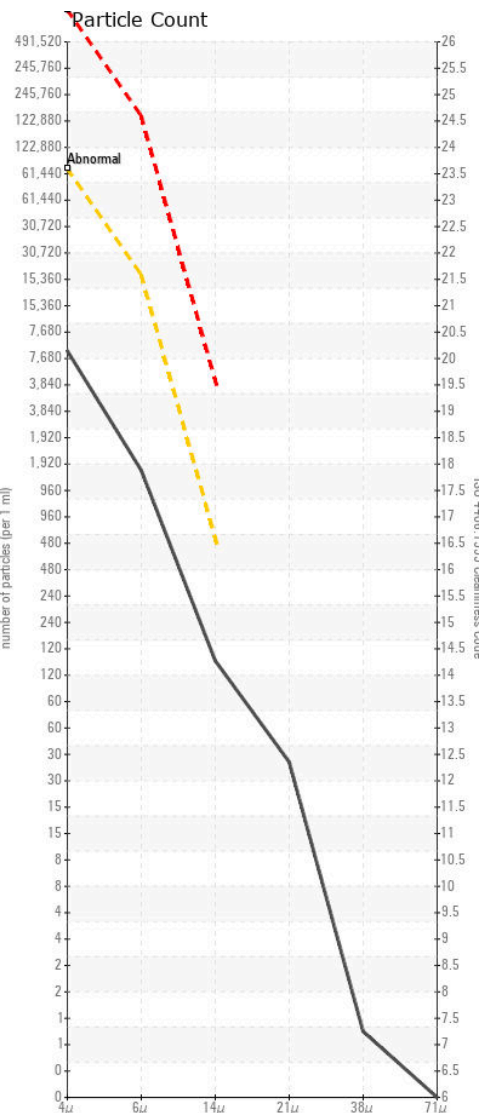
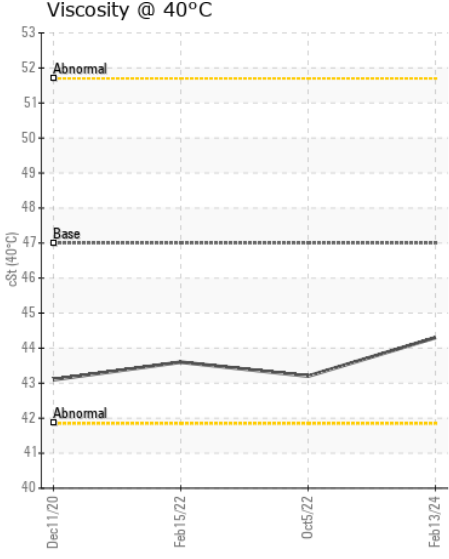
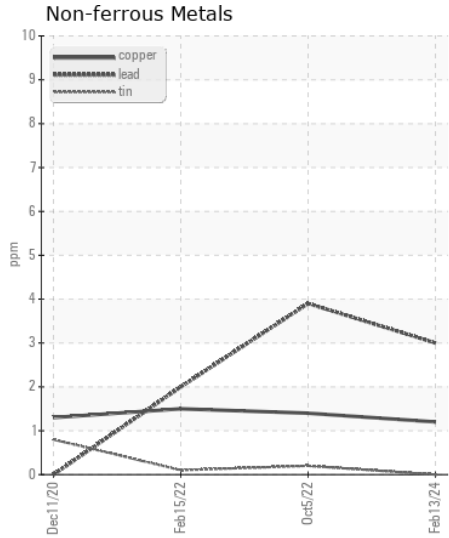
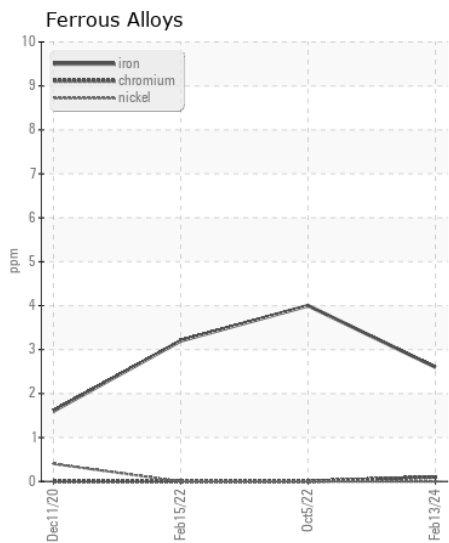
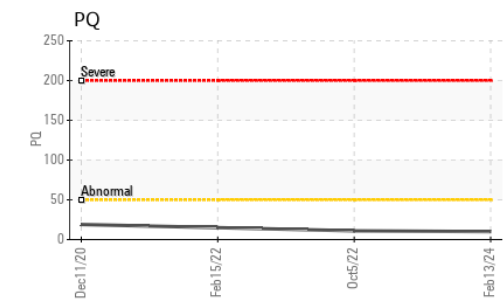
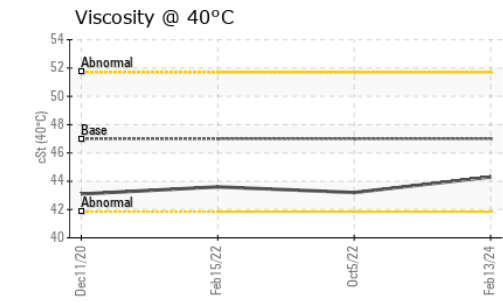
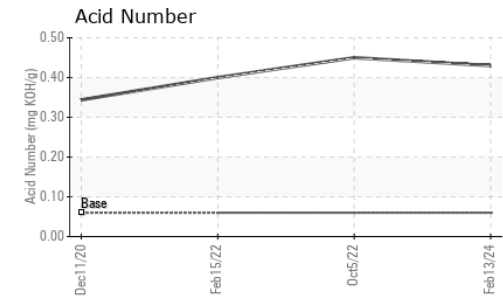
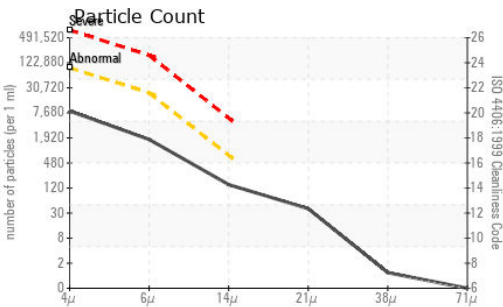
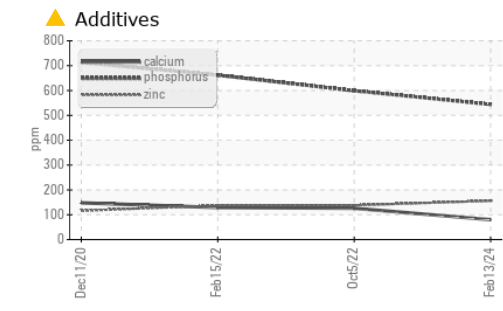
The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>11	<1	2	<1
Potassium	ppm	ASTM D5185m	>20	1	<1	2
Water		WC Method	>0.075	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>80000	7388	▲ 118602	6622
Particles >6µm		ASTM D7647	>20000	1546	▲ 52622	1640
Particles >14µm		ASTM D7647	>640	128	▲ 9704	104
Particles >21µm		ASTM D7647	>160	34	▲ 2444	24
Particles >38µm		ASTM D7647	>40	1	▲ 149	0
Particles >71µm		ASTM D7647	>10	0	3	0
Oil Cleanliness		ISO 4406 (c)	>23/21/16	20/18/14	▲ 24/23/20	20/18/14
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT	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	0	2	0
Boron	ppm	ASTM D5185m		8	13	17
Barium	ppm	ASTM D5185m		2	0	0
Molybdenum	ppm	ASTM D5185m		0	<1	0
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		5	<1	<1
Calcium	ppm	ASTM D5185m		80	126	129
Phosphorus	ppm	ASTM D5185m	827	544	599	662
Zinc	ppm	ASTM D5185m	0	▲ 156	▲ 138	▲ 137
Sulfur	ppm	ASTM D5185m	13	146	328	219
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.43	0.45	0.40
Visc @ 40°C	cSt	ASTM D445	47	44.3	43.2	43.6



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0203302 **Received** : 14 Feb 2024
Lab Number : 06089504 **Tested** : 15 Feb 2024
Unique Number : 10876949 **Diagnosed** : 16 Feb 2024 - Don Baldrige
Test Package : CONST (Additional Tests: PQ)

JRE - MANASSAS PARK
 9107 OWENS DRIVE
 MANASSAS PARK, VA
 US 20111
 Contact: DON VEST
 dvest@jamesriverequipment.com
 T: (703)631-8500
 F: (703)631-4715

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)