



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
1202
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0827667	WC0827805	WC0691418
Sample Date		Client Info		29 Jun 2024	08 Jan 2024	02 Dec 2022
Machine Age	mls	Client Info		295188	271958	246911
Oil Age	mls	Client Info		8500	18100	15287
Filter Age	mls	Client Info		8500	18100	15287
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	63	▲ 109	▲ 133
Chromium	ppm	ASTM D5185m	>20	2	4	2
Nickel	ppm	ASTM D5185m	>4	0	1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	12	▲ 20	▲ 22
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	2	4	20
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

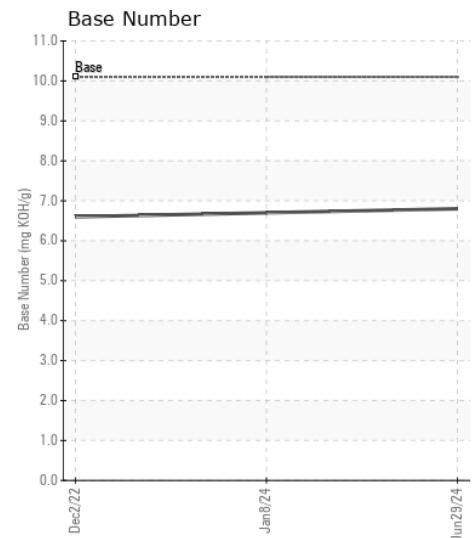
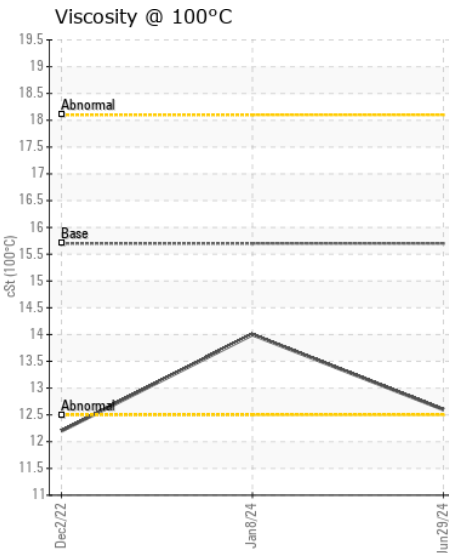
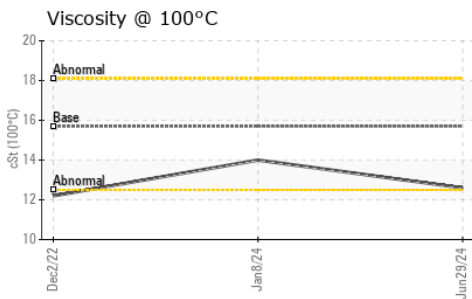
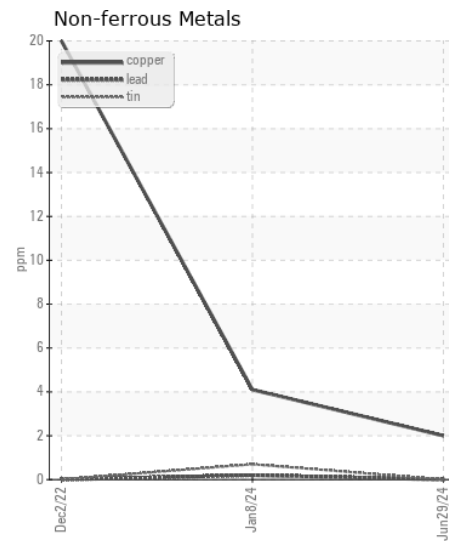
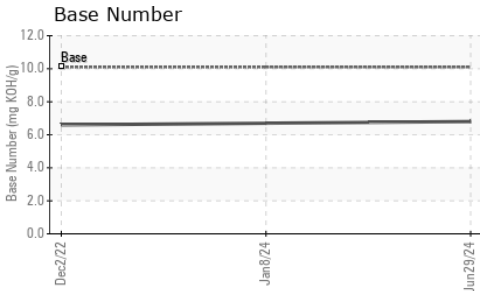
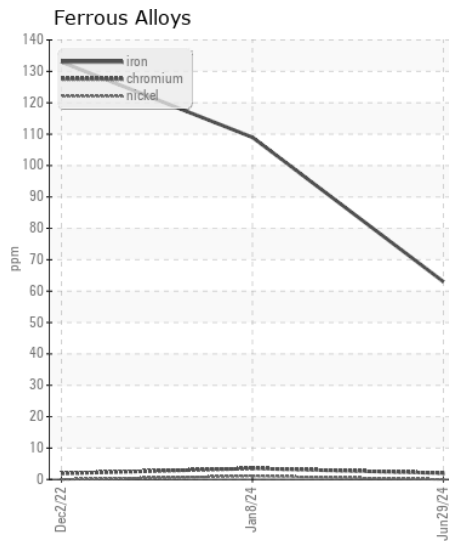
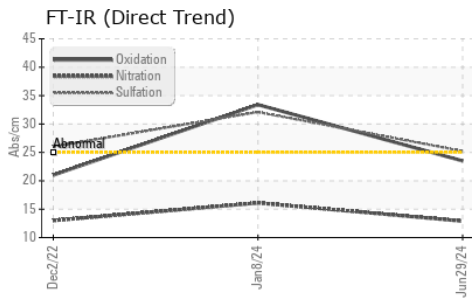
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	8	12	10
Potassium	ppm	ASTM D5185m	>20	10	12	15
Fuel		WC Method	>5	<1.0	<1.0	0.6
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1	1.6	0.8
Nitration	Abs/cm	*ASTM D7624	>20	12.9	16.1	13.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.2	32.1	26.0
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	>0.2	NEG	NEG	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		3	2	0
Boron	ppm	ASTM D5185m	316	8	35	26
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	1.2	60	66	64
Manganese	ppm	ASTM D5185m		<1	1	1
Magnesium	ppm	ASTM D5185m	24	811	516	299
Calcium	ppm	ASTM D5185m	2292	1694	1779	1964
Phosphorus	ppm	ASTM D5185m	1064	1121	1136	980
Zinc	ppm	ASTM D5185m	1160	1401	1360	1186
Sulfur	ppm	ASTM D5185m	4996	3536	3114	3542
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.5	33.4	21.0
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	6.8	6.7	6.6
Visc @ 100°C	cSt	ASTM D445	15.7	12.6	14.0	● 12.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0827667

Lab Number : 06229432

Unique Number : 11112925

Test Package : FLEET

Received : 05 Jul 2024

Tested : 09 Jul 2024

Diagnosed : 09 Jul 2024 - Wes Davis

CARCO TRANSPORTATION

415 S WESTERN AVENUE

OKLAHOMA CITY, OK

US 73109

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F:

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)