



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL



Area
Store 2 - Beaver [RO# 1522250]
Machine Id
JOHN DEERE 130GL 1FF130GXKEE040620
Component
Diesel Engine
Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (4 GAL)

RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LEC0051122	LEC0010806	LECP190519
Sample Date		Client Info		21 Jun 2024	02 Apr 2020	18 Jan 2019
Machine Age	hrs	Client Info		3210	2804	2195
Oil Age	hrs	Client Info		406	609	703
Filter Age	hrs	Client Info		406	609	703
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	SEVERE	SEVERE

WEAR

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>51	▲ 85	▲ 92	▲ 146
Chromium	ppm	ASTM D5185m	>11	2	2	3
Nickel	ppm	ASTM D5185m	>5	<1	<1	1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>31	11	12	10
Lead	ppm	ASTM D5185m	>26	13	▲ 54	▲ 70
Copper	ppm	ASTM D5185m	>26	8	10	12
Tin	ppm	ASTM D5185m	>4	1	2	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is an abnormal amount of solids and carbon present in the oil.

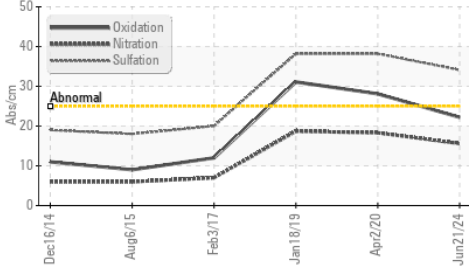
Silicon	ppm	ASTM D5185m	>120	9	6	5
Potassium	ppm	ASTM D5185m	>20	2	1	4
Fuel		WC Method	>2.1	<1.0	▲ 2.7	▲ 9.0
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	▲ 5	▲ 6	▲ 6.4
Nitration	Abs/cm	*ASTM D7624	>20	15.6	18.3	18.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	34.1	38.2	38.2
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	>0.21	NEG	NEG	NEG

FLUID CONDITION

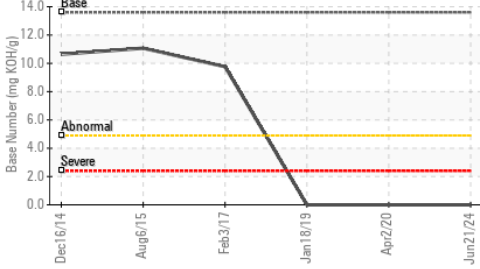
The oil viscosity is higher than normal. The BN level is low.

Sodium	ppm	ASTM D5185m	>31	5	6	5
Boron	ppm	ASTM D5185m		82	52	72
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		231	224	58
Manganese	ppm	ASTM D5185m		2	1	2
Magnesium	ppm	ASTM D5185m		772	690	250
Calcium	ppm	ASTM D5185m		1491	1257	975
Phosphorus	ppm	ASTM D5185m		872	726	549
Zinc	ppm	ASTM D5185m		1069	841	752
Sulfur	ppm	ASTM D5185m		3475	1558	1869
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.2	28.1	31.1
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	▲ 0.0	▲ 0.0	▲ 0.0
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 17.8	▲ 18.5	▲ 11.07

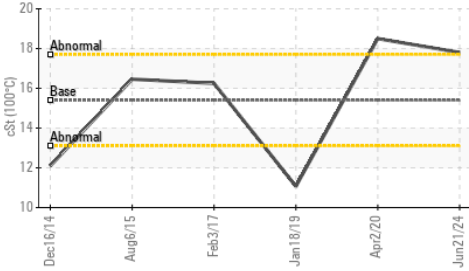
▲ FT-IR (Direct Trend)



