



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Area
Store 5 - Cross Lanes
Machine Id
JOHN DEERE 50D 1TT050DXLCG277157 (S/N 1FF050DXLCG277157)
Component
Hydraulic System
Fluid
HITACHI HYDRAULIC SUPER EX 46HN (17 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		LEC0050448	LEC0017938	LECP173939
Sample Date		Client Info		17 Jun 2024	26 May 2021	11 May 2017
Machine Age	hrs	Client Info		4311	3589	2222
Oil Age	hrs	Client Info		4311	1367	1500
Filter Age	hrs	Client Info		722	1367	1500
Oil Changed		Client Info		Not Changed	Not 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	20	22	19
Iron	ppm	ASTM D5185m	>32	4	10	2
Chromium	ppm	ASTM D5185m	>9	<1	1	<1
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m		0	<1	0
Aluminum	ppm	ASTM D5185m	>9	2	2	<1
Lead	ppm	ASTM D5185m	>28	0	<1	0
Copper	ppm	ASTM D5185m	>50	4	4	1
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

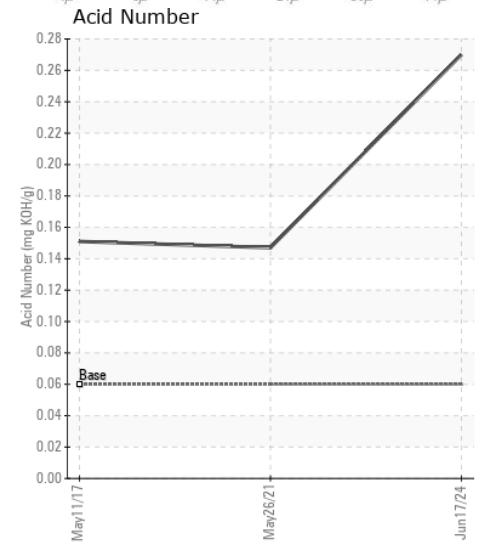
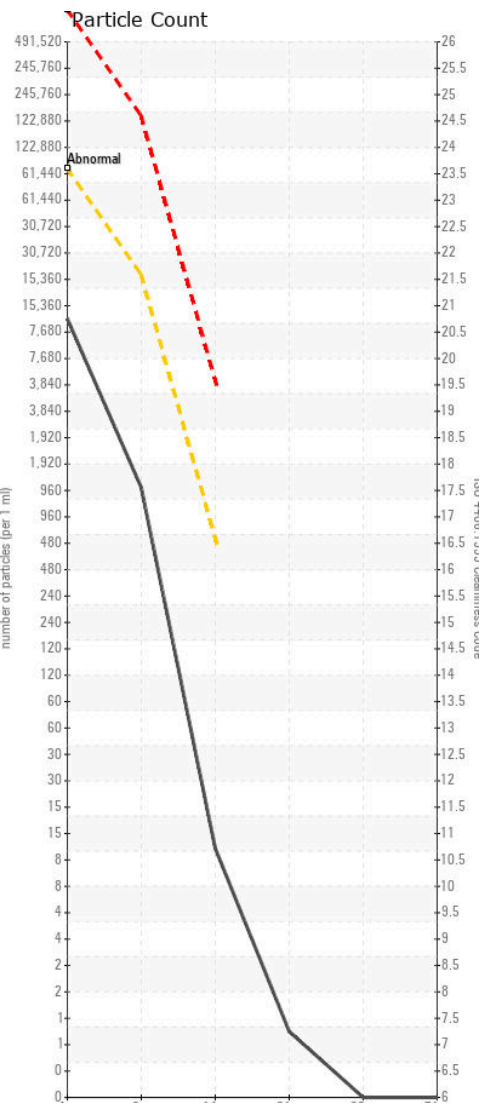
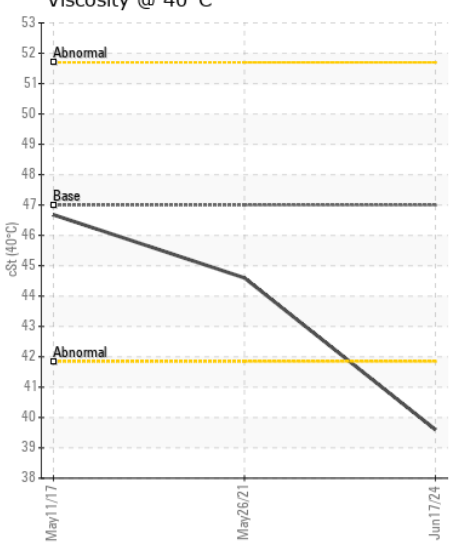
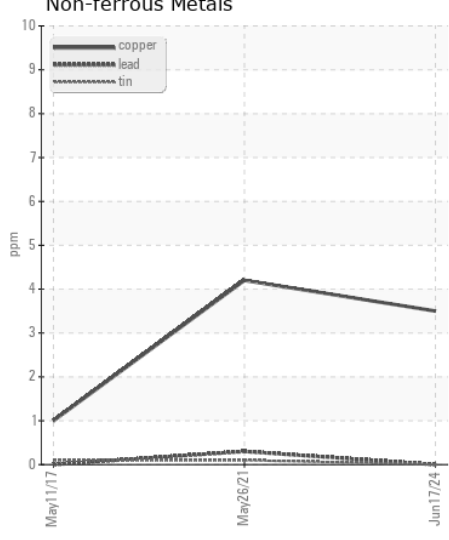
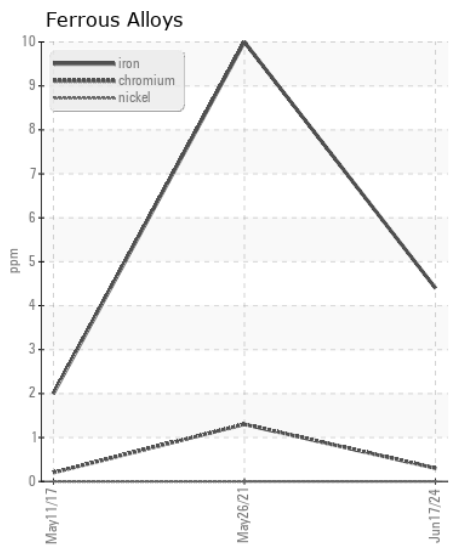
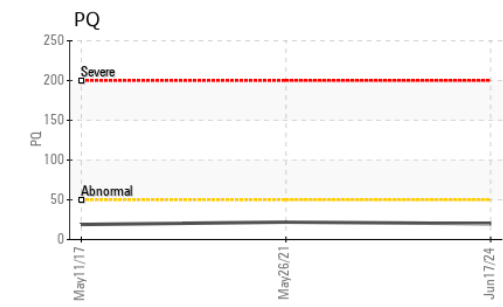
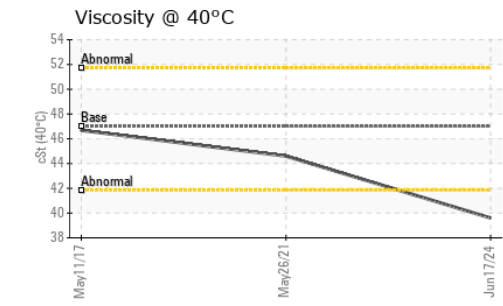
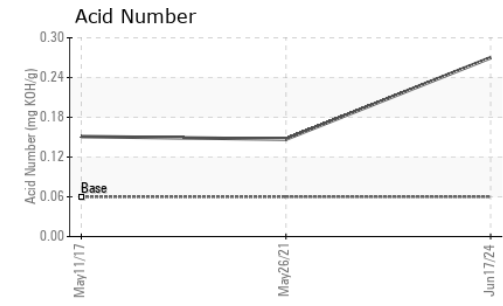
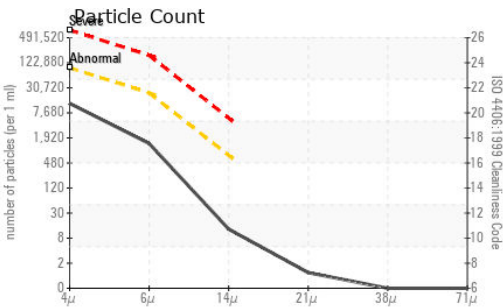
