



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL



Area
[W8497]
 Machine Id
JOHN DEERE 210G C9013621 (S/N 1FF210GXCEE522436)
 Component
Hydraulic System
 Fluid
HITACHI HYDRAULIC SUPER EX 46HN (36 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. (Customer Sample Comment: W8497)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0197284	JR0013766	JR0008815
Sample Date		Client Info		08 Feb 2024	02 Jun 2020	29 May 2019
Machine Age	hrs	Client Info		1701	1601	844
Oil Age	hrs	Client Info		1701	1601	844
Filter Age	hrs	Client Info		0	500	844
Oil Changed		Client Info		Not Changed	Not Changed	Not Changed
Filter Changed		Client Info		Changed	Not Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

PQ		ASTM D8184	>50	15	13	14
Iron	ppm	ASTM D5185m	>32	9	2	2
Chromium	ppm	ASTM D5185m	>9	0	<1	<1
Nickel	ppm	ASTM D5185m	>5	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	<1	0
Aluminum	ppm	ASTM D5185m	>9	2	1	1
Lead	ppm	ASTM D5185m	>28	0	0	<1
Copper	ppm	ASTM D5185m	>50	2	<1	<1
Tin	ppm	ASTM D5185m	>5	0	0	<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

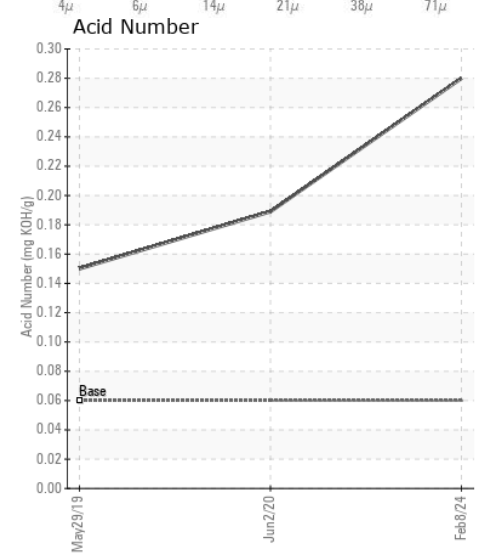
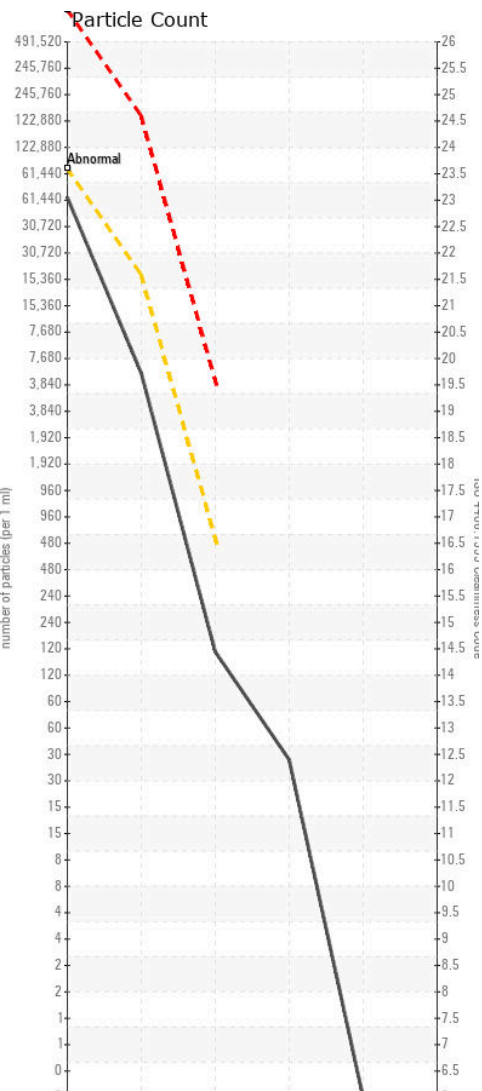
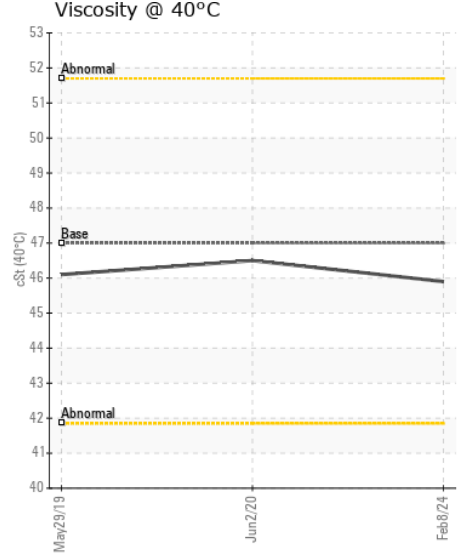
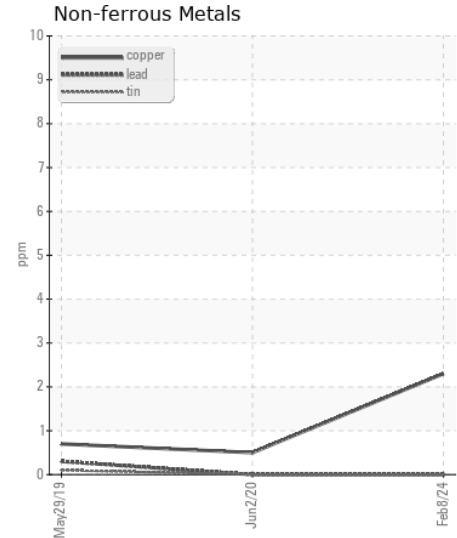
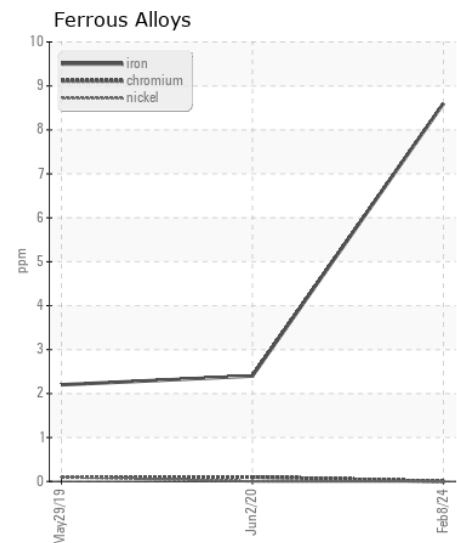
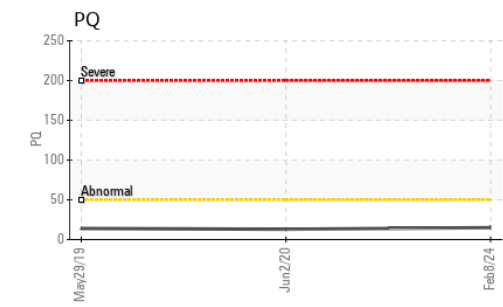
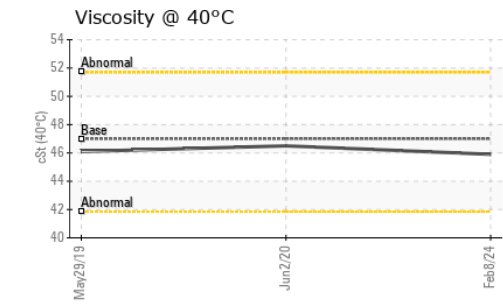
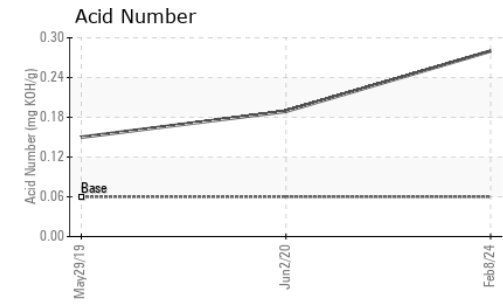
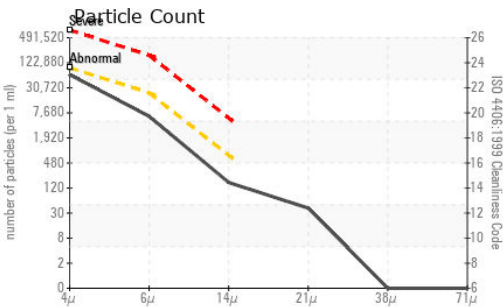
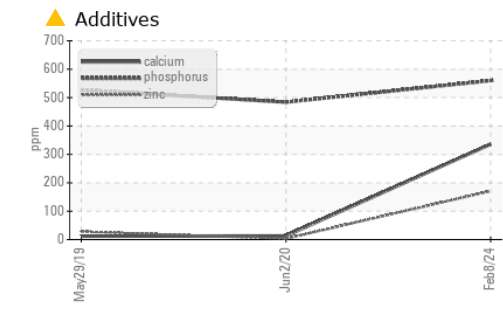
