



OIL ANALYSIS REPORT

WEAR	SEVERE
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
JOHN DEERE 850L 1T0850LXPNF429766
 Component
Diesel Engine
 Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- QTS)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WE0006859	WE0006535	WE0004324
Sample Date		Client Info		09 May 2024	18 Dec 2023	12 Apr 2023
Machine Age	hrs	Client Info		2021	1747	485
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	ABNORMAL	ABNORMAL

WEAR

Valve wear is indicated.

Iron	ppm	ASTM D5185m	>51	41	38	56
Chromium	ppm	ASTM D5185m	>11	1	<1	1
Nickel	ppm	ASTM D5185m	>5	▲ 28	▲ 8	▲ 23
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>31	9	6	2
Lead	ppm	ASTM D5185m	>26	1	<1	3
Copper	ppm	ASTM D5185m	>26	8	12	▲ 144
Tin	ppm	ASTM D5185m	>4	1	1	3
Vanadium	ppm	ASTM D5185m		<1	<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.

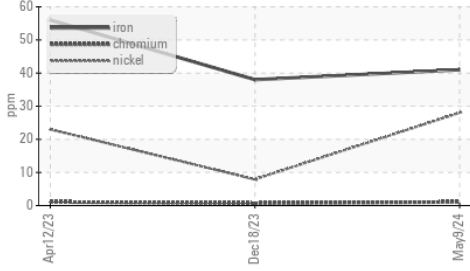
Silicon	ppm	ASTM D5185m	>22	14	11	9
Potassium	ppm	ASTM D5185m	>20	4	2	9
Fuel		WC Method	>2.1	<1.0	<1.0	0.2
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.7	0.6	0.4
Nitration	Abs/cm	*ASTM D7624	>20	9.4	9.6	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.5	23.7	22.7
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

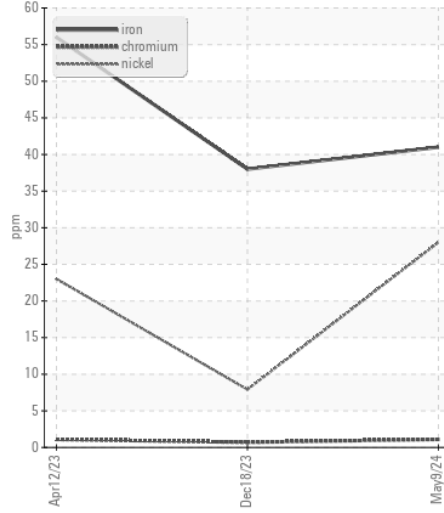
The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m	>31	2	2	3
Boron	ppm	ASTM D5185m		168	185	159
Barium	ppm	ASTM D5185m		1	0	0
Molybdenum	ppm	ASTM D5185m		278	275	262
Manganese	ppm	ASTM D5185m		<1	<1	2
Magnesium	ppm	ASTM D5185m		853	850	809
Calcium	ppm	ASTM D5185m		1421	1434	1527
Phosphorus	ppm	ASTM D5185m		938	885	882
Zinc	ppm	ASTM D5185m		1149	1116	1118
Sulfur	ppm	ASTM D5185m		3169	2875	3072
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.3	17.7	17.4
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	8.6	9.4	8.6
Visc @ 100°C	cSt	ASTM D445	15.4	14.3	14.3	● 10.3

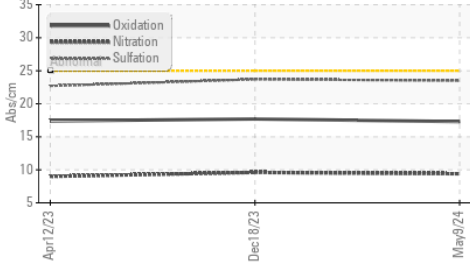
▲ Ferrous Alloys



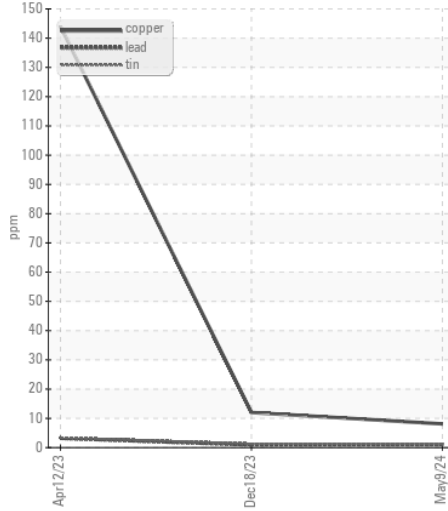
▲ Ferrous Alloys



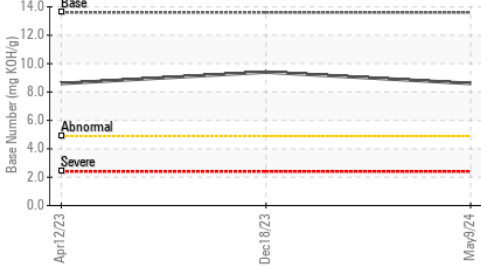
FT-IR (Direct Trend)



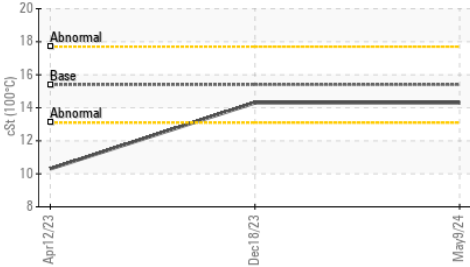
Non-ferrous Metals



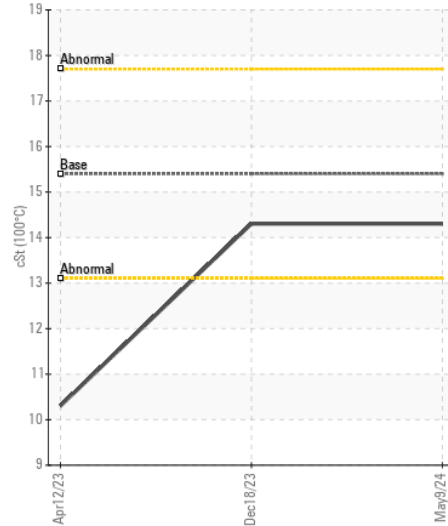
Base Number



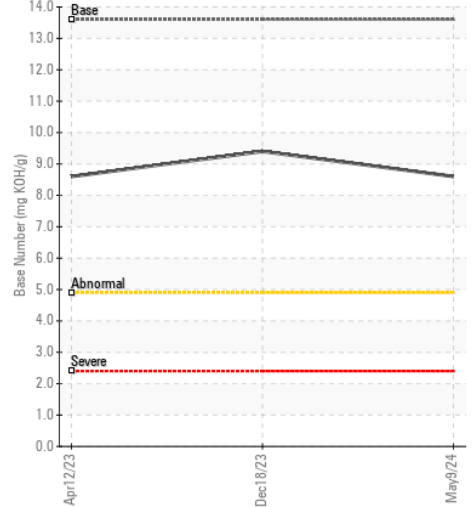
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WE0006859 **Received** : 14 May 2024
Lab Number : 06178496 **Tested** : 15 May 2024
Unique Number : 11029822 **Diagnosed** : 16 May 2024 - Sean Felton
Test Package : CONST (Additional Tests: TBN)

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 US 35476
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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)