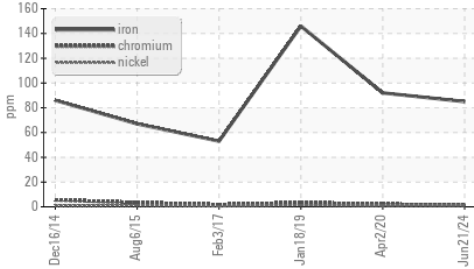
▲ Base Number



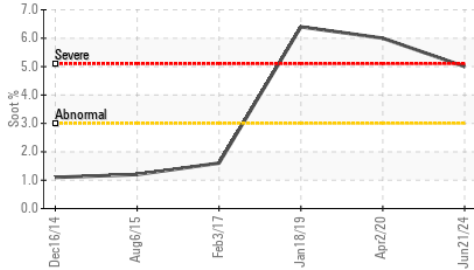
▲ Viscosity @ 100°C



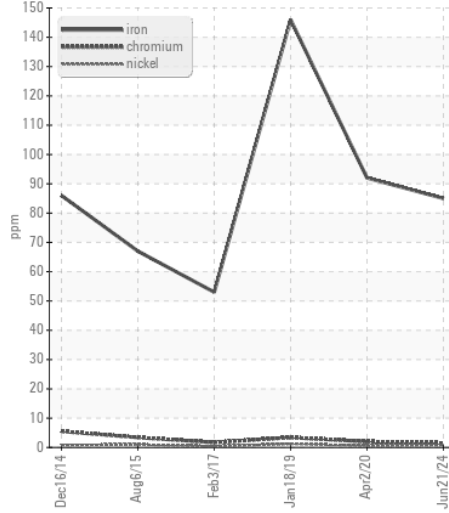
▲ Ferrous Alloys



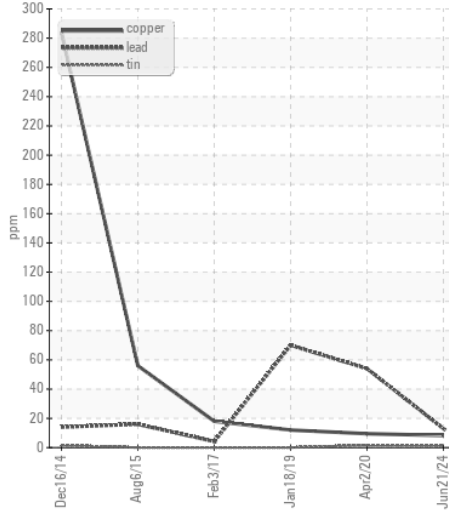
▲ Soot %



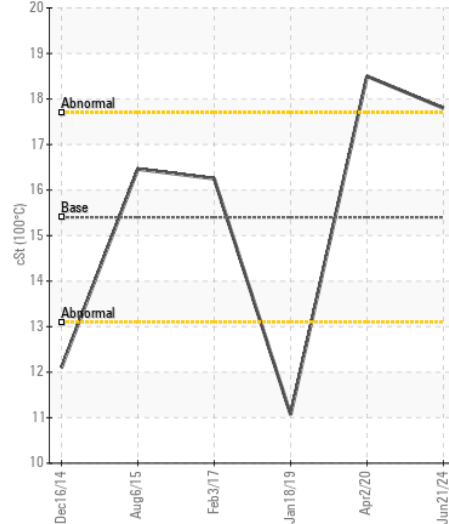
▲ Ferrous Alloys



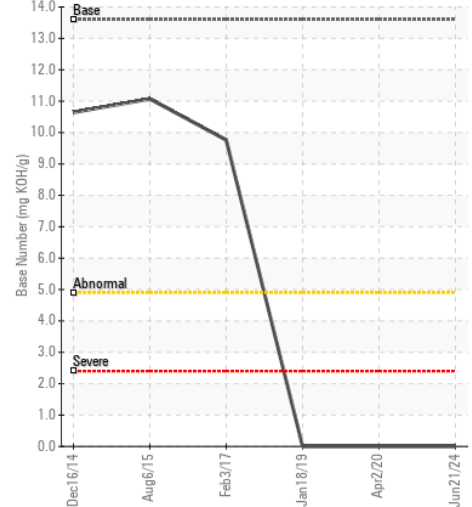
▲ Non-ferrous Metals



▲ Viscosity @ 100°C



▲ Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0051122 **Received** : 03 Jul 2024
Lab Number : 06227186 **Tested** : 08 Jul 2024
Unique Number : 11110679 **Diagnosed** : 08 Jul 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: TBN)

LESLIE EQUIPMENT COMPANY
 105 TENNIS CENTER DR.
 MARIETTA, OH
 US 45750-9765
 Contact: LEANNE KENDALL
 KendalLeanne@lec1.com

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)

T: (740)373-5570