



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL



Area
Store 4 - Fairmont [RO# 150872]
Machine Id
JOHN DEERE 544K 1DW544KZCBD640897
Component
Diesel Engine
Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (5 GAL)

RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LEC0048242	LEC0045935	---
Sample Date		Client Info		09 May 2024	28 Nov 2023	---
Machine Age	hrs	Client Info		8504	7438	---
Oil Age	hrs	Client Info		1066	438	---
Filter Age	hrs	Client Info		1066	438	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				SEVERE	SEVERE	---

WEAR

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>51	▲ 103	▲ 159	---
Chromium	ppm	ASTM D5185m	>11	2	4	---
Nickel	ppm	ASTM D5185m	>5	3	5	---
Titanium	ppm	ASTM D5185m		<1	<1	---
Silver	ppm	ASTM D5185m	>3	0	0	---
Aluminum	ppm	ASTM D5185m	>31	9	11	---
Lead	ppm	ASTM D5185m	>26	6	9	---
Copper	ppm	ASTM D5185m	>26	3	4	---
Tin	ppm	ASTM D5185m	>4	1	<1	---
Vanadium	ppm	ASTM D5185m		<1	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

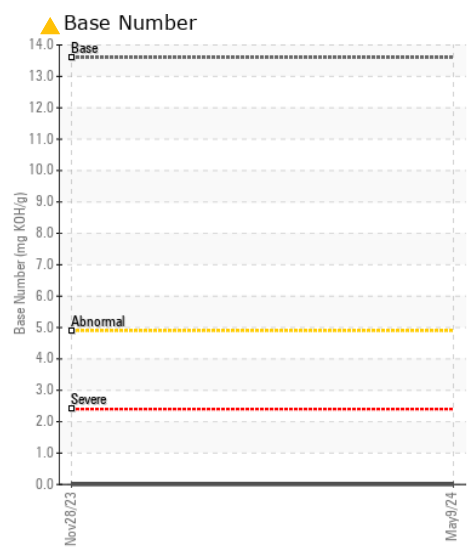
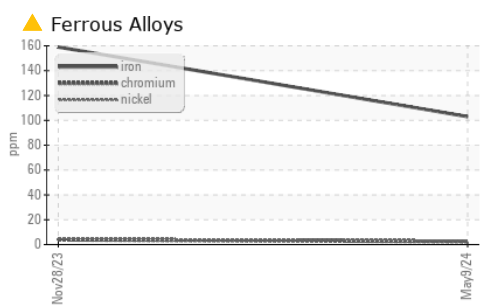
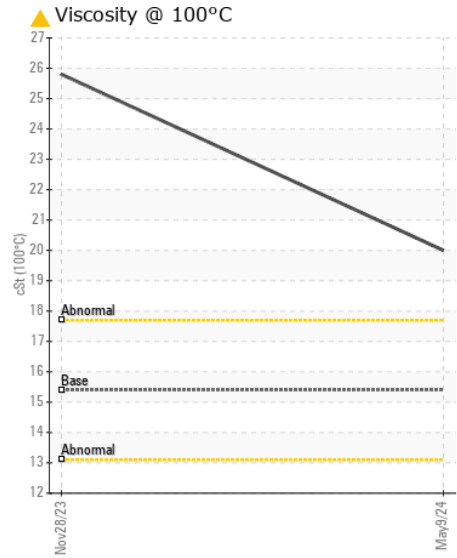
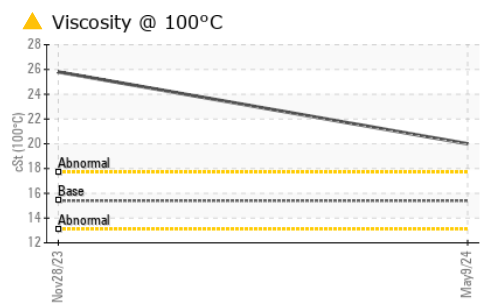
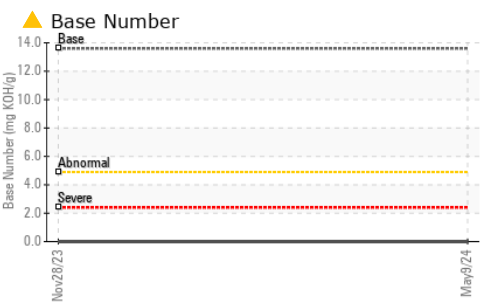
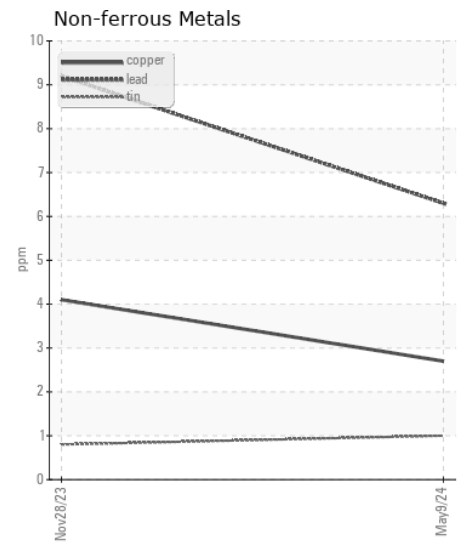
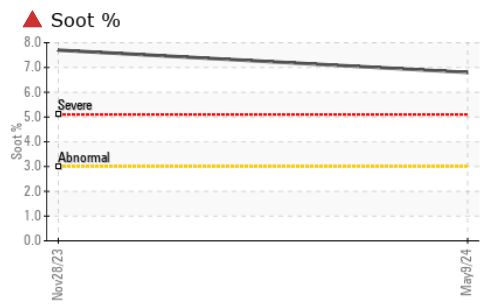
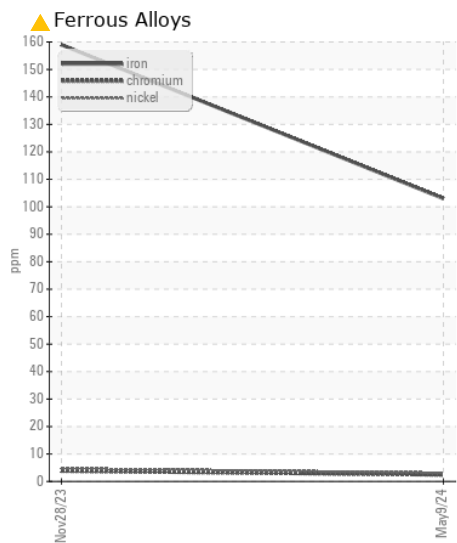
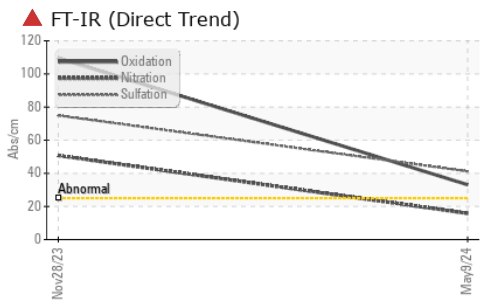
There is an abnormal amount of solids and carbon present in the oil.

