



OIL ANALYSIS REPORT

WEAR	MARGINAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
Store 2 - Beaver [RO#136426]
Machine Id
JOHN DEERE 410E 1DW410EBCNF713827
Component
Diesel Engine
Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (11 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		LEC0038713	LEC0035930	LEC0032380
Sample Date		Client Info		16 Feb 2023	12 Dec 2022	14 Jun 2022
Machine Age	hrs	Client Info		1775	1217	303
Oil Age	hrs	Client Info		558	914	303
Filter Age	hrs	Client Info		558	914	303
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				MARGINAL	ABNORMAL	ABNORMAL

WEAR

The copper level has decreased, but is still abnormal.

Iron	ppm	ASTM D5185m	>51	18	16	35
Chromium	ppm	ASTM D5185m	>11	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	0	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>31	3	4	3
Lead	ppm	ASTM D5185m	>26	10	6	15
Copper	ppm	ASTM D5185m	>26	▲ 78	▲ 175	▲ 473
Tin	ppm	ASTM D5185m	>4	5	6	11
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

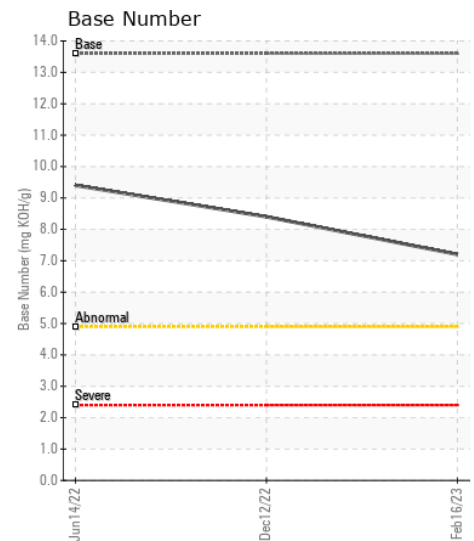
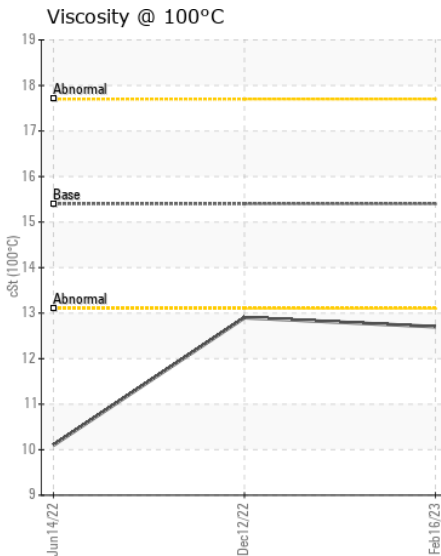
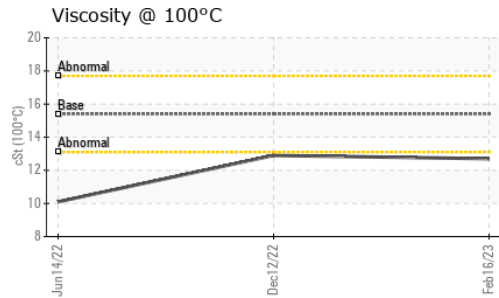
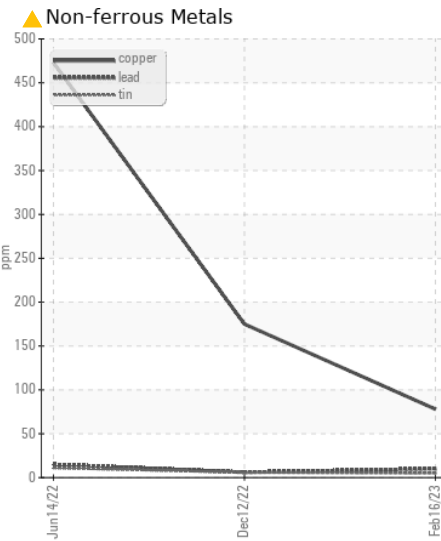
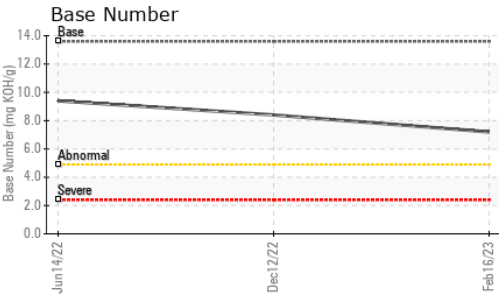
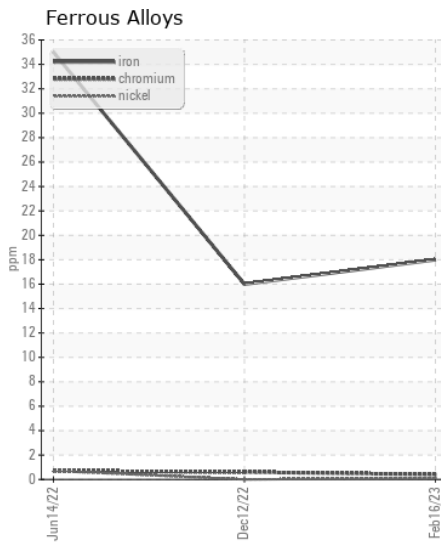
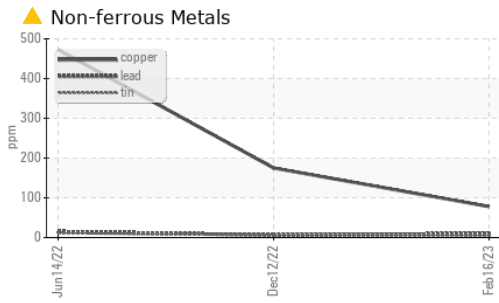
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>120	6	5	13
Potassium	ppm	ASTM D5185m	>20	1	<1	<1
Fuel		WC Method	>5	<1.0	<1.0	▲ 2.5
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	10.3	10.3	10.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.4	24.1	22.5
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 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	5	3	7
Boron	ppm	ASTM D5185m		110	97	199
Barium	ppm	ASTM D5185m		0	0	1
Molybdenum	ppm	ASTM D5185m		238	144	238
Manganese	ppm	ASTM D5185m		<1	<1	10
Magnesium	ppm	ASTM D5185m		792	553	754
Calcium	ppm	ASTM D5185m		1450	1766	1357
Phosphorus	ppm	ASTM D5185m		795	930	841
Zinc	ppm	ASTM D5185m		1008	1169	1033
Sulfur	ppm	ASTM D5185m		3151	3394	2800
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.1	19.6	17.6
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	7.2	8.4	9.4
Visc @ 100°C	cSt	ASTM D445	15.4	12.7	12.9	▲ 10.1



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0038713 **Received** : 20 Feb 2023
Lab Number : 05771692 **Diagnosed** : 21 Feb 2023
Unique Number : 10346309 **Diagnostician** : Jonathan Hester
Test Package : CONST (Additional Tests: TBN)

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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)