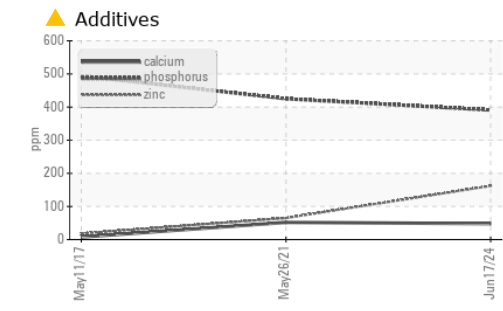
The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>11	2	3	2
Potassium	ppm	ASTM D5185m	>20	1	<1	<1
Water		WC Method	>0.075	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>80000	11270	28904	11966
Particles >6µm		ASTM D7647	>20000	1233	1135	1345
Particles >14µm		ASTM D7647	>640	11	14	73
Particles >21µm		ASTM D7647	>160	1	5	33
Particles >38µm		ASTM D7647	>40	0	0	11
Particles >71µm		ASTM D7647	>10	0	0	2
Oil Cleanliness		ISO 4406 (c)	>23/21/16	21/17/11	22/17/11	21/18/13
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	0	<1	0
Boron	ppm	ASTM D5185m		1	<1	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		<1	<1	<1
Manganese	ppm	ASTM D5185m		0	<1	0
Magnesium	ppm	ASTM D5185m		5	2	2
Calcium	ppm	ASTM D5185m		48	52	8
Phosphorus	ppm	ASTM D5185m	827	391	425	494
Zinc	ppm	ASTM D5185m	0	▲ 162	65	18
Sulfur	ppm	ASTM D5185m	13	594	344	234
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.27	0.147	0.151
Visc @ 40°C	cSt	ASTM D445	47	39.6	44.6	46.68



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0050448 **Received** : 19 Jun 2024
Lab Number : 06214556 **Tested** : 20 Jun 2024
Unique Number : 11087420 **Diagnosed** : 21 Jun 2024 - Don Baldrige
Test Package : CONST (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)