



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
Store 9 - Marietta
Machine Id
219
Component
Diesel Engine
Fluid
LYDEN 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LEC0049519	LEC0046958	LEC0044033
Sample Date		Client Info		14 May 2024	07 Feb 2024	13 Nov 2023
Machine Age	hrs	Client Info		5384	5094	4835
Oil Age	hrs	Client Info		290	260	257
Filter Age	hrs	Client Info		290	260	257
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	8	5	8
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m		51	42	73
Silver	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	1	2
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	1	<1	1
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	<1	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.

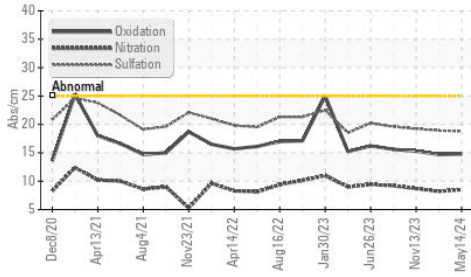
Silicon	ppm	ASTM D5185m	>120	4	3	5
Potassium	ppm	ASTM D5185m	>20	4	5	6
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	8.5	8.2	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.8	18.9	19.2
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

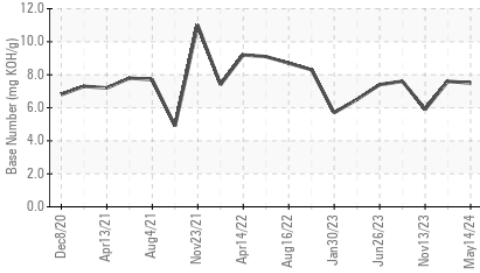
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		0	0	0
Boron	ppm	ASTM D5185m		78	60	104
Barium	ppm	ASTM D5185m		<1	4	0
Molybdenum	ppm	ASTM D5185m		24	28	19
Manganese	ppm	ASTM D5185m		0	0	<1
Magnesium	ppm	ASTM D5185m		406	366	403
Calcium	ppm	ASTM D5185m		1742	1536	1637
Phosphorus	ppm	ASTM D5185m		1085	972	888
Zinc	ppm	ASTM D5185m		1240	1056	1101
Sulfur	ppm	ASTM D5185m		4192	3835	4039
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.8	14.7	15.3
Base Number (BN)	mg KOH/g	ASTM D2896		7.5	7.6	5.9
Visc @ 100°C	cSt	ASTM D445		12.7	12.7	13.0

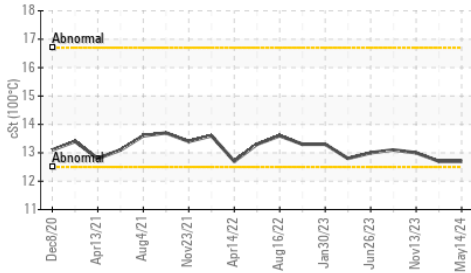
FT-IR (Direct Trend)



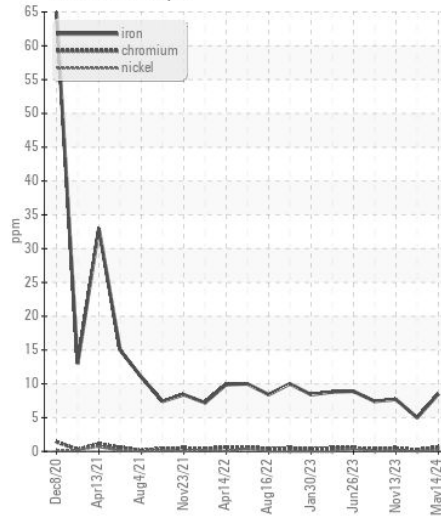
Base Number



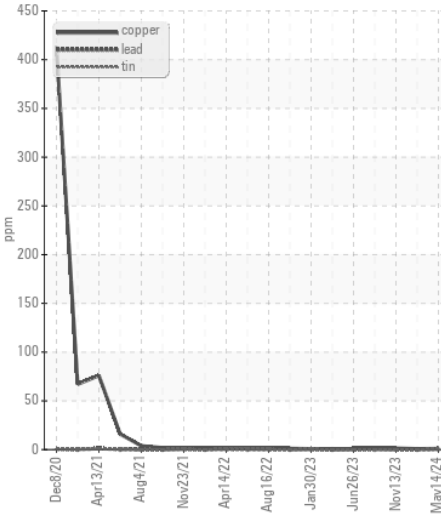
Viscosity @ 100°C



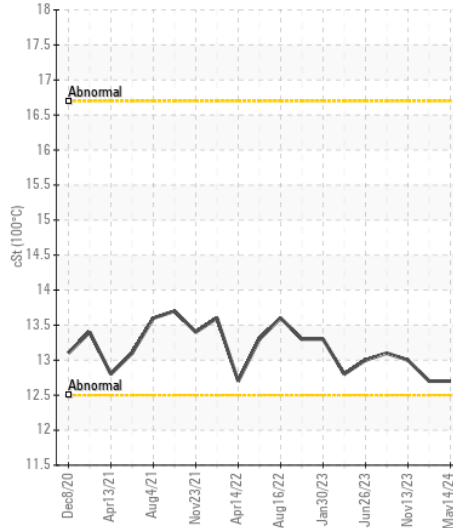
Ferrous Alloys



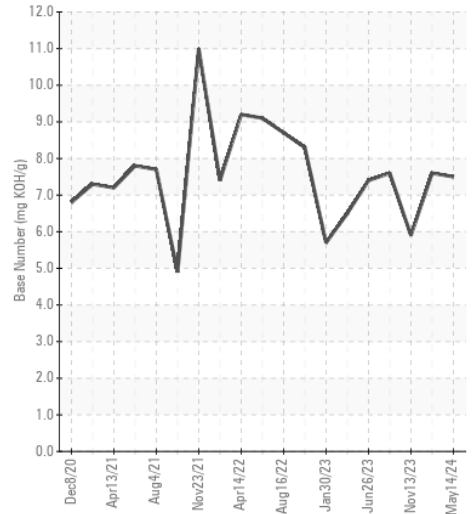
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0049519 **Received** : 03 Jun 2024
Lab Number : 06197488 **Tested** : 04 Jun 2024
Unique Number : 11059611 **Diagnosed** : 04 Jun 2024 - Don Baldrige
Test Package : CONST (Additional Tests: TBN)

LAROCHE TREE SERVICE
 7 COMMERCE PKWY
 BELLAIRE, OH
 US 43906
 Contact: GLEN VARGO
 glen.vargo@larochetree.com

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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F: