



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
Store 9 - Marietta

Machine Id

1092

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		LEC0048262	LEC0047101	LEC0045160
Sample Date		Client Info		04 Apr 2024	02 Feb 2024	25 Nov 2023
Machine Age	mls	Client Info		444482	433075	423404
Oil Age	mls	Client Info		10000	10000	10000
Filter Age	mls	Client Info		10000	10000	10000
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	31	25	26
Chromium	ppm	ASTM D5185m	>20	<1	<1	1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		2	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	5	5	3
Lead	ppm	ASTM D5185m	>40	17	16	18
Copper	ppm	ASTM D5185m	>330	0	0	2
Tin	ppm	ASTM D5185m	>15	<1	<1	<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.

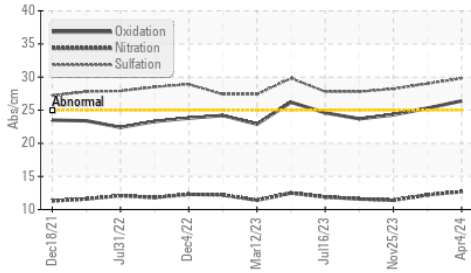
Silicon	ppm	ASTM D5185m	>120	9	7	8
Potassium	ppm	ASTM D5185m	>20	0	<1	1
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.5	0.5	0.4
Nitration	Abs/cm	*ASTM D7624	>20	12.7	12.2	11.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	29.8	29.0	28.2
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

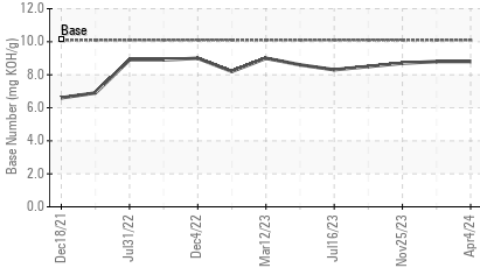
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		0	<1	2
Boron	ppm	ASTM D5185m	316	237	276	234
Barium	ppm	ASTM D5185m	0.0	0	<1	0
Molybdenum	ppm	ASTM D5185m	1.2	151	164	148
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	24	858	816	844
Calcium	ppm	ASTM D5185m	2292	2025	1906	1903
Phosphorus	ppm	ASTM D5185m	1064	959	916	844
Zinc	ppm	ASTM D5185m	1160	1122	1070	1097
Sulfur	ppm	ASTM D5185m	4996	3288	2676	2658
Oxidation	Abs/.1mm	*ASTM D7414	>25	26.4	25.3	24.3
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	8.8	8.8	8.7
Visc @ 100°C	cSt	ASTM D445	15.7	14.7	14.2	14.3

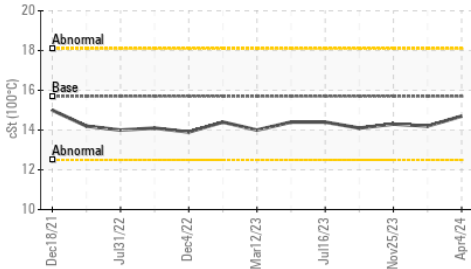
FT-IR (Direct Trend)



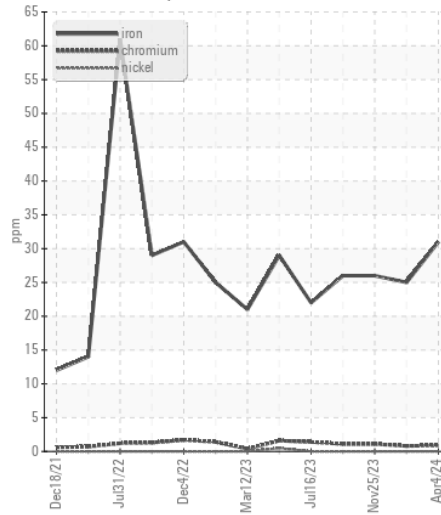
Base Number



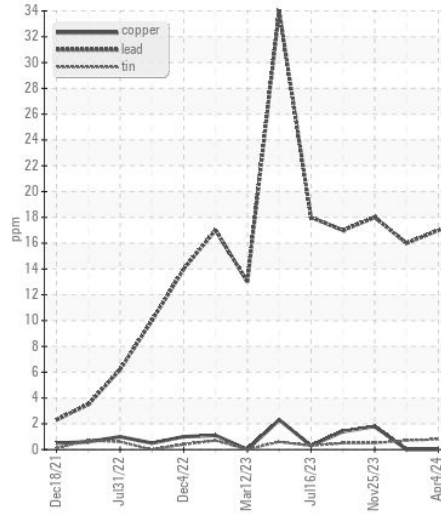
Viscosity @ 100°C



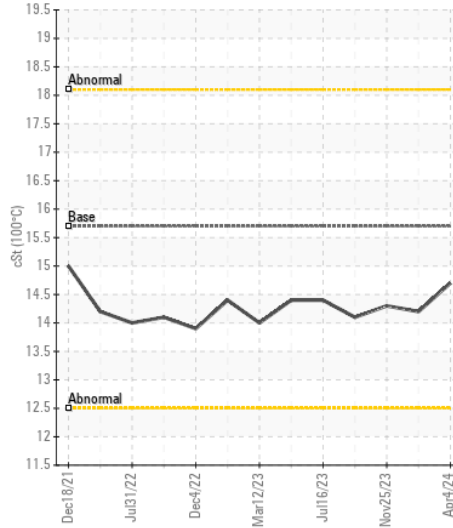
Ferrous Alloys



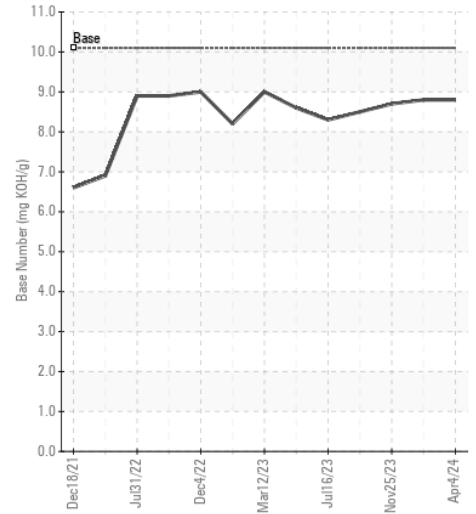
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0048262 **Received** : 17 Apr 2024
Lab Number : 06151715 **Tested** : 18 Apr 2024
Unique Number : 10981793 **Diagnosed** : 19 Apr 2024 - Sean Felton
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)