



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL



Area
Store 1 - Cowen
Machine Id
JOHN DEERE 135G 1FF135GXHKF501620
Component
Hydraulic System
Fluid
HITACHI HYDRAULIC SUPER EX 46HN (41 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		LEC0041380	LEC0033049	LEC0032999
Sample Date		Client Info		31 May 2023	18 Oct 2022	05 Oct 2022
Machine Age	hrs	Client Info		1594	1081	1056
Oil Age	hrs	Client Info		513	1081	1056
Filter Age	hrs	Client Info		1056	25	1056
Oil Changed		Client Info		Not Changed	Changed	Not Changed
Filter Changed		Client Info		Not Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

PQ		ASTM D8184	>50	14	9	9
Iron	ppm	ASTM D5185m	>32	2	<1	5
Chromium	ppm	ASTM D5185m	>9	<1	0	0
Nickel	ppm	ASTM D5185m	>5	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>9	<1	<1	<1
Lead	ppm	ASTM D5185m	>28	<1	0	0
Copper	ppm	ASTM D5185m	>50	3	2	8
Tin	ppm	ASTM D5185m	>5	<1	0	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

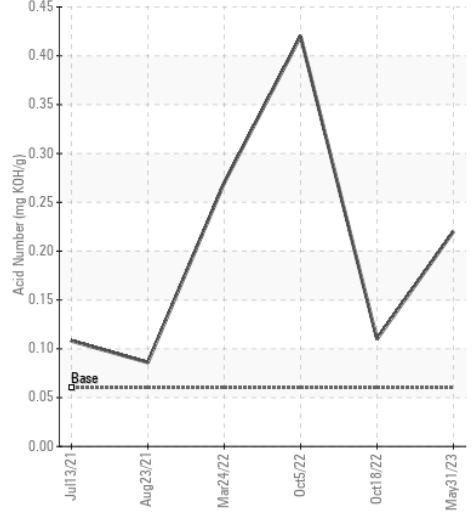
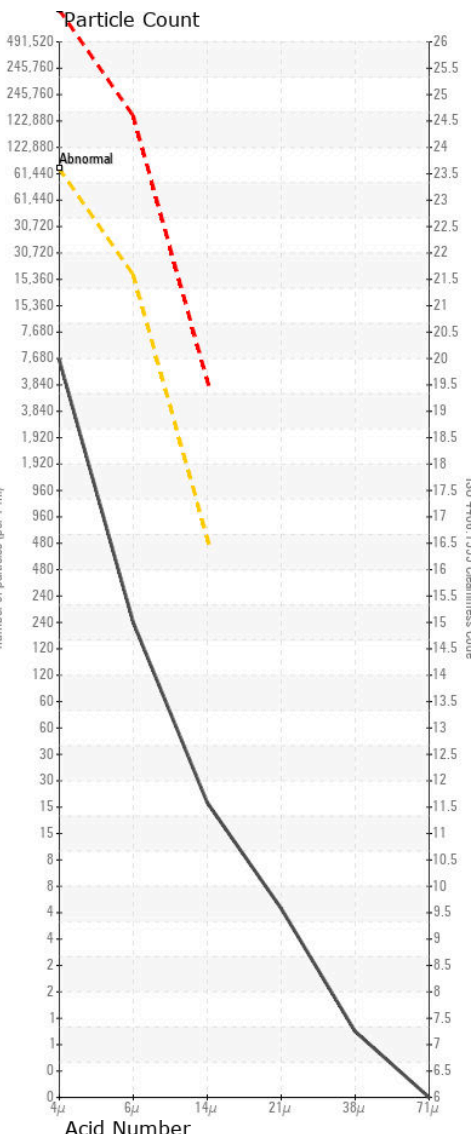
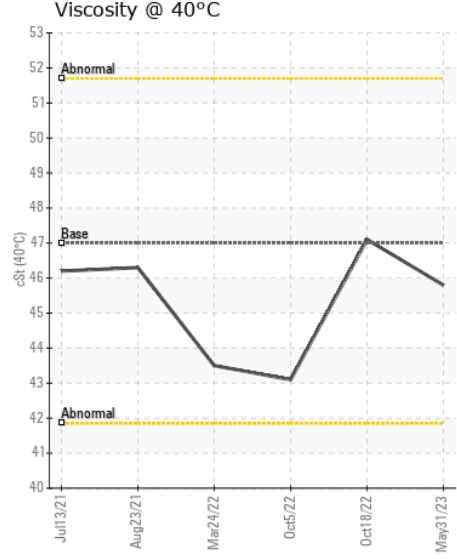
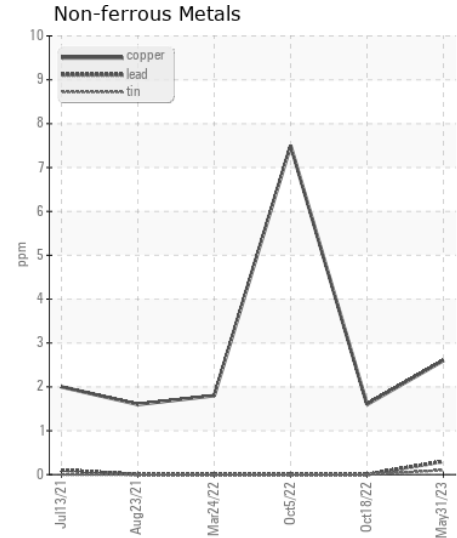
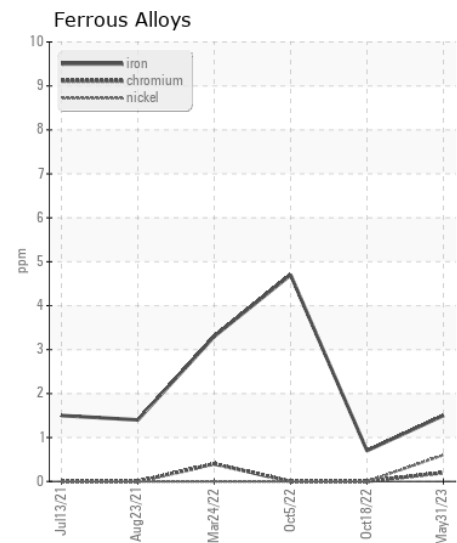
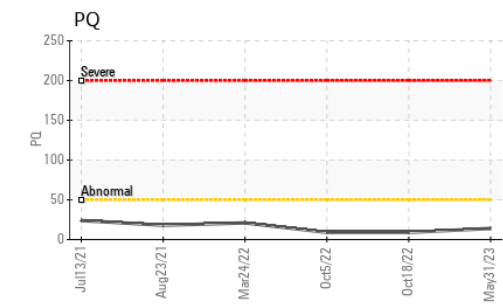
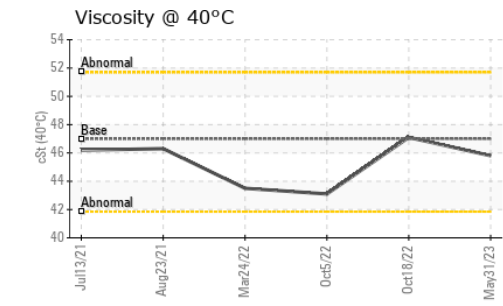
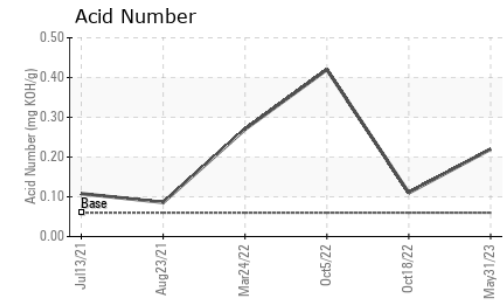
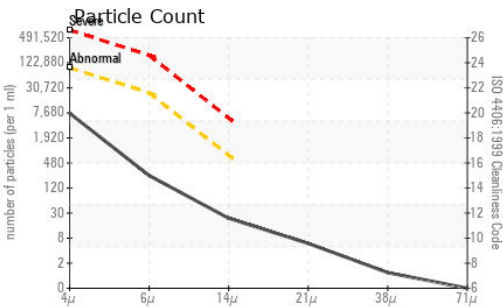
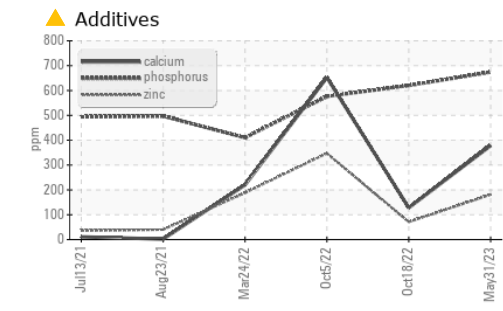
