



# OIL ANALYSIS REPORT

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

Area  
**Store 9 - Marietta**  
Machine Id  
**307**  
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		<b>LEC0049517</b>	LEC0046957	LEC0043972
Sample Date		Client Info		<b>08 May 2024</b>	29 Jan 2024	24 Oct 2023
Machine Age	mls	Client Info		<b>226704</b>	216271	205547
Oil Age	mls	Client Info		<b>10245</b>	10724	11309
Filter Age	mls	Client Info		<b>10245</b>	10724	11309
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>26</b>	29	22
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	2	1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>56</b>	73	75
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	2	3
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m	>330	<b>1</b>	<1	<1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
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.

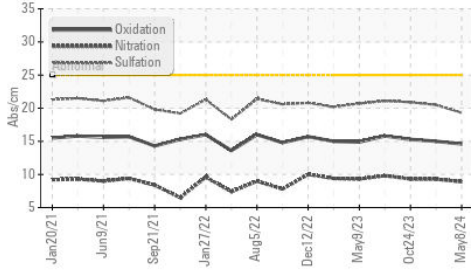
Silicon	ppm	ASTM D5185m	>120	<b>7</b>	6	6
Potassium	ppm	ASTM D5185m	>20	<b>8</b>	2	6
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.5	0.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.9</b>	9.3	9.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.3</b>	20.5	20.9
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

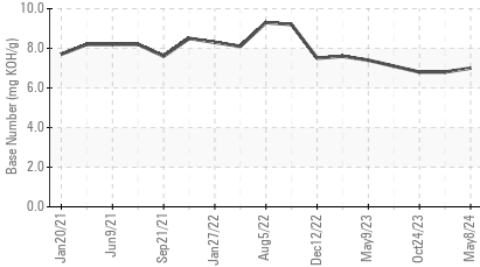
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>1</b>	3	2
Boron	ppm	ASTM D5185m		<b>72</b>	87	89
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>17</b>	8	6
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>397</b>	386	395
Calcium	ppm	ASTM D5185m		<b>1748</b>	1684	1672
Phosphorus	ppm	ASTM D5185m		<b>1025</b>	973	1037
Zinc	ppm	ASTM D5185m		<b>1195</b>	1144	1169
Sulfur	ppm	ASTM D5185m		<b>3869</b>	3539	4022
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.6</b>	15.0	15.3
Base Number (BN)	mg KOH/g	ASTM D2896		<b>7.0</b>	6.8	6.8
Visc @ 100°C	cSt	ASTM D445		<b>12.5</b>	13.2	13.3

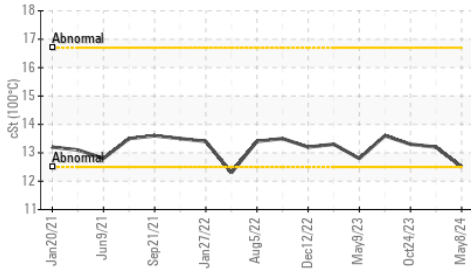
**FT-IR (Direct Trend)**



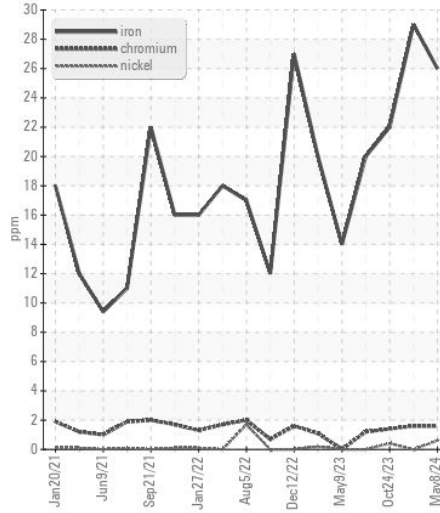
**Base Number**



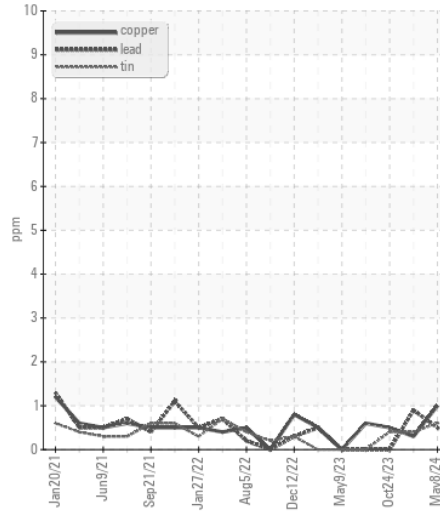
**Viscosity @ 100°C**



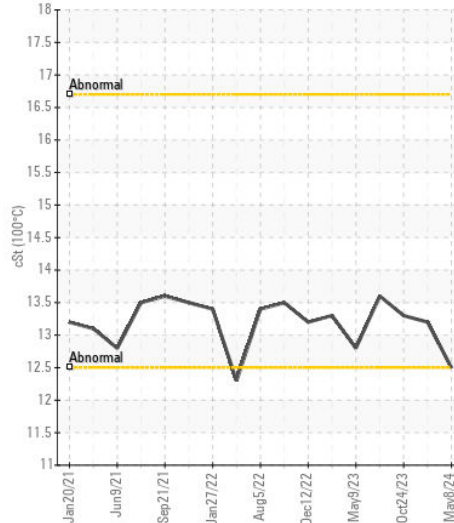
**Ferrous Alloys**



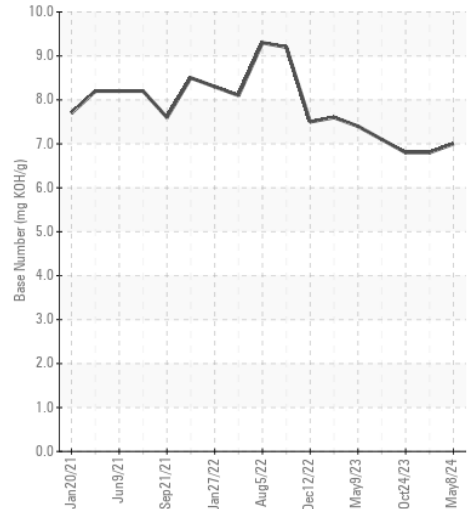
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0049517 **Received** : 03 Jun 2024  
**Lab Number** : 06197443 **Tested** : 04 Jun 2024  
**Unique Number** : 11059566 **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)

T:  
F: