



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
Store 2 - Beaver [RO#137212]
Machine Id
JOHN DEERE 310E 1DW310EXVNF713867
Component
Diesel Engine
Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 10W30 (9 GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LEC0039349	---	---
Sample Date		Client Info		14 Mar 2023	---	---
Machine Age	hrs	Client Info		431	---	---
Oil Age	hrs	Client Info		431	---	---
Filter Age	hrs	Client Info		431	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ABNORMAL	---	---

WEAR

The nickel level is abnormal. All other metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>51	41	---	---
Chromium	ppm	ASTM D5185m	>11	<1	---	---
Nickel	ppm	ASTM D5185m	>5	▲ 32	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>3	0	---	---
Aluminum	ppm	ASTM D5185m	>31	5	---	---
Lead	ppm	ASTM D5185m	>26	2	---	---
Copper	ppm	ASTM D5185m	>26	11	---	---
Tin	ppm	ASTM D5185m	>4	2	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>120	8	---	---
Potassium	ppm	ASTM D5185m	>20	7	---	---
Fuel		WC Method	>5	<1.0	---	---
Water		WC Method	>0.21	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.2	---	---
Nitration	Abs/cm	*ASTM D7624	>20	7.2	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.9	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.21	NEG	---	---

FLUID CONDITION

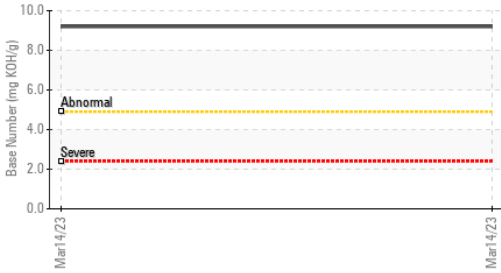
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m	>31	3	---	---
Boron	ppm	ASTM D5185m		223	---	---
Barium	ppm	ASTM D5185m		4	---	---
Molybdenum	ppm	ASTM D5185m		254	---	---
Manganese	ppm	ASTM D5185m		2	---	---
Magnesium	ppm	ASTM D5185m		757	---	---
Calcium	ppm	ASTM D5185m		1473	---	---
Phosphorus	ppm	ASTM D5185m		902	---	---
Zinc	ppm	ASTM D5185m		1101	---	---
Sulfur	ppm	ASTM D5185m		2798	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.8	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		9.2	---	---
Visc @ 100°C	cSt	ASTM D445		10.2	---	---

▲ Ferrous Alloys



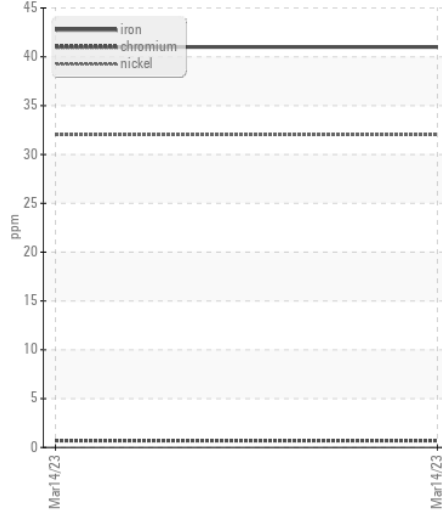
Base Number



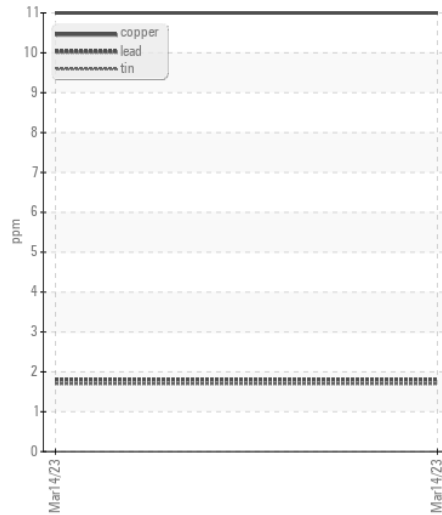
Viscosity @ 100°C



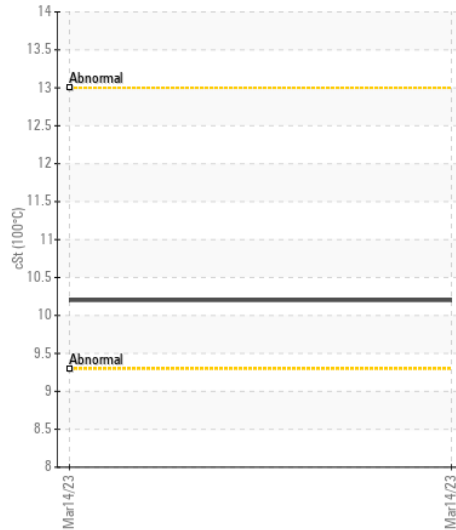
▲ Ferrous Alloys



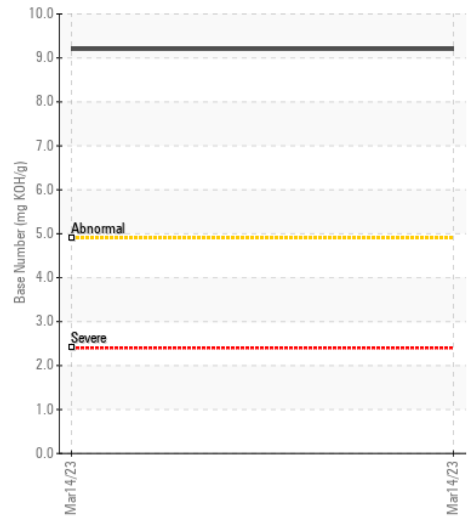
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0039349 **Received** : 17 Mar 2023
Lab Number : 05794456 **Diagnosed** : 21 Mar 2023
Unique Number : 10384140 **Diagnostician** : 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
 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)