



WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
JOHN DEERE 331G 1T0331GMCMF401080

Component
Diesel Engine

Fluid
{not provided} (--- 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. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0204326	JR0135183	---
Sample Date		Client Info		21 Feb 2024	24 Aug 2022	---
Machine Age	hrs	Client Info		1955	1031	---
Oil Age	hrs	Client Info		924	500	---
Filter Age	hrs	Client Info		0	500	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				ABNORMAL	ABNORMAL	---

WEAR

Cylinder, crank, or cam shaft wear is indicated. Bearing wear is indicated.

Iron	ppm	ASTM D5185m	>51	▲ 78	▲ 63	---
Chromium	ppm	ASTM D5185m	>11	2	2	---
Nickel	ppm	ASTM D5185m	>5	<1	0	---
Titanium	ppm	ASTM D5185m		<1	<1	---
Silver	ppm	ASTM D5185m	>3	0	<1	---
Aluminum	ppm	ASTM D5185m	>31	▲ 10	▲ 8	---
Lead	ppm	ASTM D5185m	>26	<1	<1	---
Copper	ppm	ASTM D5185m	>26	▲ 41	▲ 160	---
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

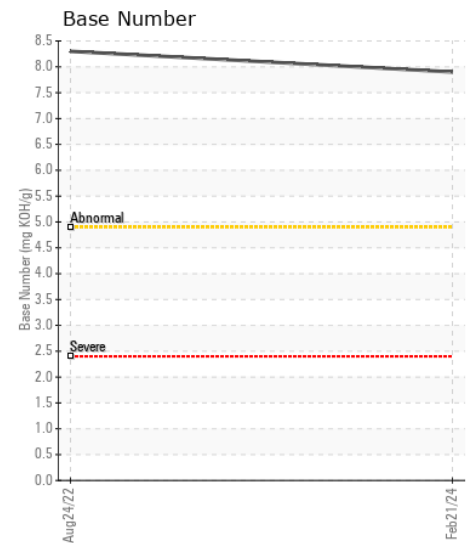
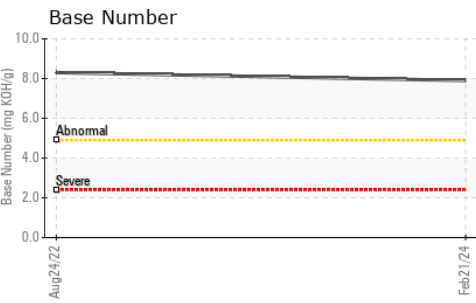
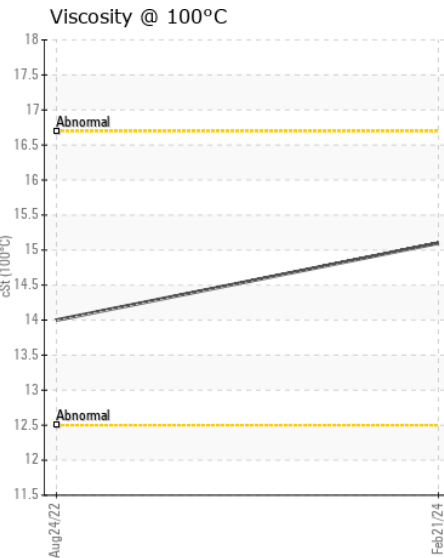
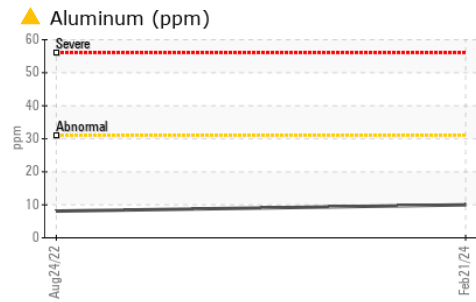
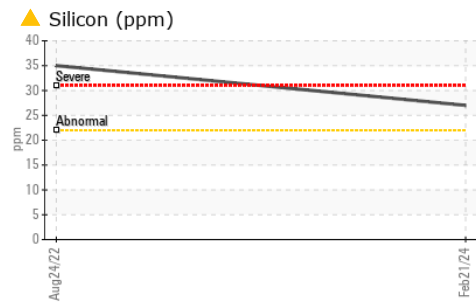
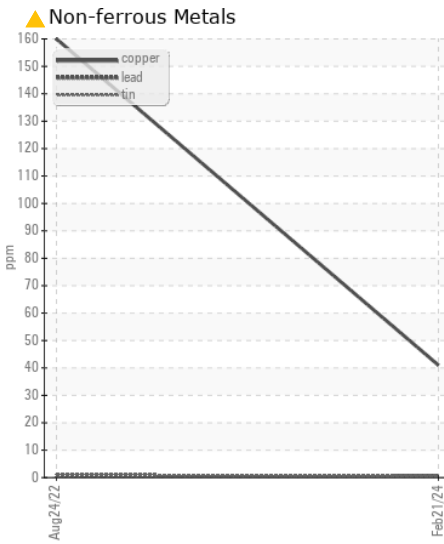
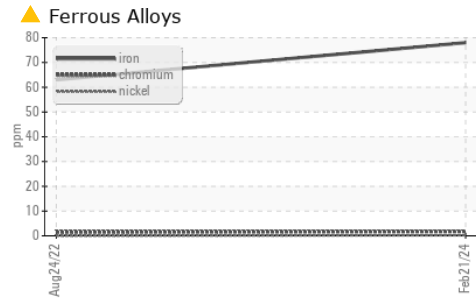
