OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
1423
Component
Diesel Engine
Fluid
SHELL ROTELLA T 10W30 (--- QTS)

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. Please specify the component make and model with your next sample.

WEAR

The aluminum level is abnormal. All other component wear rates are normal.

CONTAMINATION

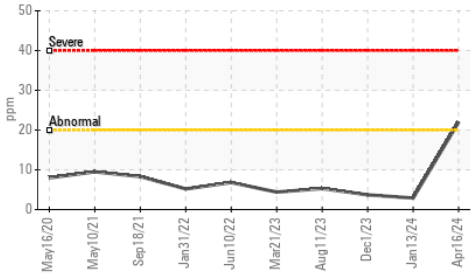
There is no indication of any contamination in the oil.

FLUID CONDITION

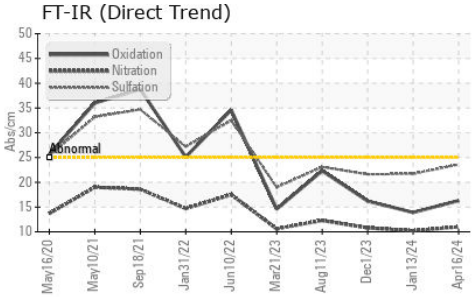
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**WC0827781**	WC0827772	WC0827682
Sample Date		Client Info		**16 Apr 2024**	13 Jan 2024	01 Dec 2023
Machine Age	mls	Client Info		**175378**	167878	765009
Oil Age	mls	Client Info		**0**	0	0
Filter Age	mls	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Changed	N/A
Filter Changed		Client Info		**Changed**	Changed	N/A
Sample Status				**ABNORMAL**	MARGINAL	NORMAL
Iron	ppm	ASTM D5185m	>100	**33**	15	20
Chromium	ppm	ASTM D5185m	>20	**2**	2	2
Nickel	ppm	ASTM D5185m	>4	**0**	0	1
Titanium	ppm	ASTM D5185m		**0**	<1	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	▲ **22**	3	4
Lead	ppm	ASTM D5185m	>40	**0**	<1	2
Copper	ppm	ASTM D5185m	>330	**6**	4	8
Tin	ppm	ASTM D5185m	>15	**2**	0	<1
Vanadium	ppm	ASTM D5185m		**0**	<1	<1
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	**17**	8	10
Potassium	ppm	ASTM D5185m	>20	**2**	<1	3
Fuel		WC Method	>5	**<1.0**	▲ 2.2	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG
Soot %	%	*ASTM D7844	>3	**0.1**	0	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**11.0**	10.2	10.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**23.6**	21.7	21.6
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
Sodium	ppm	ASTM D5185m		**5**	3	2
Boron	ppm	ASTM D5185m	269	**49**	56	45
Barium	ppm	ASTM D5185m		**1**	0	12
Molybdenum	ppm	ASTM D5185m	0	**65**	72	78
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	20	**462**	539	522
Calcium	ppm	ASTM D5185m	1521	**1210**	1157	1042
Phosphorus	ppm	ASTM D5185m	948	**662**	683	665
Zinc	ppm	ASTM D5185m	893	**799**	837	786
Sulfur	ppm	ASTM D5185m		**2922**	2737	2659
Oxidation	Abs/.1mm	*ASTM D7414	>25	**16.3**	13.9	16.2
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**4.3**	4.1	4.4
Visc @ 100°C	cSt	ASTM D445	11.0	**9.7**	9.1	9.4

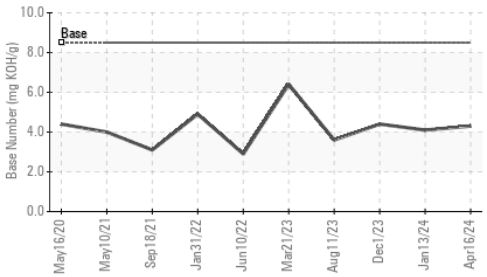
Aluminum (ppm)



