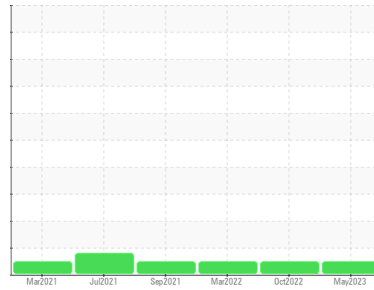




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
TT-102
 Component
Front Diesel Engine
 Fluid
CITGO 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All 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			WC0705272	WC0588342	WC0588326
Sample Date	Client Info			22 May 2023	17 Oct 2022	17 Mar 2022
Machine Age	mls	Client Info		69914	59646	50376
Oil Age	mls	Client Info		10000	10000	10000
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	34	42	25
Chromium	ppm	ASTM D5185m	>20	2	2	2
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	6	7	5
Lead	ppm	ASTM D5185m	>40	<1	1	1
Copper	ppm	ASTM D5185m	>330	3	2	2
Tin	ppm	ASTM D5185m	>15	<1	1	<1
Antimony	ppm	ASTM D5185m		---	---	---
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		6	8	9
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		62	57	59
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		929	817	909
Calcium	ppm	ASTM D5185m		1260	1212	1167
Phosphorus	ppm	ASTM D5185m		1068	996	1060
Zinc	ppm	ASTM D5185m		1319	1171	1299
Sulfur	ppm	ASTM D5185m		3899	3813	2787

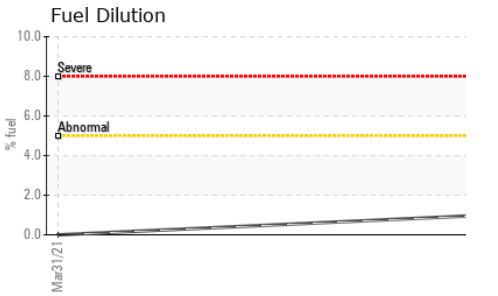
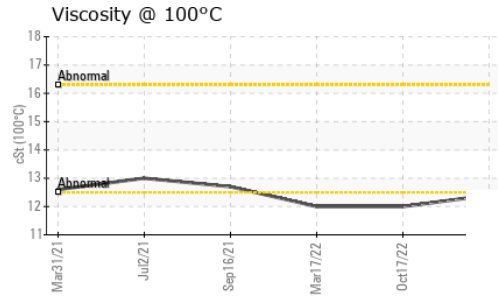
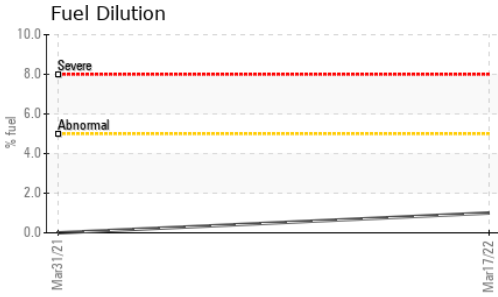
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	5	6	5
Sodium	ppm	ASTM D5185m		3	2	<1
Potassium	ppm	ASTM D5185m	>20	8	15	12
Fuel	%	ASTM D3524	>5	<1.0	<1.0	1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.6	0.6	0.5
Nitration	Abs/cm	*ASTM D7624	>20	9.7	9.7	9.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.4	20.5	20.1

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.9	15.3	14.7
Base Number (BN)	mg KOH/g	ASTM D2896		8.8	9.3	9.5



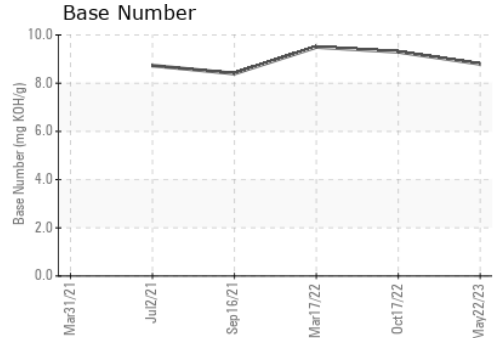
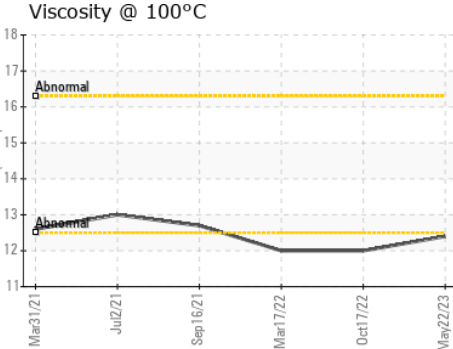
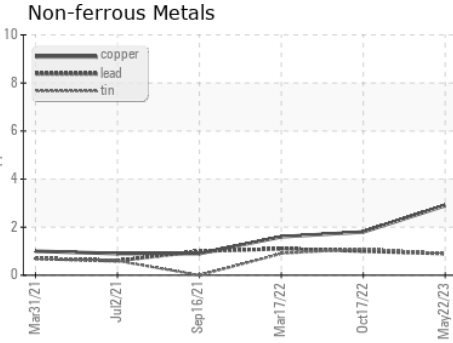
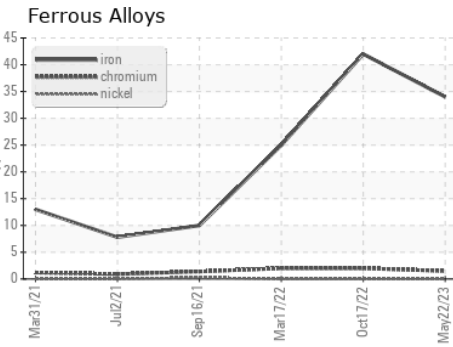
OIL ANALYSIS REPORT



VISUAL	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	12.4	12.0	12.0

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0705272 **Received** : 18 Jul 2023
Lab Number : 05900990 **Diagnosed** : 18 Jul 2023
Unique Number : 10562346 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution, PrtCount)

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)

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