



WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
JOHN DEERE 331G 1T0331GKLN424421

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		JR0215649	JR0177385	JR0162122
Sample Date		Client Info		22 May 2024	18 Oct 2023	30 Mar 2023
Machine Age	hrs	Client Info		1581	1100	562
Oil Age	hrs	Client Info		481	1100	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

The copper level has decreased, but is still abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>51	40	36	25
Chromium	ppm	ASTM D5185m	>11	2	<1	<1
Nickel	ppm	ASTM D5185m	>5	1	<1	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	1	0	<1
Aluminum	ppm	ASTM D5185m	>31	7	6	5
Lead	ppm	ASTM D5185m	>26	1	2	0
Copper	ppm	ASTM D5185m	>26	▲ 46	▲ 81	▲ 178
Tin	ppm	ASTM D5185m	>4	1	1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

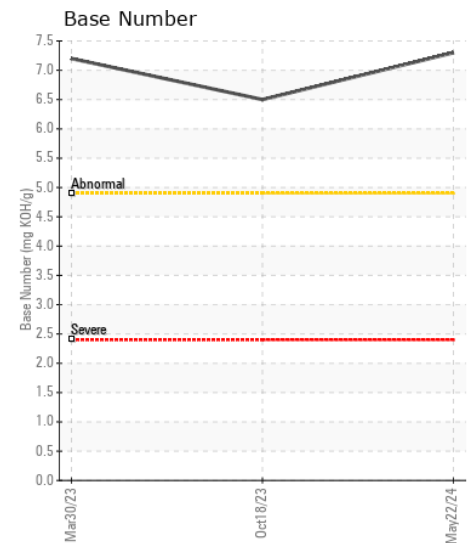
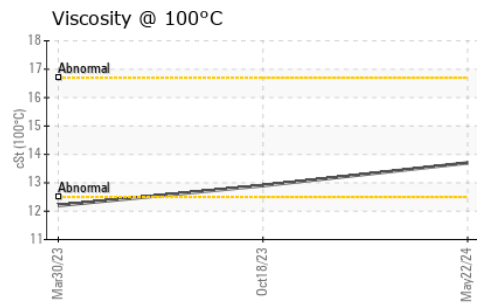
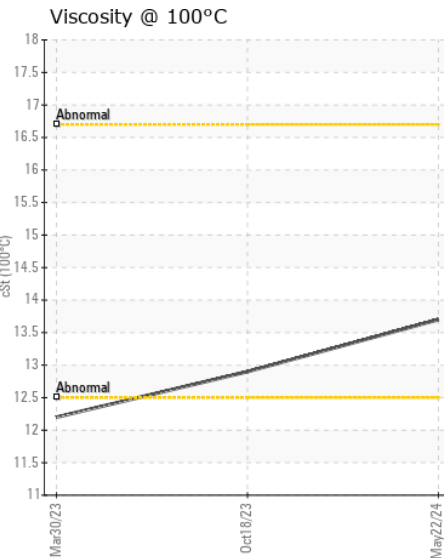
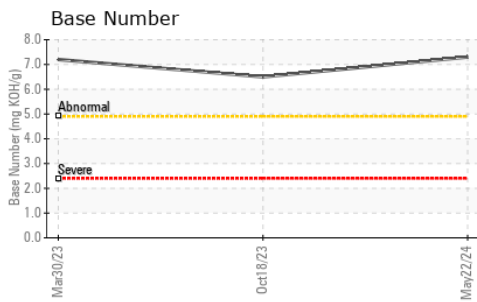
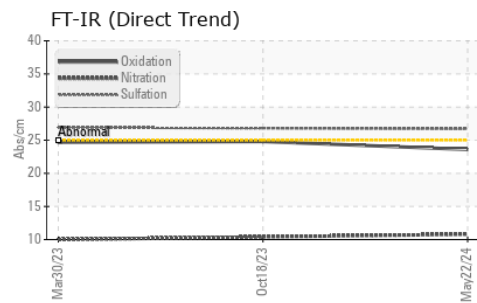
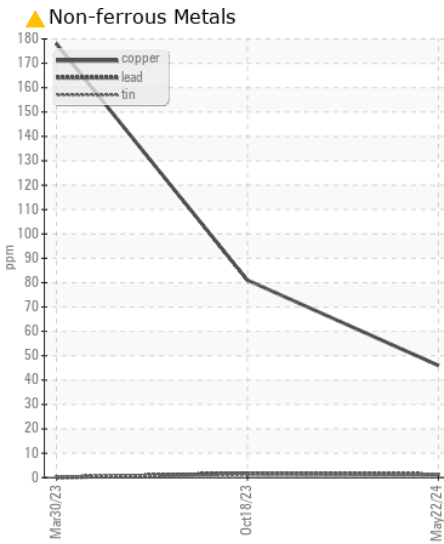
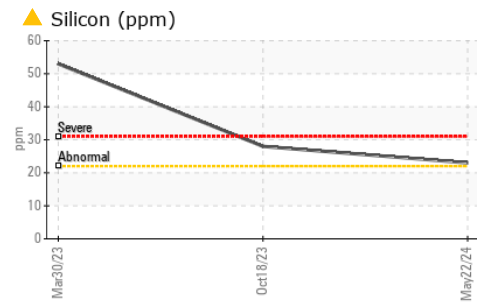
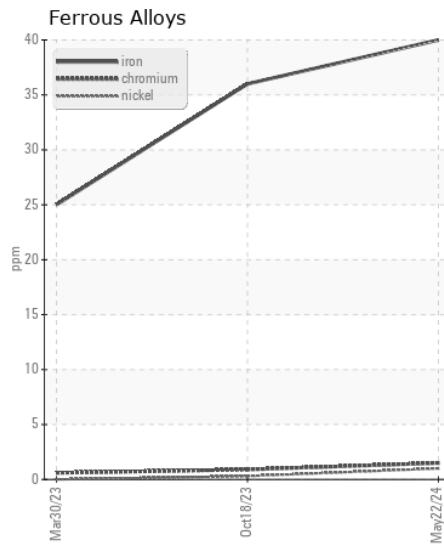
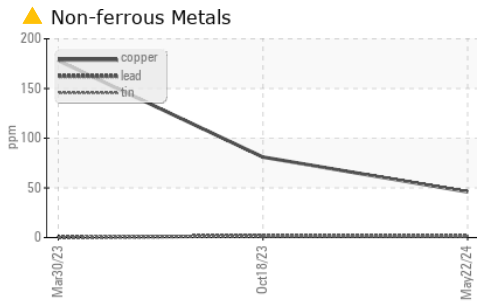
Elemental level of silicon (Si) above normal indicating ingress of seal material.

