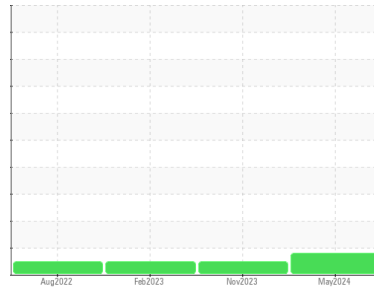




OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id

LT-104

Component

Diesel Engine

Fluid

CITGO CITGARD 700 15W40 (--- GAL)

DIAGNOSIS

▲ 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.

▲ 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 component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0909368	WC0844819	WC0588304
Sample Date	Client Info		30 May 2024	03 Nov 2023	21 Feb 2023
Machine Age	hrs	Client Info	2390	1976	1536
Oil Age	hrs	Client Info	500	500	500
Oil Changed	Client Info		Changed	Not Changd	Changed
Sample Status			ABNORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	62	37	25
Chromium	ppm	ASTM D5185m >20	1	1	<1
Nickel	ppm	ASTM D5185m >4	0	<1	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	3	2	<1
Lead	ppm	ASTM D5185m >40	<1	1	0
Copper	ppm	ASTM D5185m >330	▲ 257	21	4
Tin	ppm	ASTM D5185m >15	0	<1	0
Vanadium	ppm	ASTM D5185m	0	<1	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 20	1	6	21
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 59	66	62	45
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m 783	1042	908	561
Calcium	ppm	ASTM D5185m 1238	1348	1259	1487
Phosphorus	ppm	ASTM D5185m 949	1074	1046	811
Zinc	ppm	ASTM D5185m 1116	1299	1266	960
Sulfur	ppm	ASTM D5185m 2909	3170	3057	2603

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	5	4	4
Sodium	ppm	ASTM D5185m	3	2	0
Potassium	ppm	ASTM D5185m >20	<1	2	<1

INFRA-RED

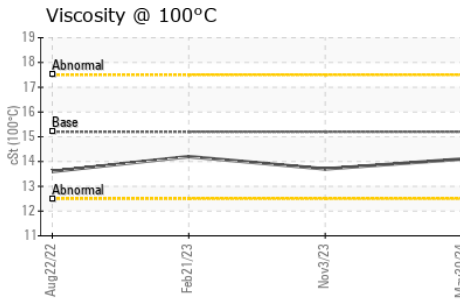
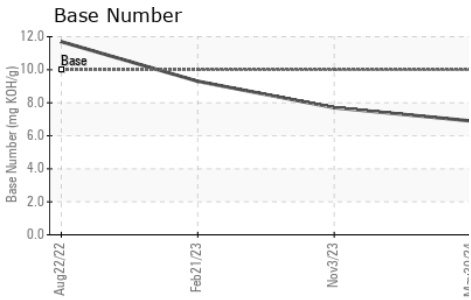
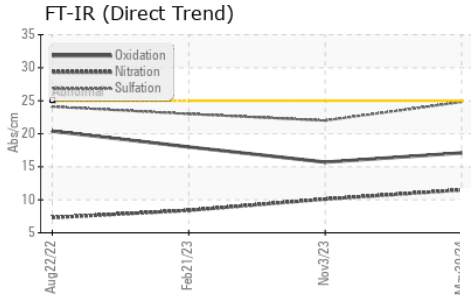
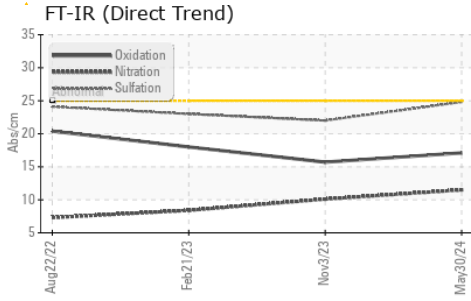
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	2.8	2.2	1.6
Nitration	Abs/cm	*ASTM D7624 >20	11.5	10.1	8.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	24.8	22.0	23.0

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	17.1	15.7	18.0
Base Number (BN)	mg KOH/g	ASTM D2896 10	6.9	7.7	9.3



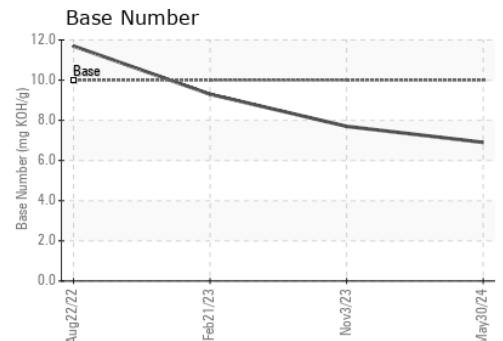
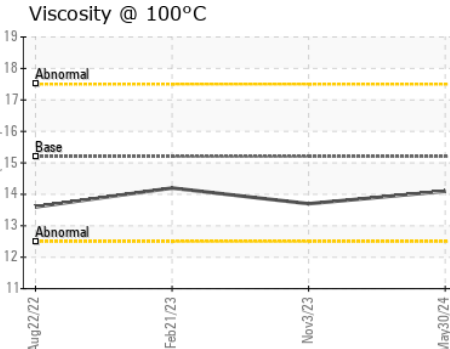
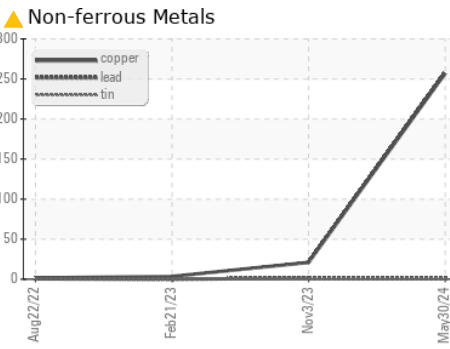
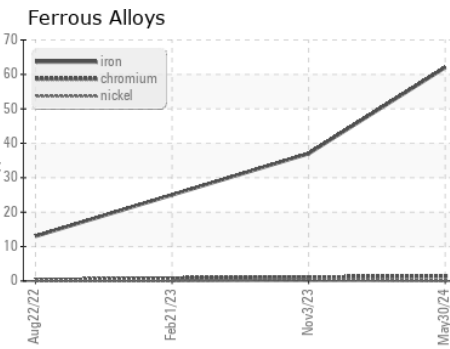
OIL ANALYSIS REPORT



PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
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	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.2	14.1	13.7

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0909368
Lab Number : 06235508
Unique Number : 11124342
Test Package : FLEET
Received : 15 Jul 2024
Tested : 15 Jul 2024
Diagnosed : 16 Jul 2024 - Don Baldrige

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 ROANOKE, VA
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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)