



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	MARGINAL

Area
Store 9 - Marietta

Machine Id
1103

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		LEC0047092	LEC0044847	LEC0041001
Sample Date		Client Info		26 Jan 2024	13 Dec 2023	04 Oct 2023
Machine Age	hrs	Client Info		15075	14388	13390
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				MARGINAL	MARGINAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	14	18	11
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	5	6	0
Lead	ppm	ASTM D5185m	>40	3	6	3
Copper	ppm	ASTM D5185m	>330	0	0	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	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.

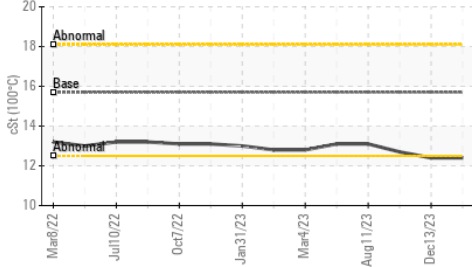
Silicon	ppm	ASTM D5185m	>120	5	7	6
Potassium	ppm	ASTM D5185m	>20	1	2	3
Fuel		WC Method	>5	<1.0	▲ 3.9	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.5	0.9	0.3
Nitration	Abs/cm	*ASTM D7624	>20	10.8	8.8	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.1	24.9	22.8
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

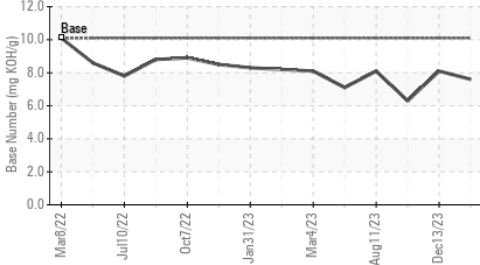
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		<1	<1	0
Boron	ppm	ASTM D5185m	316	244	189	300
Barium	ppm	ASTM D5185m	0.0	<1	0	2
Molybdenum	ppm	ASTM D5185m	1.2	132	119	122
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	24	669	639	572
Calcium	ppm	ASTM D5185m	2292	1489	1481	1370
Phosphorus	ppm	ASTM D5185m	1064	713	728	649
Zinc	ppm	ASTM D5185m	1160	854	841	775
Sulfur	ppm	ASTM D5185m	4996	2291	2293	2263
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.8	17.8	18.0
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	7.6	8.1	6.3
Visc @ 100°C	cSt	ASTM D445	15.7	▲ 12.4	▲ 12.4	12.7

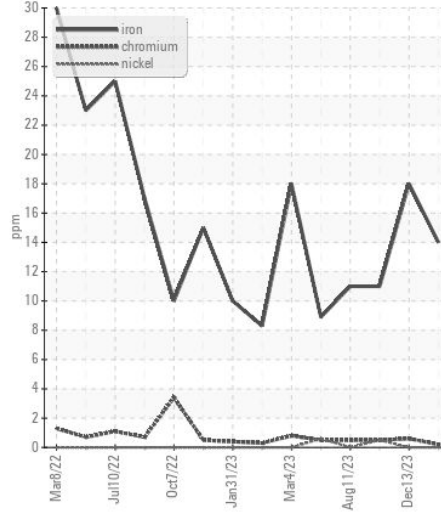
▲ Viscosity @ 100°C



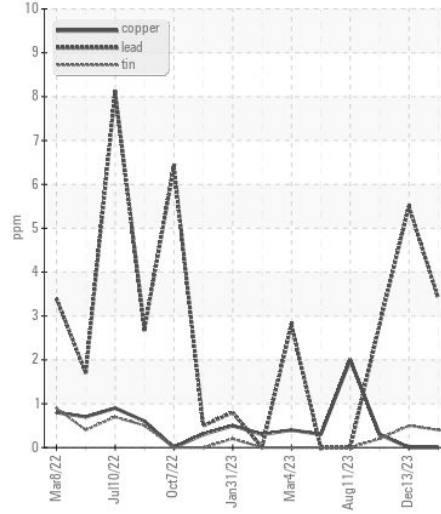
Base Number



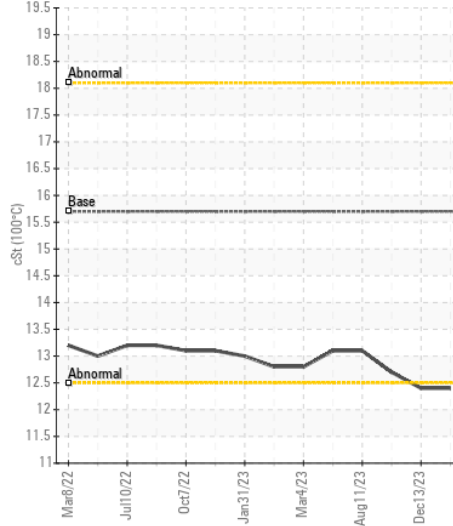
Ferrous Alloys



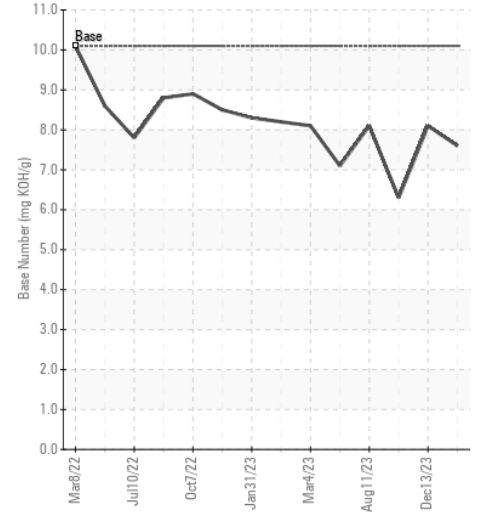
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0047092 **Received** : 08 Feb 2024
Lab Number : 06083446 **Tested** : 09 Feb 2024
Unique Number : 10870891 **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)