



# OIL ANALYSIS REPORT

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



Area  
**Store 3 - Norton**  
Machine Id  
**JOHN DEERE 540G 1DW540GXPDC656979**  
Component  
**Diesel Engine**  
Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (5 GAL)**

## RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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		<b>LEC0050102</b>	LEC0038460	LEC0025937
Sample Date		Client Info		<b>07 May 2024</b>	31 Jan 2023	09 Nov 2021
Machine Age	hrs	Client Info		<b>4444</b>	4020	3544
Oil Age	hrs	Client Info		<b>424</b>	476	541
Filter Age	hrs	Client Info		<b>424</b>	476	541
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## WEAR

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>51	<b>▲ 109</b>	▲ 117	▲ 134
Chromium	ppm	ASTM D5185m	>11	<b>2</b>	2	2
Nickel	ppm	ASTM D5185m	>5	<b>2</b>	2	2
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>● 10</b>	8	8
Lead	ppm	ASTM D5185m	>26	<b>4</b>	8	5
Copper	ppm	ASTM D5185m	>26	<b>2</b>	2	3
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

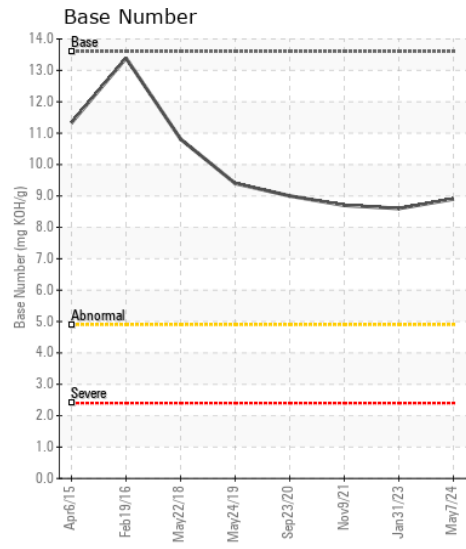
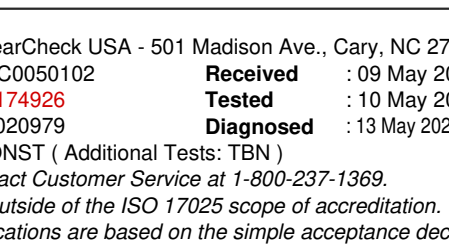
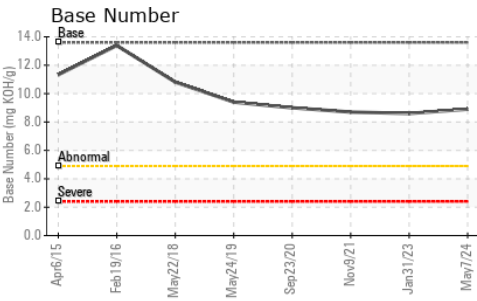
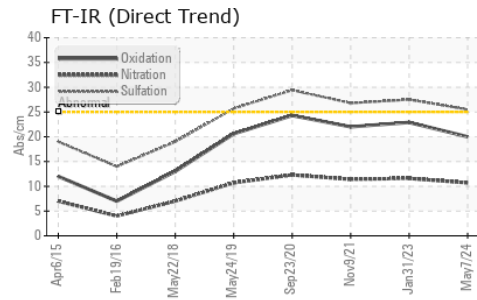
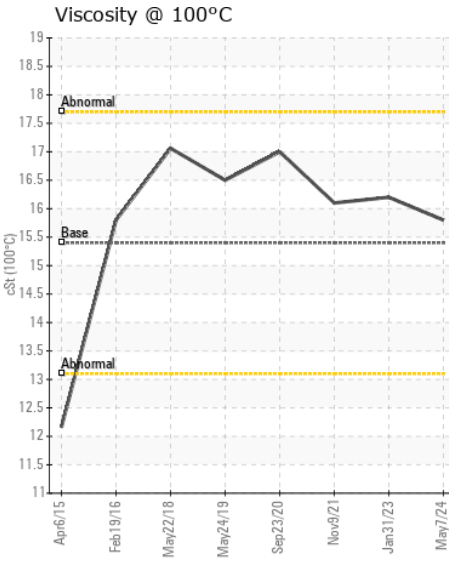
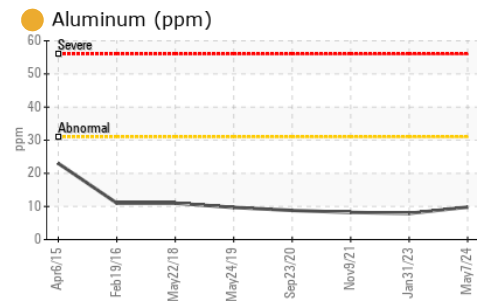
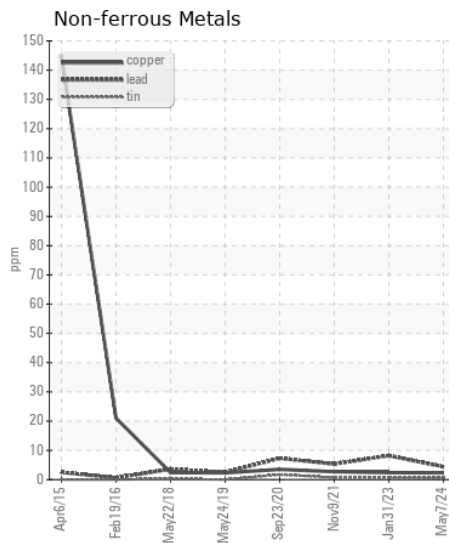
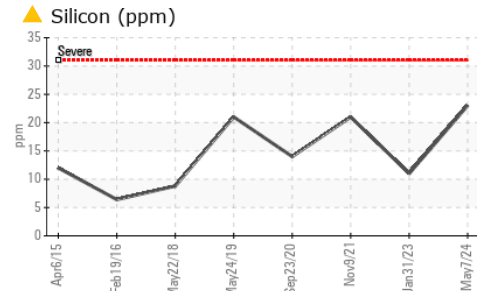
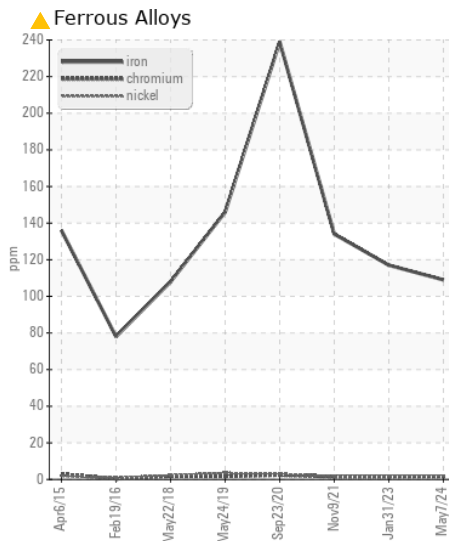
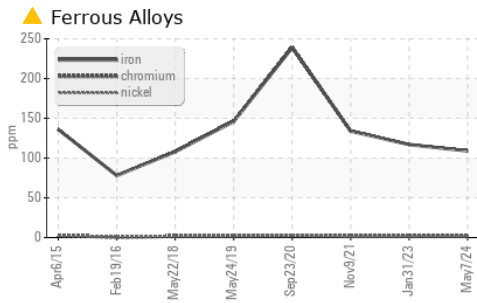
Elemental level of silicon (Si) above normal indicating ingress of seal material.