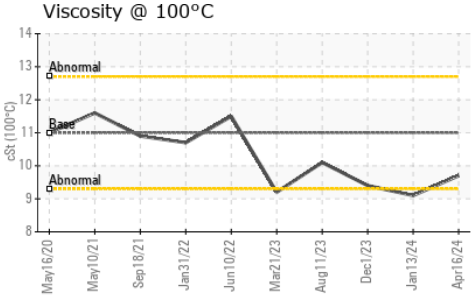
FT-IR (Direct Trend)



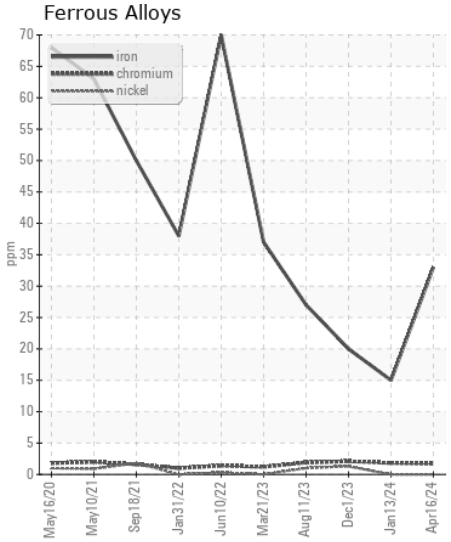
Base Number



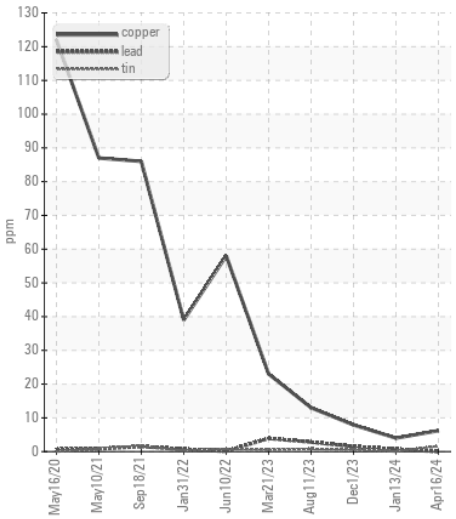
Viscosity @ 100°C



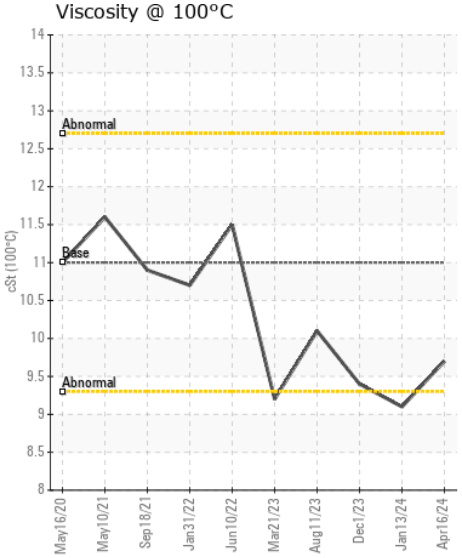
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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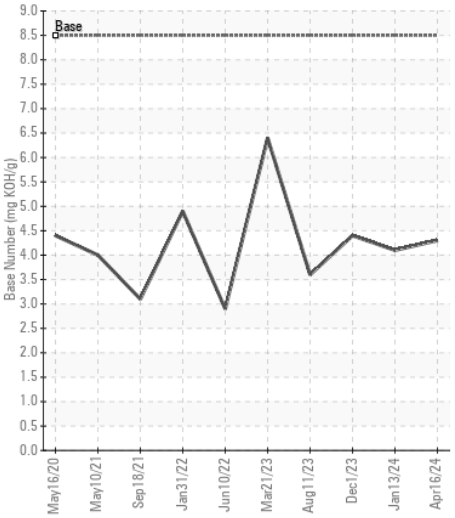

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0827781
Lab Number : 06158309
Unique Number : 10993732
Test Package : FLEET

Received : 23 Apr 2024
Tested : 24 Apr 2024
Diagnosed : 25 Apr 2024 - Sean Felton

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415 S WESTERN AVENUE
OKLAHOMA CITY, OK
US 73109
Contact: VICTOR STACHONIAK
victors@carcotrans.com
T: (405)239-2555
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)