Silicon	ppm	ASTM D5185m	>120	9	11	---
Potassium	ppm	ASTM D5185m	>20	4	9	---
Fuel	%	ASTM D3524	>2.1	<1.0	<1.0	---
Water		WC Method	>0.21	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	▲ 6.8	▲ 7.7	---
Nitration	Abs/cm	*ASTM D7624	>20	15.8	50.7	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	41.2	74.9	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.21	NEG	NEG	---

FLUID CONDITION

The oil viscosity is higher than normal. The BN level is low.

Sodium	ppm	ASTM D5185m	>31	5	2	---
Boron	ppm	ASTM D5185m		● 74	78	---
Barium	ppm	ASTM D5185m		<1	2	---
Molybdenum	ppm	ASTM D5185m		167	96	---
Manganese	ppm	ASTM D5185m		<1	1	---
Magnesium	ppm	ASTM D5185m		491	271	---
Calcium	ppm	ASTM D5185m		1948	2448	---
Phosphorus	ppm	ASTM D5185m		964	1008	---
Zinc	ppm	ASTM D5185m		1177	1297	---
Sulfur	ppm	ASTM D5185m		3390	4449	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	33.1	109.6	---
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	▲ 0.0	▲ 0.0	---
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 20.0	▲ 25.8	---



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0048242 **Received** : 14 May 2024
Lab Number : 06178502 **Tested** : 15 May 2024
Unique Number : 11029828 **Diagnosed** : 16 May 2024 - Sean Felton
Test Package : CONST (Additional Tests: FuelDilution, 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)