Silicon	ppm	ASTM D5185m	>120	<b>▲ 23</b>	11	21
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	0	2
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>1.3</b>	1.5	1.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.7</b>	11.6	11.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>25.5</b>	27.5	26.8
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>1</b>	0	0
Boron	ppm	ASTM D5185m		<b>277</b>	204	214
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Molybdenum	ppm	ASTM D5185m		<b>286</b>	278	296
Manganese	ppm	ASTM D5185m		<b>1</b>	1	2
Magnesium	ppm	ASTM D5185m		<b>890</b>	860	975
Calcium	ppm	ASTM D5185m		<b>1570</b>	1562	1609
Phosphorus	ppm	ASTM D5185m		<b>1023</b>	888	1000
Zinc	ppm	ASTM D5185m		<b>1178</b>	1077	1149
Sulfur	ppm	ASTM D5185m		<b>3309</b>	3385	2642
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.0</b>	22.9	22
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	<b>8.9</b>	8.6	8.7
Visc @ 100°C	cSt	ASTM D445	15.4	<b>15.8</b>	16.2	16.1



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0050102 **Received** : 09 May 2024  
**Lab Number** : 06174926 **Tested** : 10 May 2024  
**Unique Number** : 11020979 **Diagnosed** : 13 May 2024 - Sean Felton  
**Test Package** : CONST ( Additional Tests: TBN )

**RL LOGGING**  
 217 CLAYPOOL HOLLOW RD  
 BUCKHANNON, WV  
 US 26201  
 Contact: SERVICE MANAGER

Certificate L2367  
 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)