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>11	<1	<1	0
Potassium	ppm	ASTM D5185m	>20	<1	<1	<1
Water		WC Method	>0.075	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>80000	55010	---	6087
Particles >6µm		ASTM D7647	>20000	5520	---	765
Particles >14µm		ASTM D7647	>640	144	---	33
Particles >21µm		ASTM D7647	>160	35	---	7
Particles >38µm		ASTM D7647	>40	0	---	1
Particles >71µm		ASTM D7647	>10	0	---	0
Oil Cleanliness		ISO 4406 (c)	>23/21/16	23/20/14	---	20/17/12
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	▲ MODER	VLITE
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	0	0
Boron	ppm	ASTM D5185m		0	2	5
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	<1	0
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		<1	4	<1
Calcium	ppm	ASTM D5185m		336	13	12
Phosphorus	ppm	ASTM D5185m	827	560	484	527
Zinc	ppm	ASTM D5185m	0	▲ 171	3	28
Sulfur	ppm	ASTM D5185m	13	514	103	144
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.28	0.189	0.150
Visc @ 40°C	cSt	ASTM D445	47	45.9	46.5	46.1



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0197284 **Received** : 13 Feb 2024
Lab Number : 06087175 **Tested** : 14 Feb 2024
Unique Number : 10874620 **Diagnosed** : 14 Feb 2024 - Angela Borella
Test Package : MOBCE (Additional Tests: PQ)

JRE - HOPE MILLS/FAYETTEVILLE
 5039 HWY 301 SOUTH
 HOPE MILLS, NC
 US 28348
 Contact: FAYETTEVILLE SHOP
 stephen.mullis@jamesriverequipment.com; canastasio@wearcheck.com

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)