



# OIL ANALYSIS REPORT

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

Machine Id  
**1088**  
Component  
**Diesel Engine**  
Fluid  
**SHELL ROTELLA T 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LEC0045792</b>	LEC0044137	LEC0038827
Sample Date		Client Info		<b>31 Dec 2023</b>	25 Oct 2023	26 Mar 2023
Machine Age	mls	Client Info		<b>417130</b>	407144	386256
Oil Age	mls	Client Info		<b>10000</b>	10000	10000
Filter Age	mls	Client Info		<b>10000</b>	10000	10000
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>11</b>	14	22
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	2	3
Lead	ppm	ASTM D5185m	>40	<b>1</b>	4	7
Copper	ppm	ASTM D5185m	>330	<b>2</b>	3	4
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

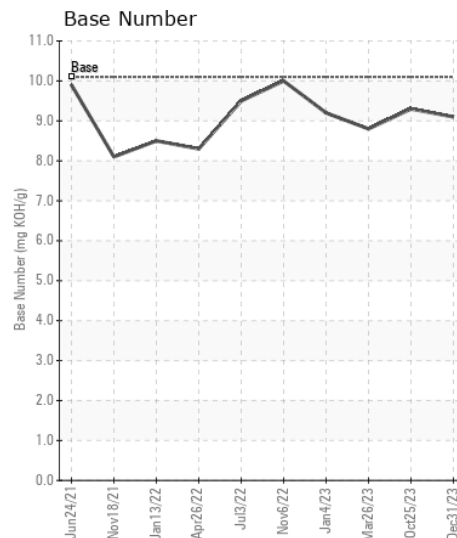
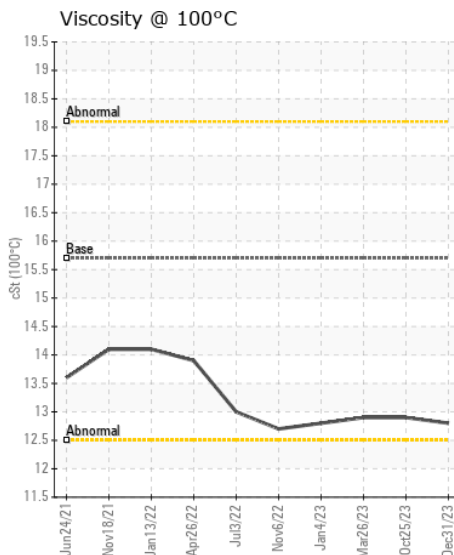
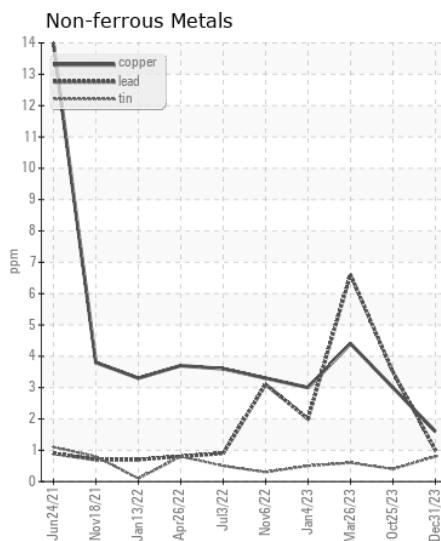
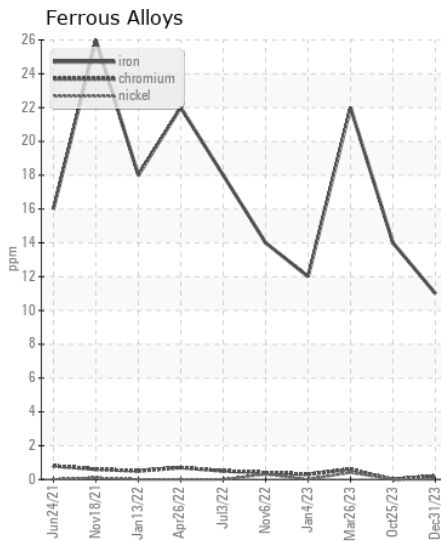
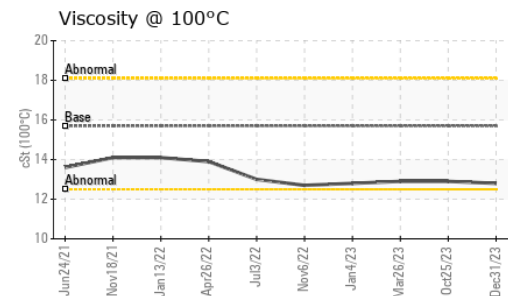
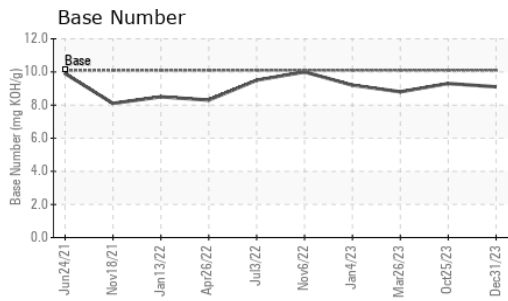
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>120	<b>5</b>	5	6
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	0	1
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<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>0.3</b>	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.4</b>	8.7	9.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.3</b>	23.6	24.0
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 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		<b>&lt;1</b>	1	<1
Boron	ppm	ASTM D5185m	316	<b>299</b>	290	295
Barium	ppm	ASTM D5185m	0.0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	1.2	<b>125</b>	115	121
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m	24	<b>660</b>	565	592
Calcium	ppm	ASTM D5185m	2292	<b>1445</b>	1354	1459
Phosphorus	ppm	ASTM D5185m	1064	<b>758</b>	644	665
Zinc	ppm	ASTM D5185m	1160	<b>854</b>	759	806
Sulfur	ppm	ASTM D5185m	4996	<b>2475</b>	2163	2399
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.9</b>	18.3	19.7
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	<b>9.1</b>	9.3	8.8
Visc @ 100°C	cSt	ASTM D445	15.7	<b>12.8</b>	12.9	12.9



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0045792 **Received** : 16 Jan 2024  
**Lab Number** : 06060809 **Diagnosed** : 17 Jan 2024  
**Unique Number** : 10832191 **Diagnostician** : Jonathan Hester  
**Test Package** : CONST ( Additional Tests: TBN )

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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