The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>11	<1	2	0
Potassium	ppm	ASTM D5185m	>20	2	0	0
Water		WC Method	>0.075	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>80000	6556	8869	77805
Particles >6µm		ASTM D7647	>20000	211	598	7866
Particles >14µm		ASTM D7647	>640	20	20	364
Particles >21µm		ASTM D7647	>160	5	5	77
Particles >38µm		ASTM D7647	>40	1	1	11
Particles >71µm		ASTM D7647	>10	0	0	1
Oil Cleanliness		ISO 4406 (c)	>23/21/16	20/15/11	20/16/11	23/20/16
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	2	0	2
Boron	ppm	ASTM D5185m		2	2	15
Barium	ppm	ASTM D5185m		0	<1	0
Molybdenum	ppm	ASTM D5185m		3	3	13
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		12	9	49
Calcium	ppm	ASTM D5185m		378	128	652
Phosphorus	ppm	ASTM D5185m	827	674	620	576
Zinc	ppm	ASTM D5185m	0	▲ 181	71	▲ 347
Sulfur	ppm	ASTM D5185m	13	111	339	1634
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.22	0.11	0.42
Visc @ 40°C	cSt	ASTM D445	47	45.8	47.1	43.1



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0041380 **Received** : 02 Jun 2023
Lab Number : 05862920 **Tested** : 05 Jun 2023
Unique Number : 10497385 **Diagnosed** : 05 Jun 2023 - Don Baldrige
Test Package : CONST (Additional Tests: PQ)

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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)