Silicon	ppm	ASTM D5185m	>22	▲ 23	▲ 28	▲ 53
Potassium	ppm	ASTM D5185m	>20	3	2	<1
Fuel		WC Method	>2.1	<1.0	<1.0	1.5
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.5	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	10.8	10.4	10.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.7	26.8	26.9
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.21	NEG	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	3	6	9
Boron	ppm	ASTM D5185m		146	102	204
Barium	ppm	ASTM D5185m		0	2	<1
Molybdenum	ppm	ASTM D5185m		251	250	230
Manganese	ppm	ASTM D5185m		2	2	2
Magnesium	ppm	ASTM D5185m		797	726	703
Calcium	ppm	ASTM D5185m		1603	1651	1745
Phosphorus	ppm	ASTM D5185m		1011	872	892
Zinc	ppm	ASTM D5185m		1228	1130	1133
Sulfur	ppm	ASTM D5185m		3282	2639	3210
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.6	24.8	24.7
Base Number (BN)	mg KOH/g	ASTM D2896		7.3	6.5	7.2
Visc @ 100°C	cSt	ASTM D445		13.7	12.9	12.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0215649 **Received** : 29 May 2024
Lab Number : 06193617 **Tested** : 30 May 2024
Unique Number : 11050369 **Diagnosed** : 30 May 2024 - Sean Felton
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: