



# OIL ANALYSIS REPORT

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

Area  
**TRUCK - URBAN**

Machine Id  
**PETERBILT 93**

Component  
**Diesel Engine**

Fluid  
**SHELL Rotella T5 15W-40 (7 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>PE0004129</b>	PE0001321	PE0000476
Sample Date		Client Info		<b>01 Jul 2024</b>	14 Jul 2023	11 Jan 2023
Machine Age	mls	Client Info		<b>281670</b>	264826	255270
Oil Age	mls	Client Info		<b>7380</b>	9556	6350
Filter Age	mls	Client Info		<b>7380</b>	9556	6350
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	>110	<b>30</b>	34	33
Chromium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>59</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>2</b>	2	<1
Lead	ppm	ASTM D5185m	>45	<b>&lt;1</b>	0	2
Copper	ppm	ASTM D5185m	>85	<b>1</b>	5	5
Tin	ppm	ASTM D5185m	>4	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</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.

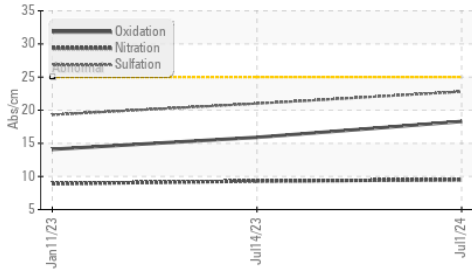
Silicon	ppm	ASTM D5185m	>30	<b>5</b>	3	5
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	2	2
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>1.2</b>	1	0.8
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.5</b>	9.3	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.8</b>	21.0	19.3
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

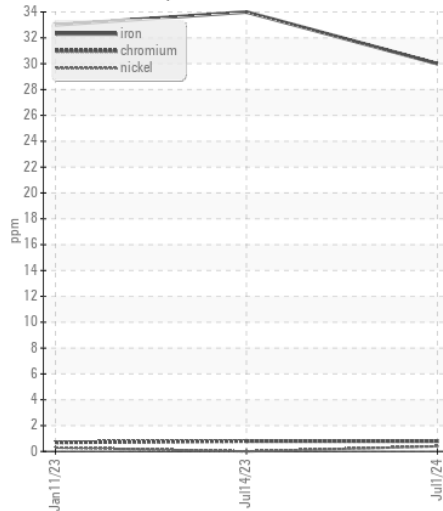
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>2</b>	2	0
Boron	ppm	ASTM D5185m		<b>111</b>	79	64
Barium	ppm	ASTM D5185m		<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185m		<b>8</b>	56	61
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>306</b>	68	195
Calcium	ppm	ASTM D5185m		<b>1719</b>	2303	2071
Phosphorus	ppm	ASTM D5185m		<b>939</b>	1074	1017
Zinc	ppm	ASTM D5185m		<b>1122</b>	1317	1304
Sulfur	ppm	ASTM D5185m		<b>3086</b>	4403	4164
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>18.3</b>	15.9	14.1
Base Number (BN)	mg KOH/g	ASTM D2896	10	<b>7.2</b>	6.9	7.9
Visc @ 100°C	cSt	ASTM D445	14.9	<b>13.2</b>	13.5	13.6

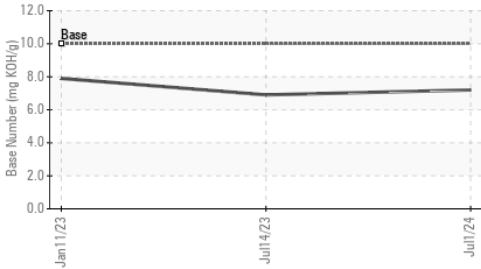
**FT-IR (Direct Trend)**



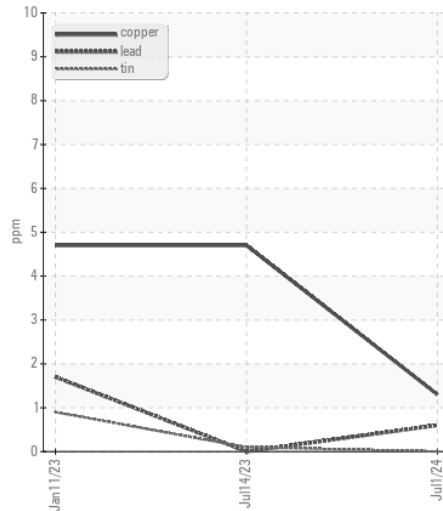
**Ferrous Alloys**



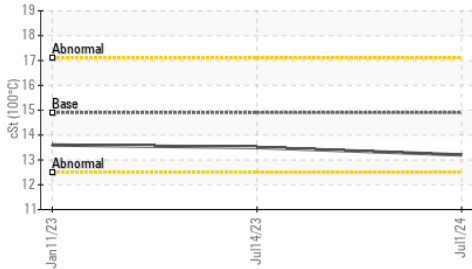
**Base Number**



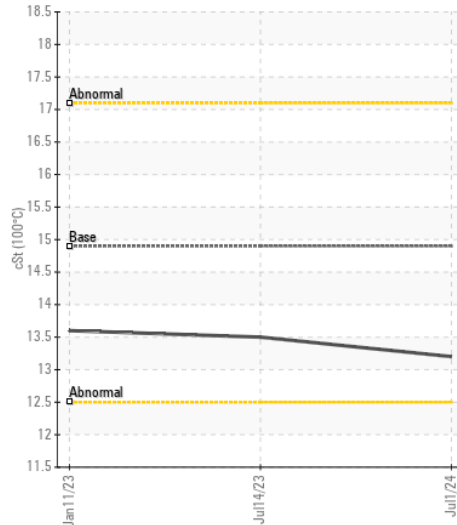
**Non-ferrous Metals**



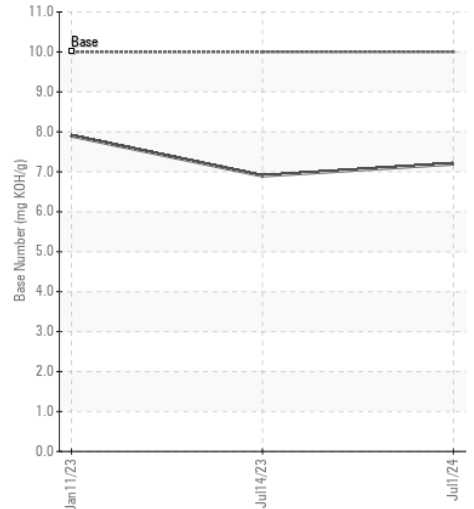
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PE0004129 **Received** : 16 Jul 2024  
**Lab Number** : 06238674 **Tested** : 17 Jul 2024  
**Unique Number** : 11127508 **Diagnosed** : 18 Jul 2024 - Sean Felton  
**Test Package** : CONST ( Additional Tests: FT-IR, ICP, KV100, SCREEN, TBN )

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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