



# OIL ANALYSIS REPORT

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

Area  
**Store 9 - Marietta**  
Machine Id  
**PETERBILT 1009**

Component  
**Diesel Engine**  
Fluid  
**SHELL ROTELLA T 15W40 (10 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		<b>LEC0045793</b>	LEC0042539	LEC0035612
Sample Date		Client Info		<b>01 Jan 2024</b>	20 Jun 2023	20 Oct 2022
Machine Age	mls	Client Info		<b>809921</b>	795620	782973
Oil Age	mls	Client Info		<b>5000</b>	10000	10000
Filter Age	mls	Client Info		<b>5000</b>	10000	10000
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	ABNORMAL	NORMAL

## WEAR

The lead level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>110	<b>24</b>	22	19
Chromium	ppm	ASTM D5185m	>4	<b>2</b>	2	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>4</b>	5	4
Lead	ppm	ASTM D5185m	>45	<b>▲ 38</b>	1	6
Copper	ppm	ASTM D5185m	>85	<b>1</b>	<1	2
Tin	ppm	ASTM D5185m	>4	<b>3</b>	3	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<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.

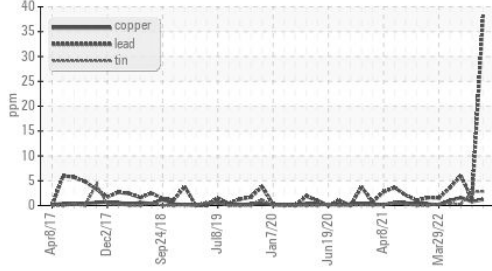
Silicon	ppm	ASTM D5185m	>120	<b>16</b>	<b>▲ 30</b>	6
Potassium	ppm	ASTM D5185m	>20	<b>37</b>	61	28
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>1.3</b>	0.6	0.9
Nitration	Abs/cm	*ASTM D7624	>20	<b>12.6</b>	9.2	10.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>27.0</b>	23.9	26.0
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

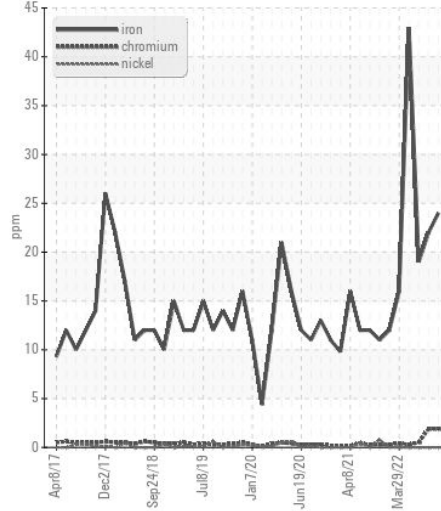
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>14</b>	19	4
Boron	ppm	ASTM D5185m	316	<b>126</b>	214	194
Barium	ppm	ASTM D5185m	0.0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	1.2	<b>125</b>	127	118
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	24	<b>644</b>	648	603
Calcium	ppm	ASTM D5185m	2292	<b>1508</b>	1513	1504
Phosphorus	ppm	ASTM D5185m	1064	<b>701</b>	717	730
Zinc	ppm	ASTM D5185m	1160	<b>843</b>	869	894
Sulfur	ppm	ASTM D5185m	4996	<b>2468</b>	3048	2973
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>21.4</b>	17.9	18.8
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	<b>7.7</b>	8.9	8.7
Visc @ 100°C	cSt	ASTM D445	15.7	<b>14.1</b>	13.5	13.7

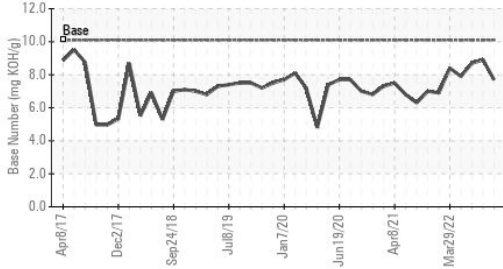
▲ Non-ferrous Metals



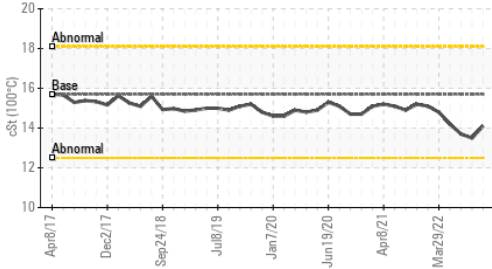
Ferrous Alloys



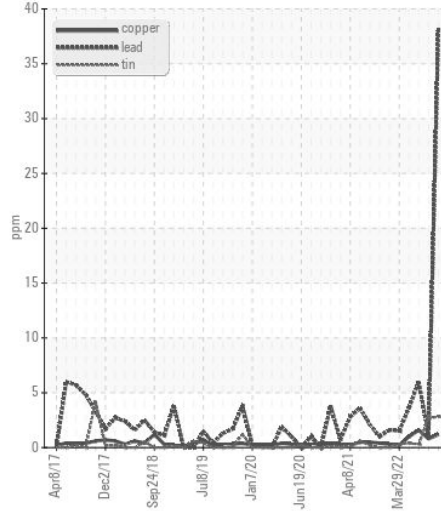
Base Number



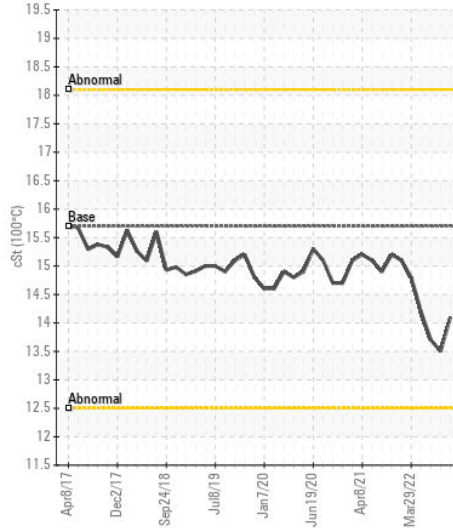
Viscosity @ 100°C



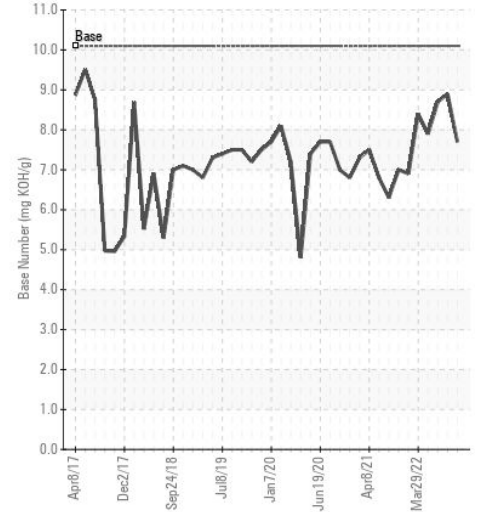
▲ Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0045793 **Received** : 16 Jan 2024  
**Lab Number** : 06060811 **Diagnosed** : 17 Jan 2024  
**Unique Number** : 10832193 **Diagnostician** : 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)