



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>ATTENTION</b>

Area  
**Store 9 - Marietta**

Machine Id  
**1108**

Component  
**Diesel Engine**

Fluid  
**SHELL ROTELLA T 15W40 (--- GAL)**

## RECOMMENDATION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LEC0047096</b>	LEC0046149	LEC0045850
Sample Date		Client Info		<b>29 Jan 2024</b>	21 Dec 2023	05 Nov 2023
Machine Age	hrs	Client Info		<b>7731</b>	7276	187019
Oil Age	hrs	Client Info		<b>400</b>	400	5000
Filter Age	hrs	Client Info		<b>400</b>	400	5000
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ATTENTION</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>11</b>	14	7
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>5</b>	6	5
Lead	ppm	ASTM D5185m	>40	<b>1</b>	3	1
Copper	ppm	ASTM D5185m	>330	<b>0</b>	<1	0
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

There is no indication of any contamination in the oil.

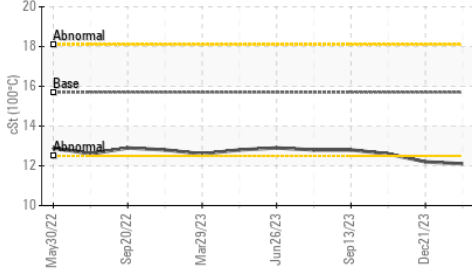
Silicon	ppm	ASTM D5185m	>120	<b>4</b>	6	6
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	17	5
Fuel		WC Method	>5	<b>&lt;1.0</b>	3.2	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.4</b>	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.5</b>	9.4	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>24.3</b>	24.2	24.1
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

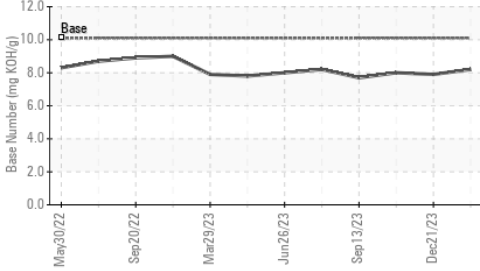
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		<b>&lt;1</b>	1	0
Boron	ppm	ASTM D5185m	316	<b>257</b>	224	235
Barium	ppm	ASTM D5185m	0.0	<b>&lt;1</b>	<1	0
Molybdenum	ppm	ASTM D5185m	1.2	<b>131</b>	159	123
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	24	<b>658</b>	686	660
Calcium	ppm	ASTM D5185m	2292	<b>1453</b>	1628	1468
Phosphorus	ppm	ASTM D5185m	1064	<b>702</b>	776	735
Zinc	ppm	ASTM D5185m	1160	<b>834</b>	900	879
Sulfur	ppm	ASTM D5185m	4996	<b>2285</b>	2672	2425
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>19.1</b>	19.3	18.5
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	<b>8.2</b>	7.9	8.0
Visc @ 100°C	cSt	ASTM D445	15.7	<b>▲ 12.1</b>	12.2	12.6

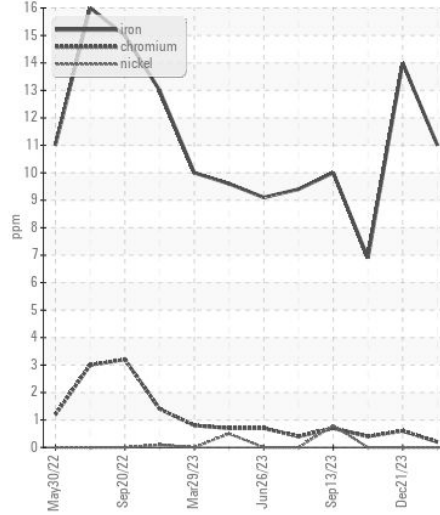
▲ Viscosity @ 100°C



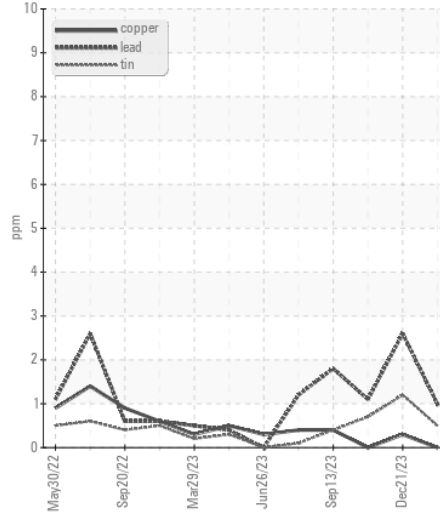
Base Number



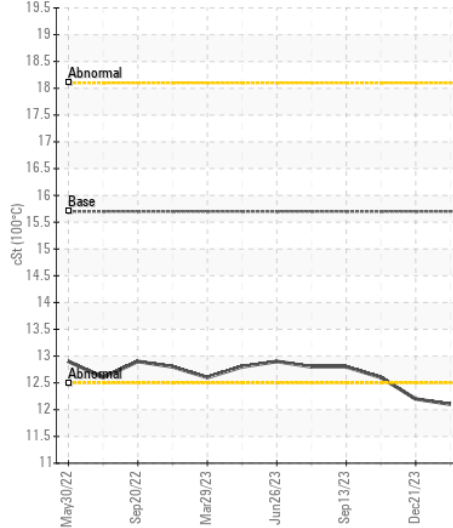
Ferrous Alloys



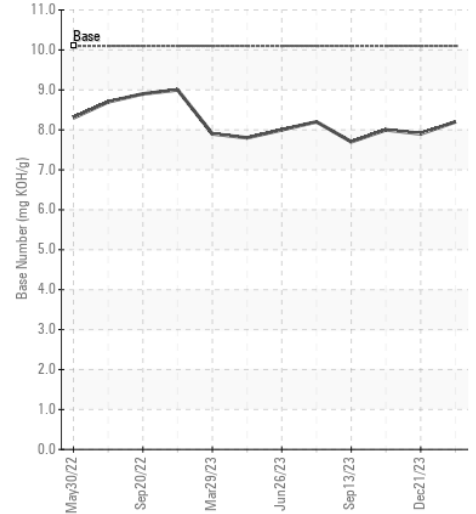
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0047096 **Received** : 08 Feb 2024  
**Lab Number** : 06083444 **Tested** : 09 Feb 2024  
**Unique Number** : 10870889 **Diagnosed** : 12 Feb 2024 - Jonathan Hester  
**Test Package** : CONST ( Additional Tests: TBN )

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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)