



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Area
Store 9 - Marietta

Machine Id
1096

Component
Diesel Engine

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

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LEC0045348	LEC0045453	LEC0046147
Sample Date		Client Info		21 Feb 2024	18 Jan 2024	20 Dec 2023
Machine Age	hrs	Client Info		12289	11868	11363
Oil Age	hrs	Client Info		400	400	400
Filter Age	hrs	Client Info		400	400	400
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	24	25	20
Chromium	ppm	ASTM D5185m	>20	1	2	2
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	11	11	13
Lead	ppm	ASTM D5185m	>40	2	2	<1
Copper	ppm	ASTM D5185m	>330	<1	1	<1
Tin	ppm	ASTM D5185m	>15	0	0	1
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

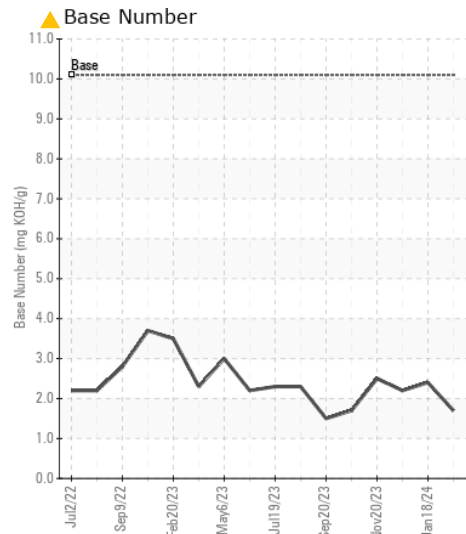
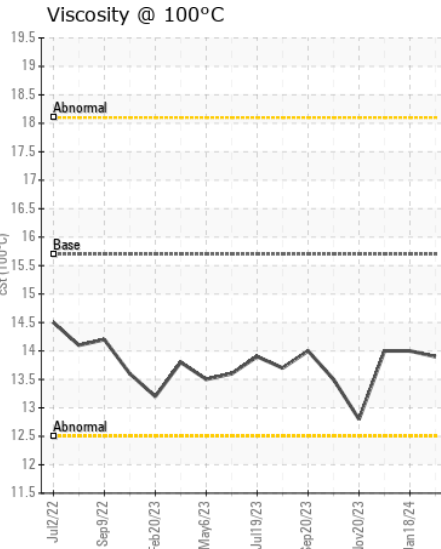
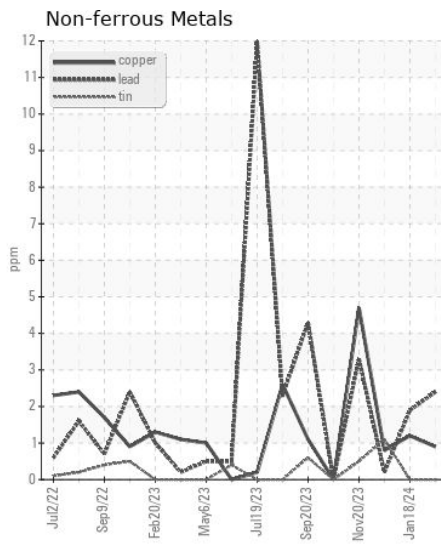
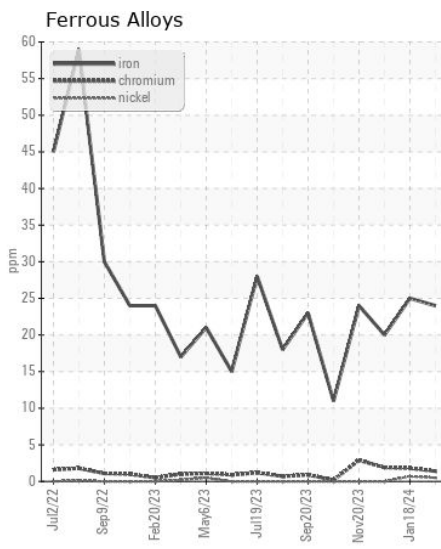
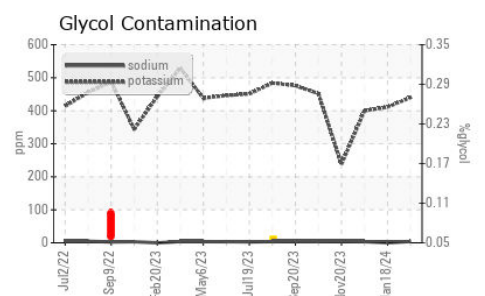
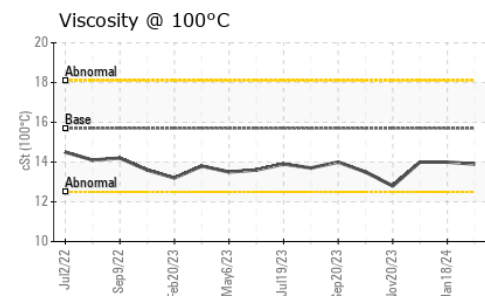
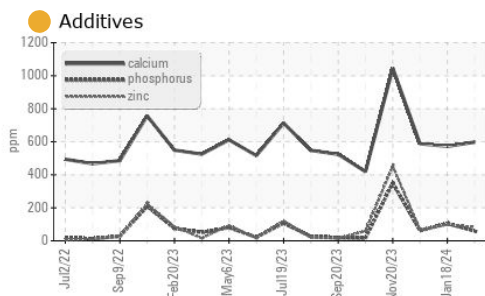
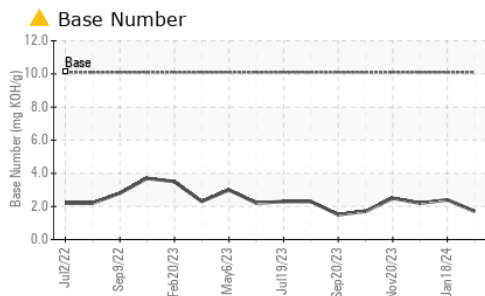
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>120	16	16	10
Potassium	ppm	ASTM D5185m	>20	▲ 440	▲ 411	▲ 400
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.5	0.5	0.5
Nitration	Abs/cm	*ASTM D7624	>20	9.8	9.8	9.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.8	23.7	23.5
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

Additive levels indicate the addition of a different brand, or type of oil. The BN level is low. Confirm oil type.

Sodium	ppm	ASTM D5185m		4	<1	4
Boron	ppm	ASTM D5185m	316	245	214	232
Barium	ppm	ASTM D5185m	0.0	3	0	4
Molybdenum	ppm	ASTM D5185m	1.2	● 1172	● 1053	● 1148
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	24	● 143	● 164	● 155
Calcium	ppm	ASTM D5185m	2292	● 598	● 572	● 588
Phosphorus	ppm	ASTM D5185m	1064	● 59	● 104	● 61
Zinc	ppm	ASTM D5185m	1160	● 83	● 98	● 68
Sulfur	ppm	ASTM D5185m	4996	● 1833	● 1784	● 1844
Oxidation	Abs/.1mm	*ASTM D7414	>25	30.0	29.1	30.1
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	▲ 1.7	▲ 2.4	▲ 2.2
Visc @ 100°C	cSt	ASTM D445	15.7	13.9	14.0	14.0



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0045348 **Received** : 28 Feb 2024
Lab Number : 06102816 **Tested** : 01 Mar 2024
Unique Number : 10901046 **Diagnosed** : 01 Mar 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: Glycol, TBN)

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Certificate L2367
 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)