



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
C1111
Component
Diesel Engine
Fluid
SHELL ROTELLA T4 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		WC0909725	WC0909757	WC0866855
Sample Date		Client Info		12 Jul 2024	09 May 2024	01 Feb 2024
Machine Age	hrs	Client Info		9343	6977	8668
Oil Age	hrs	Client Info		250	250	250
Filter Age	hrs	Client Info		250	250	250
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	MARGINAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	10	9	8
Chromium	ppm	ASTM D5185m	>20	1	1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	2	1	2
Lead	ppm	ASTM D5185m	>40	<1	1	<1
Copper	ppm	ASTM D5185m	>330	1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	1	<1
Vanadium	ppm	ASTM D5185m		0	<1	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.

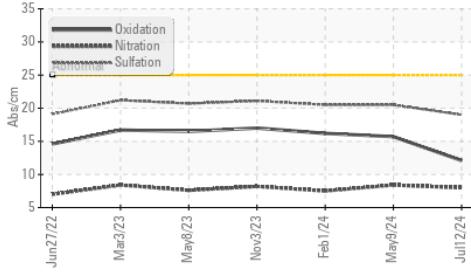
Silicon	ppm	ASTM D5185m	>25	8	6	6
Potassium	ppm	ASTM D5185m	>20	5	12	8
Fuel		WC Method	>5	<1.0	<1.0	▲ 3.6
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	8.0	8.4	7.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.0	20.5	20.5
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

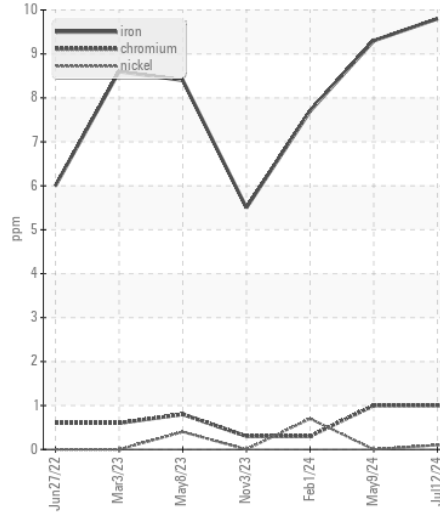
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		0	4	3
Boron	ppm	ASTM D5185m		27	127	158
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		7	11	7
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		52	46	42
Calcium	ppm	ASTM D5185m		2346	2468	2064
Phosphorus	ppm	ASTM D5185m		1040	1063	976
Zinc	ppm	ASTM D5185m		1143	1307	1162
Sulfur	ppm	ASTM D5185m		3376	4417	3338
Oxidation	Abs/.1mm	*ASTM D7414	>25	12.1	15.7	16.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	6.5	6.6	7.1
Visc @ 100°C	cSt	ASTM D445	15	13.2	13.4	11.9

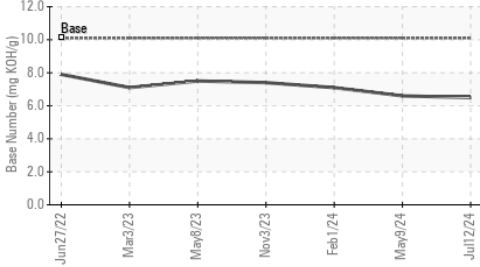
FT-IR (Direct Trend)



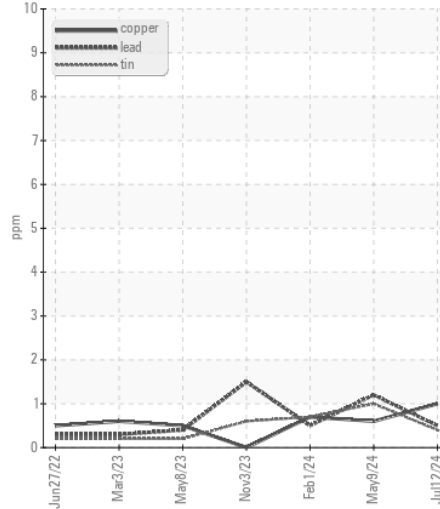
Ferrous Alloys



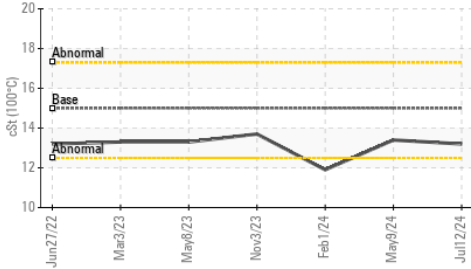
Base Number



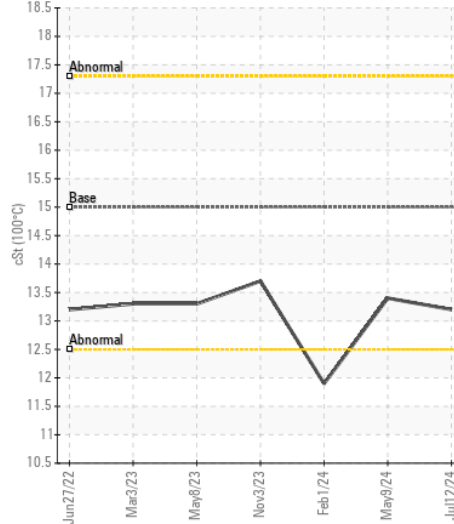
Non-ferrous Metals



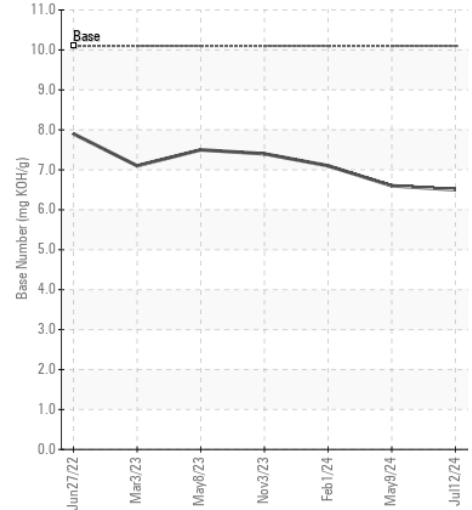
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0909725
Lab Number : 06238668
Unique Number : 11127502
Test Package : FLEET

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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)