



WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
JOHN DEERE 331G 1T0331GKKPF449962

Component
Diesel Engine

Fluid
{not provided} (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0192756	---	---
Sample Date		Client Info		21 Feb 2024	---	---
Machine Age	hrs	Client Info		406	---	---
Oil Age	hrs	Client Info		406	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ABNORMAL	---	---

WEAR

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>51	34	---	---
Chromium	ppm	ASTM D5185m	>11	<1	---	---
Nickel	ppm	ASTM D5185m	>5	<1	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>3	0	---	---
Aluminum	ppm	ASTM D5185m	>31	6	---	---
Lead	ppm	ASTM D5185m	>26	2	---	---
Copper	ppm	ASTM D5185m	>26	▲ 177	---	---
Tin	ppm	ASTM D5185m	>4	<1	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

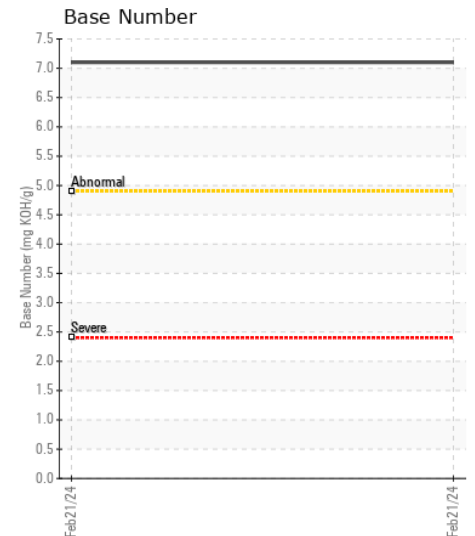
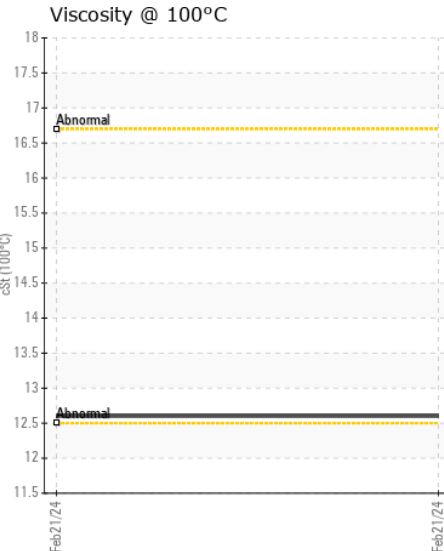
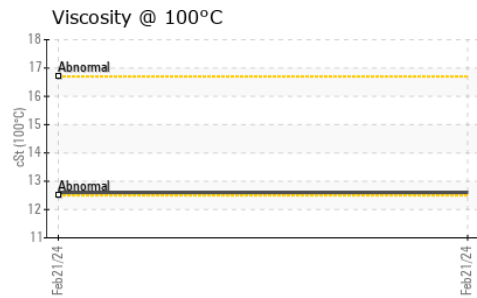
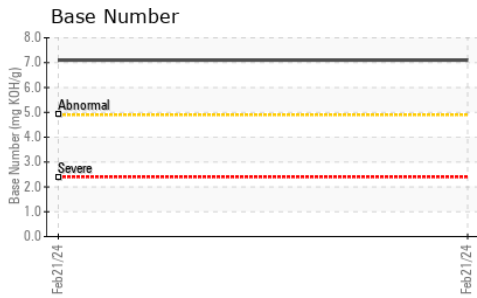
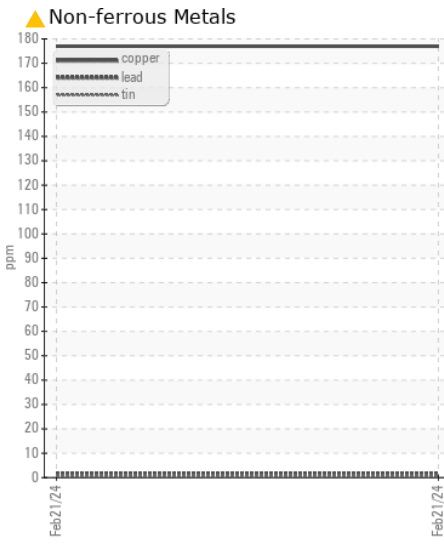
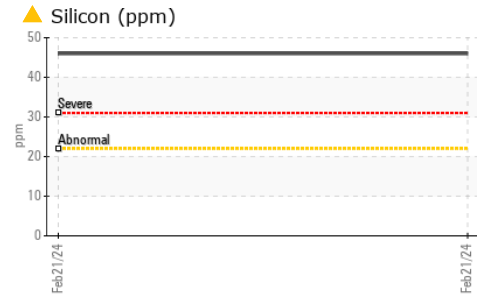
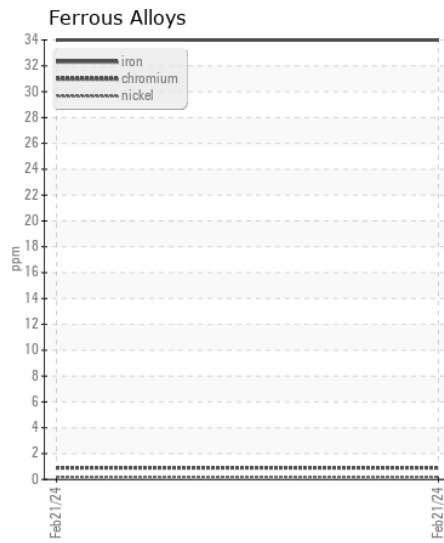
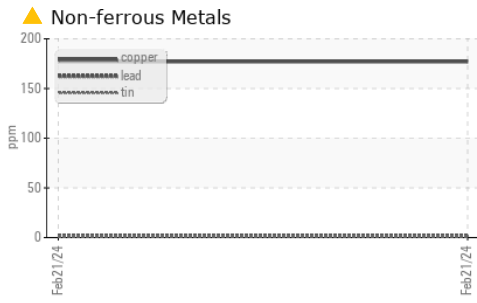
Elemental level of silicon (Si) above normal indicating ingress of seal material.

Silicon	ppm	ASTM D5185m	>22	▲ 46	---	---
Potassium	ppm	ASTM D5185m	>20	2	---	---
Fuel		WC Method	>2.1	<1.0	---	---
Water		WC Method	>0.21	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.3	---	---
Nitration	Abs/cm	*ASTM D7624	>20	10.0	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	27.8	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.21	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	7	---	---
Boron	ppm	ASTM D5185m		185	---	---
Barium	ppm	ASTM D5185m		4	---	---
Molybdenum	ppm	ASTM D5185m		232	---	---
Manganese	ppm	ASTM D5185m		2	---	---
Magnesium	ppm	ASTM D5185m		782	---	---
Calcium	ppm	ASTM D5185m		1859	---	---
Phosphorus	ppm	ASTM D5185m		915	---	---
Zinc	ppm	ASTM D5185m		1138	---	---
Sulfur	ppm	ASTM D5185m		3020	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	25.7	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		7.1	---	---
Visc @ 100°C	cSt	ASTM D445		12.6	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0192756 **Received** : 23 Feb 2024
Lab Number : 06098884 **Tested** : 26 Feb 2024
Unique Number : 10897114 **Diagnosed** : 26 Feb 2024 - Don Baldrige
Test Package : CONST (Additional Tests: TBN)

CARLTON'S BACKHOE
 9550 STATESVILLE ROAD
 CHARLOTTE, NC
 US 28269
 Contact: LEO

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)

T: (704)547-0211

F: