



# 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. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LEC0048376</b>	LEC0045793	LEC0042539
Sample Date		Client Info		<b>15 Mar 2024</b>	01 Jan 2024	20 Jun 2023
Machine Age	mls	Client Info		<b>821800</b>	809921	795620
Oil Age	mls	Client Info		<b>5000</b>	5000	10000
Filter Age	mls	Client Info		<b>5000</b>	5000	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	ABNORMAL

## WEAR

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

Iron	ppm	ASTM D5185m	>110	<b>26</b>	24	22
Chromium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	2	2
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>3</b>	4	5
Lead	ppm	ASTM D5185m	>45	<b>▲ 47</b>	▲ 38	1
Copper	ppm	ASTM D5185m	>85	<b>&lt;1</b>	1	<1
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	3	3
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
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.

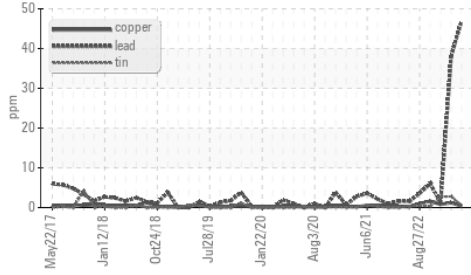
Silicon	ppm	ASTM D5185m	>120	<b>9</b>	16	▲ 30
Potassium	ppm	ASTM D5185m	>20	<b>36</b>	37	61
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>1.3</b>	1.3	0.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>12.0</b>	12.6	9.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>26.9</b>	27.0	23.9
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

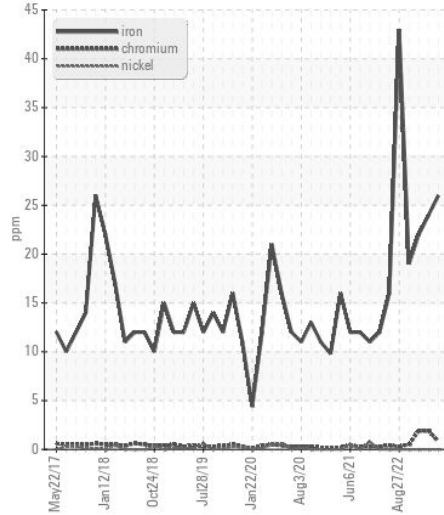
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>26</b>	14	19
Boron	ppm	ASTM D5185m	316	<b>123</b>	126	214
Barium	ppm	ASTM D5185m	0.0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	1.2	<b>141</b>	125	127
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	24	<b>724</b>	644	648
Calcium	ppm	ASTM D5185m	2292	<b>1756</b>	1508	1513
Phosphorus	ppm	ASTM D5185m	1064	<b>804</b>	701	717
Zinc	ppm	ASTM D5185m	1160	<b>968</b>	843	869
Sulfur	ppm	ASTM D5185m	4996	<b>3246</b>	2468	3048
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.9</b>	21.4	17.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	<b>8.0</b>	7.7	8.9
Visc @ 100°C	cSt	ASTM D445	15.7	<b>14.0</b>	14.1	13.5

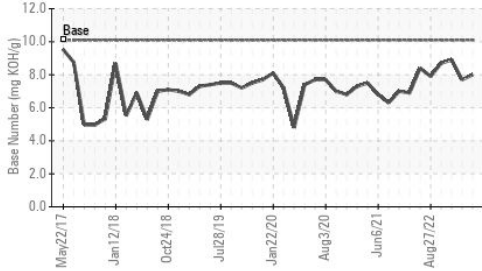
▲ Non-ferrous Metals



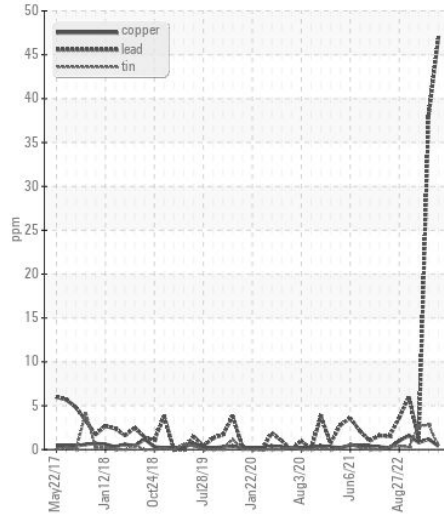
Ferrous Alloys



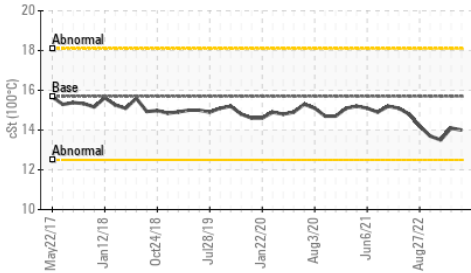
Base Number



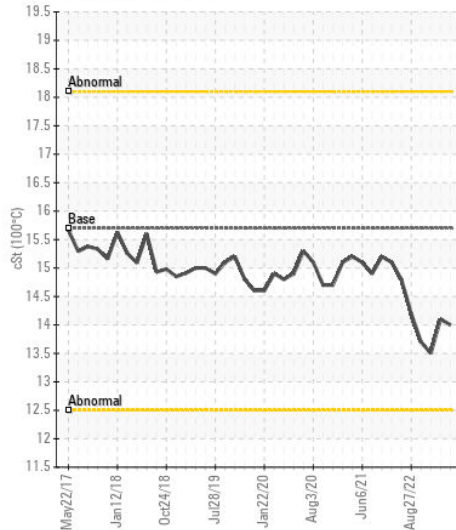
▲ Non-ferrous Metals



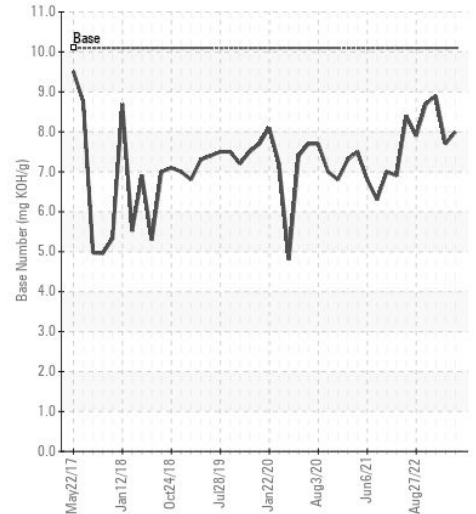
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0048376 **Received** : 20 Mar 2024  
**Lab Number** : 06123343 **Tested** : 21 Mar 2024  
**Unique Number** : 10937494 **Diagnosed** : 22 Mar 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)