



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL



Area
Store 9 - Marietta
Machine Id
JOHN DEERE 200D 1FF200DXCA0512237
Component
Hydraulic System
Fluid
HITACHI HYDRAULIC SUPER EX 46HN (63 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		LECP158163	LECP128770	LECP123923
Sample Date		Client Info		22 Jul 2015	30 Jul 2013	03 Oct 2012
Machine Age	hrs	Client Info		3466	2163	1679
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Chngd	N/A	N/A
Filter Changed		Client Info		Not Chngd	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

PQ		ASTM D8184	>50	21.0	16.0	13.0
Iron	ppm	ASTM D5185m	>23	12	4	4
Chromium	ppm	ASTM D5185m	>9	<1	<1	0
Nickel	ppm	ASTM D5185m	>5	<1	0	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>9	3	2	1
Lead	ppm	ASTM D5185m	>28	1	2	2
Copper	ppm	ASTM D5185m	>51	4	3	4
Tin	ppm	ASTM D5185m	>5	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

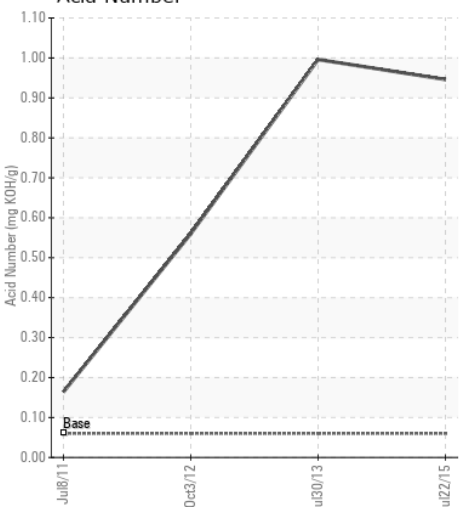
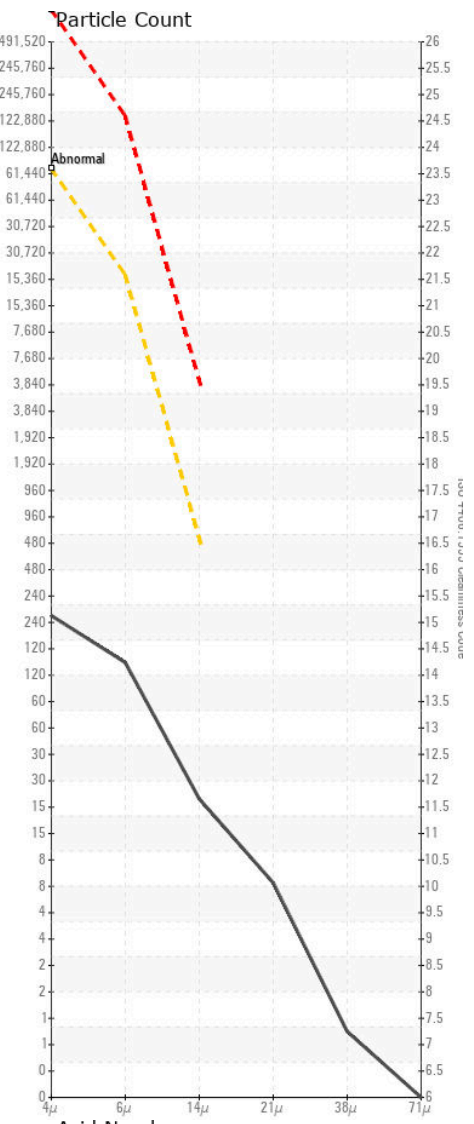
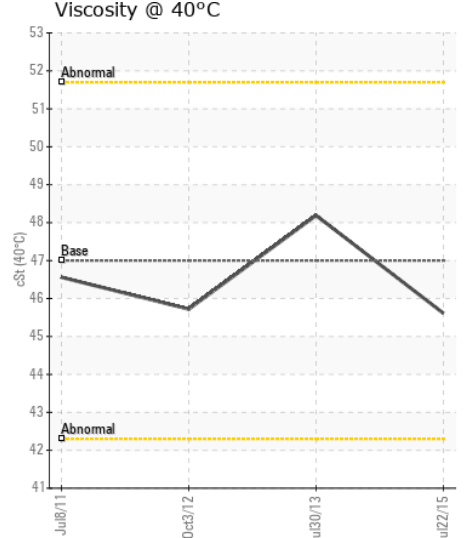
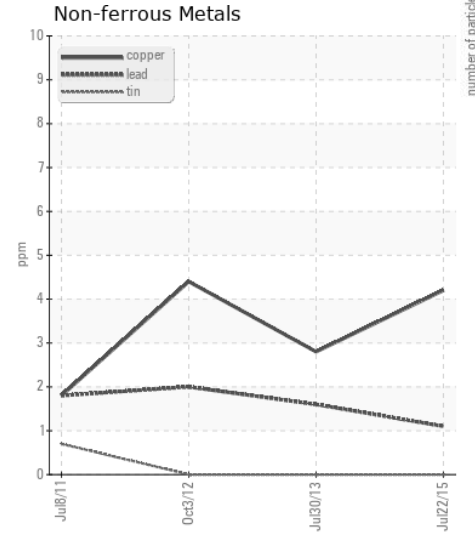
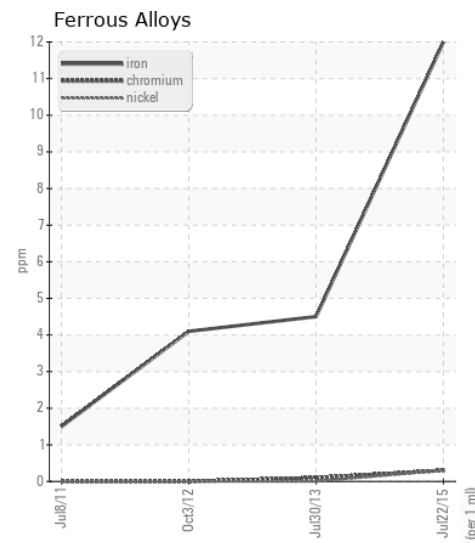
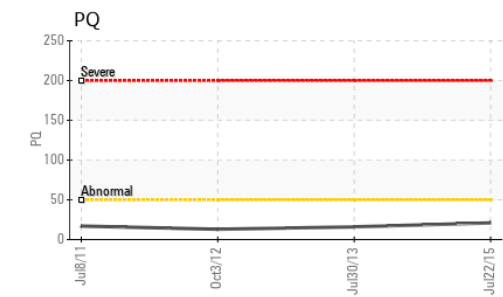
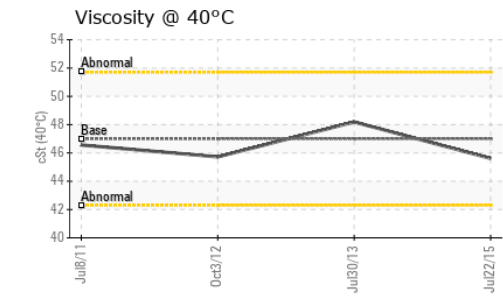
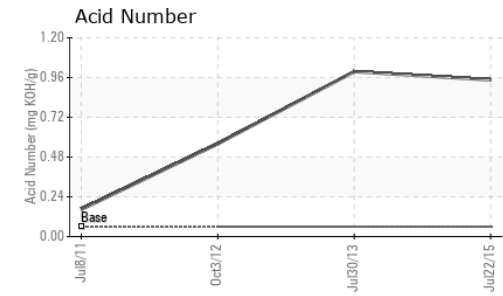
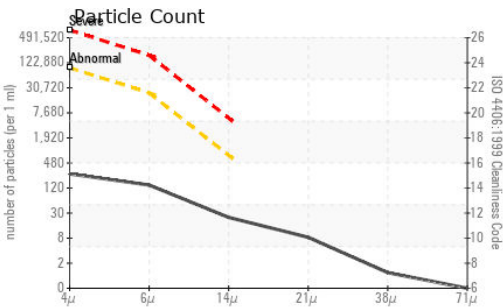
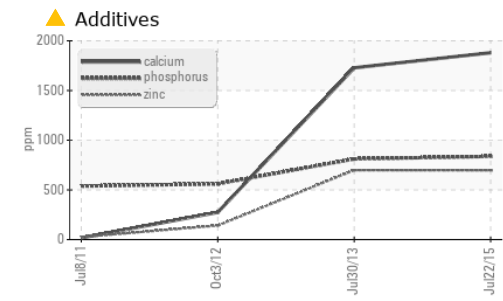
There is no indication of any contamination in the component. The amount and size of particulates present in the system is acceptable.

