



# OIL ANALYSIS REPORT

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

Machine Id  
**KENWORTH T880 R07 (S/N 431403)**  
 Component  
**Diesel Engine**  
 Fluid  
**VALVOLINE PREMIUM BLUE (--- QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0793099</b>	WC0731582	WC0638722
Sample Date		Client Info		<b>17 Jul 2023</b>	07 Nov 2022	08 Apr 2022
Machine Age	hrs	Client Info		<b>17033</b>	16030	15020
Oil Age	hrs	Client Info		<b>1003</b>	1000	0
Filter Age	hrs	Client Info		<b>1003</b>	1000	0
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>30</b>	37	40
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	2	2
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	3	<1
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	4	3
Lead	ppm	ASTM D5185m	>40	<b>4</b>	10	9
Copper	ppm	ASTM D5185m	>330	<b>2</b>	2	3
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</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.

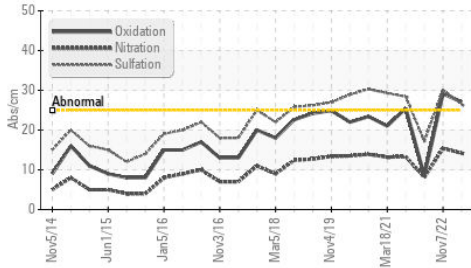
Silicon	ppm	ASTM D5185m	>25	<b>6</b>	6	7
Potassium	ppm	ASTM D5185m	>20	<b>6</b>	9	8
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.8</b>	1	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>14.2</b>	15.4	8.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>26.5</b>	30.1	17.2
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

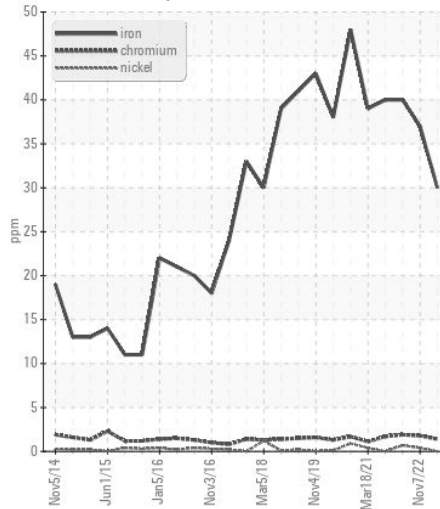
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>4</b>	3	3
Boron	ppm	ASTM D5185m	2.9	<b>38</b>	30	31
Barium	ppm	ASTM D5185m	0.1	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	0.0	<b>67</b>	85	65
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	18	<b>811</b>	728	631
Calcium	ppm	ASTM D5185m	2936	<b>1388</b>	1417	1439
Phosphorus	ppm	ASTM D5185m	998	<b>746</b>	785	752
Zinc	ppm	ASTM D5185m	1095	<b>910</b>	1004	925
Sulfur	ppm	ASTM D5185m	5469	<b>2847</b>	3394	2288
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>27.1</b>	29.1	8.5
Base Number (BN)	mg KOH/g	ASTM D2896	10.0	<b>5.7</b>	5.5	8.0
Visc @ 100°C	cSt	ASTM D445	15.2	<b>13.2</b>	12.5	13.0

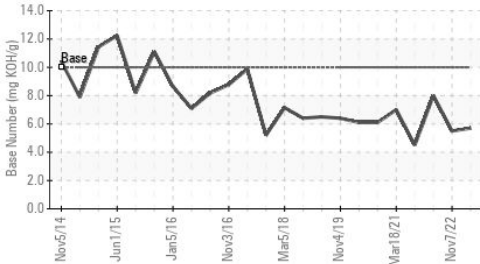
**FT-IR (Direct Trend)**



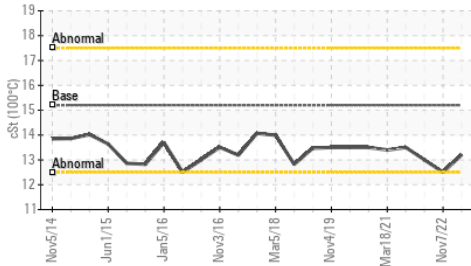
**Ferrous Alloys**



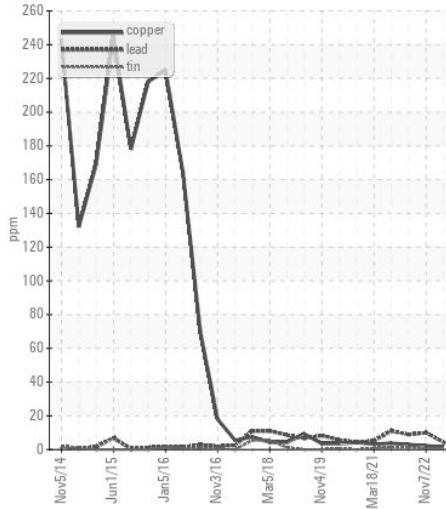
**Base Number**



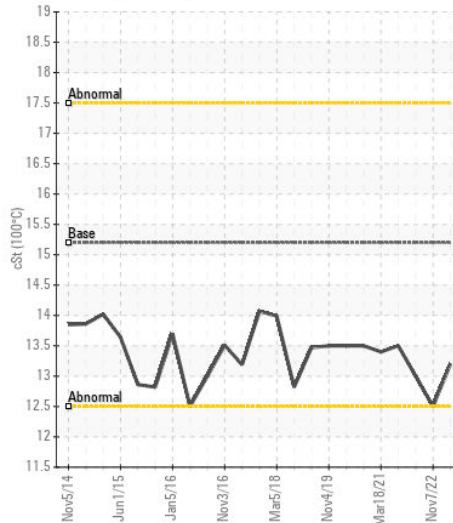
**Viscosity @ 100°C**



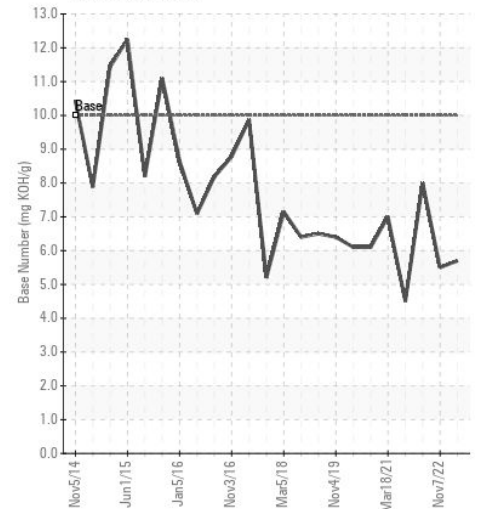
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513

**Sample No.** : WC0793099

**Lab Number** : 05908495

**Unique Number** : 10575147

**Test Package** : CONST ( Additional Tests: TBN )

**Received** : 27 Jul 2023

**Tested** : 27 Jul 2023

**Diagnosed** : 28 Jul 2023 - Don Baldrige

**TULLY CONSTRUCTION BOULEVARD**

127-50 NORTHERN BLVD

FLUSHING, NY

US 11368

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F:

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)