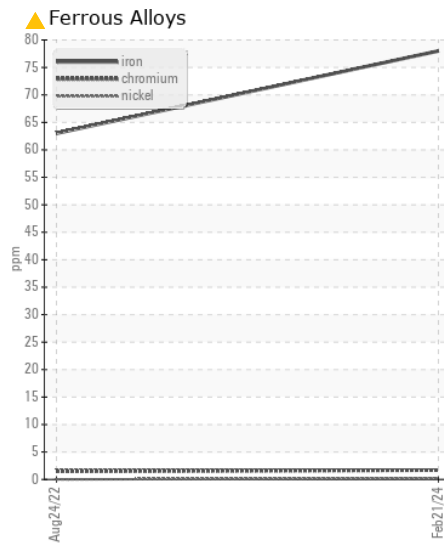
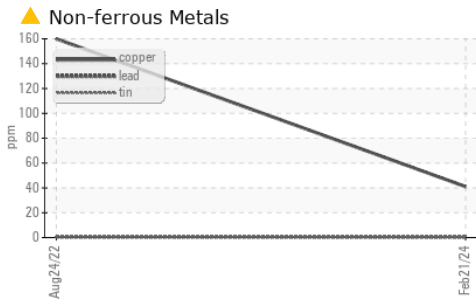
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>22	▲ 27	▲ 35	---
Potassium	ppm	ASTM D5185m	>20	2	0	---
Fuel		WC Method	>2.1	<1.0	<1.0	---
Water		WC Method	>0.21	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.8	0.5	---
Nitration	Abs/cm	*ASTM D7624	>20	13.4	14.5	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	29.5	▲ 32.9	---
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 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	4	10	---
Boron	ppm	ASTM D5185m		54	69	---
Barium	ppm	ASTM D5185m		2	4	---
Molybdenum	ppm	ASTM D5185m		291	260	---
Manganese	ppm	ASTM D5185m		2	2	---
Magnesium	ppm	ASTM D5185m		1038	884	---
Calcium	ppm	ASTM D5185m		1902	1911	---
Phosphorus	ppm	ASTM D5185m		1069	990	---
Zinc	ppm	ASTM D5185m		1328	1233	---
Sulfur	ppm	ASTM D5185m		2858	2654	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	29.8	34.4	---
Base Number (BN)	mg KOH/g	ASTM D2896		7.9	8.3	---
Visc @ 100°C	cSt	ASTM D445		15.1	14.0	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0204326 **Received** : 23 Feb 2024
Lab Number : 06098887 **Tested** : 26 Feb 2024
Unique Number : 10897117 **Diagnosed** : 26 Feb 2024 - Don Baldrige
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)