Silicon	ppm	ASTM D5185m	>31	12	8	2
Potassium	ppm	ASTM D5185m	>20	7	6	0
Water		WC Method	>0.075	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>80000	231	713	255
Particles >6µm		ASTM D7647	>20000	125	388	139
Particles >14µm		ASTM D7647	>640	21	66	23
Particles >21µm		ASTM D7647	>160	7	22	8
Particles >38µm		ASTM D7647	>40	1	3	1
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>23/21/16	15/14/12	17/16/13	15/14/12
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	VLITE	LIGHT	LIGHT
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	4	4	6
Boron	ppm	ASTM D5185m		3	3	5
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		<1	<1	<1
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		47	44	5
Calcium	ppm	ASTM D5185m		1880	1728	274
Phosphorus	ppm	ASTM D5185m	827	837	811	560
Zinc	ppm	ASTM D5185m	0	▲ 697	▲ 698	▲ 141
Sulfur	ppm	ASTM D5185m	13	1987	1940	580
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.946	0.996	0.560
Visc @ 40°C	cSt	ASTM D445	47	45.61	48.19	45.72



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC158163 **Received** : 24 Jul 2015
Lab Number : 03789823 **Tested** : 28 Jul 2015
Unique Number : 7082849 **Diagnosed** : 28 Jul 2015 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: PQ)

LESLIE EQUIPMENT COMPANY
 105 TENNIS CENTER DR.
 MARIETTA, OH
 US 45750-9765
 Contact: LEANNE KENDALL
 KendalLeanne@lec1.com
 T:
 F: (740)373-5570

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)