



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Area  
**Store 9 - Marietta**  
Machine Id  
**JOHN DEERE 850K D-40 (S/N 1T0850KXHJF340561)**  
Component  
**Diesel Engine**  
Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LEC0049417</b>	LEC0032683	LEC0000330
Sample Date		Client Info		<b>30 Apr 2024</b>	13 Dec 2022	30 May 2019
Machine Age	hrs	Client Info		<b>4086</b>	3369	728
Oil Age	hrs	Client Info		<b>300</b>	400	728
Filter Age	hrs	Client Info		<b>300</b>	400	728
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	ABNORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>51	<b>15</b>	20	57
Chromium	ppm	ASTM D5185m	>11	<b>&lt;1</b>	<1	2
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	3
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>31	<b>4</b>	2	7
Lead	ppm	ASTM D5185m	>26	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>26	<b>2</b>	2	▲ 313
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

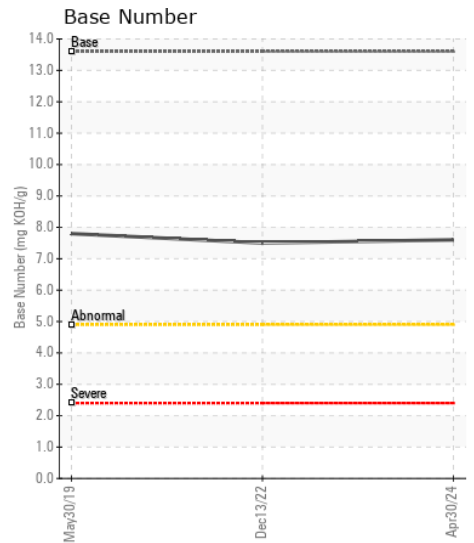
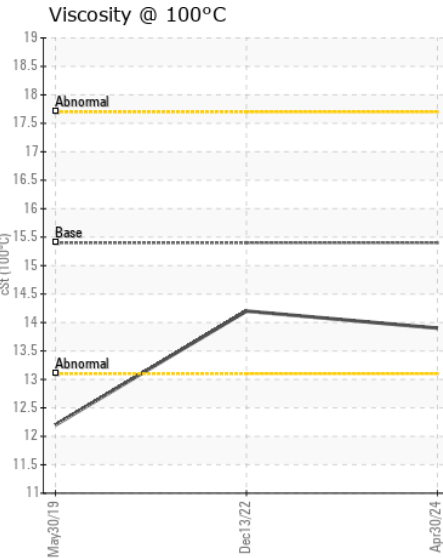
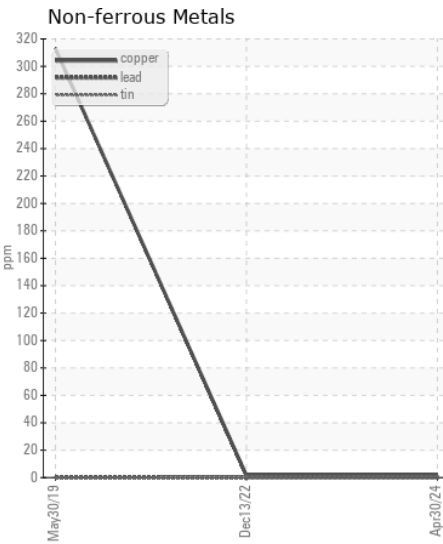
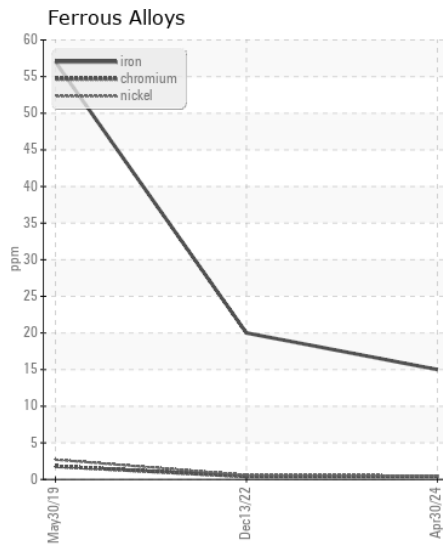
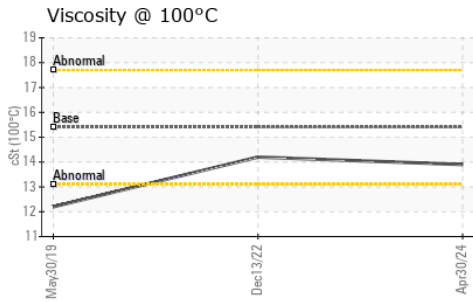
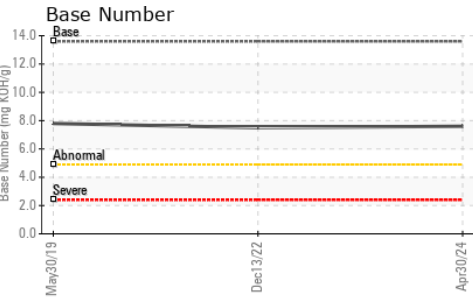
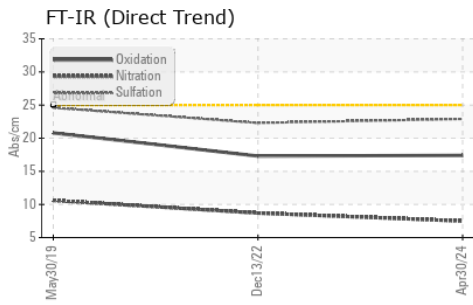
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>120	<b>7</b>	8	11
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	1	1
Fuel		WC Method	>2.1	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.21	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.4	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.5</b>	8.7	10.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.9</b>	22.3	24.6
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.21	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

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

Sodium	ppm	ASTM D5185m	>31	<b>2</b>	0	10
Boron	ppm	ASTM D5185m		<b>458</b>	258	108
Barium	ppm	ASTM D5185m		<b>0</b>	0	3
Molybdenum	ppm	ASTM D5185m		<b>92</b>	118	219
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	4
Magnesium	ppm	ASTM D5185m		<b>452</b>	469	796
Calcium	ppm	ASTM D5185m		<b>1344</b>	1467	1992
Phosphorus	ppm	ASTM D5185m		<b>1044</b>	887	944
Zinc	ppm	ASTM D5185m		<b>1269</b>	1077	1204
Sulfur	ppm	ASTM D5185m		<b>3341</b>	2755	2658
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.4</b>	17.3	20.8
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>7.6</b>	7.5	7.8
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.9</b>	14.2	12.2



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0049417 **Received** : 14 May 2024  
**Lab Number** : 06178506 **Tested** : 15 May 2024  
**Unique Number** : 11029832 **Diagnosed** : 16 May 2024 - Sean Felton  
**Test Package** : CONST ( Additional Tests: TBN )

**APEX PIPELINE**  
P.O. BOX 580  
NITRO, WV  
US 25143  
Contact: KELLY TUCKER

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)

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