



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
KENWORTH 21434
 Component
Diesel Engine
 Fluid
SHELL ROTELLA T 10W30 (54 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0909691	WC0832034	WC0766604
Sample Date		Client Info		21 May 2024	27 Sep 2023	22 Dec 2022
Machine Age	mls	Client Info		122314	114370	104657
Oil Age	mls	Client Info		7944	9723	8257
Filter Age	mls	Client Info		7944	9723	8257
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	16	11	12
Chromium	ppm	ASTM D5185m	>20	2	<1	1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	1	0	0
Aluminum	ppm	ASTM D5185m	>20	6	6	2
Lead	ppm	ASTM D5185m	>40	4	3	<1
Copper	ppm	ASTM D5185m	>330	2	<1	1
Tin	ppm	ASTM D5185m	>15	2	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

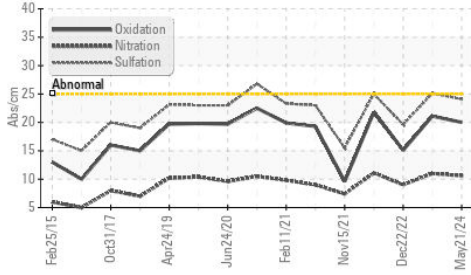
Silicon	ppm	ASTM D5185m	>25	8	5	7
Potassium	ppm	ASTM D5185m	>20	23	23	2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	10.6	11.0	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.1	25.1	19.6
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

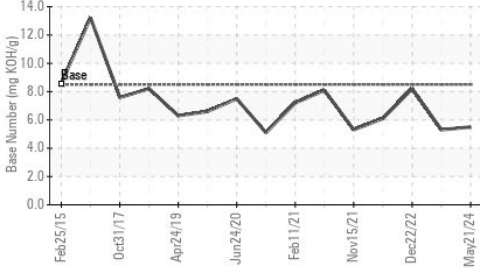
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		4	2	3
Boron	ppm	ASTM D5185m	269	155	89	17
Barium	ppm	ASTM D5185m		<1	<1	0
Molybdenum	ppm	ASTM D5185m	0	14	5	57
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	20	89	45	778
Calcium	ppm	ASTM D5185m	1521	2990	2271	1176
Phosphorus	ppm	ASTM D5185m	948	1392	1039	1009
Zinc	ppm	ASTM D5185m	893	1658	1228	1114
Sulfur	ppm	ASTM D5185m		4808	3529	3347
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.0	21.1	15.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	5.5	5.3	8.2
Visc @ 100°C	cSt	ASTM D445	11.0	11.9	12.1	10.7

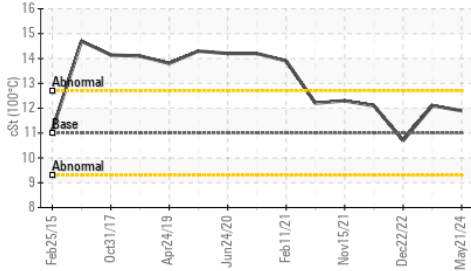
FT-IR (Direct Trend)



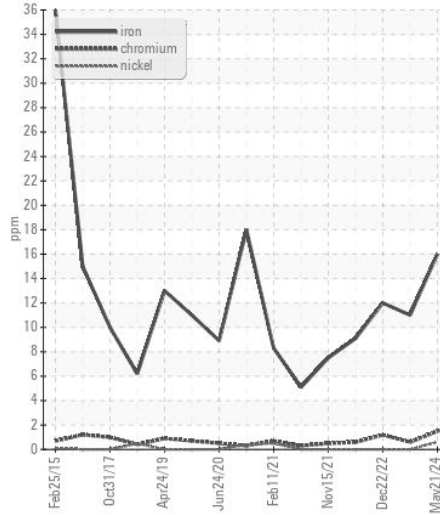
Base Number



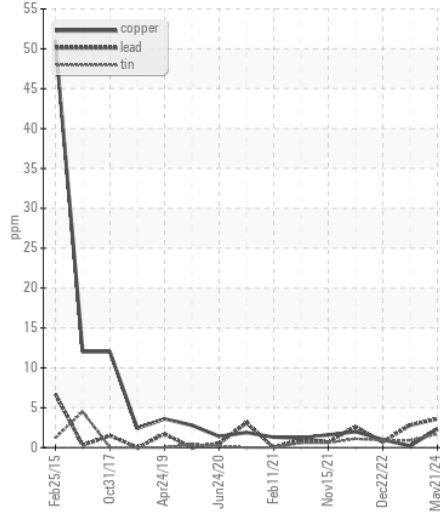
Viscosity @ 100°C



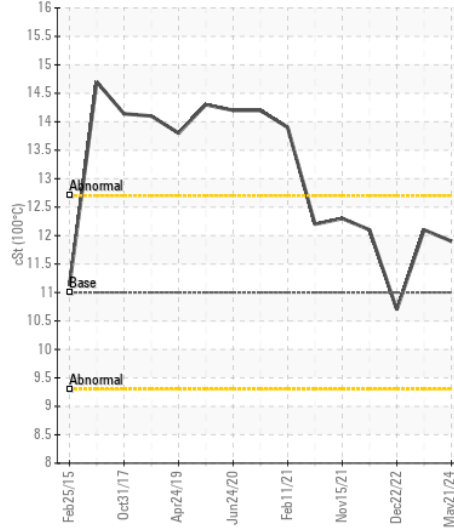
Ferrous Alloys



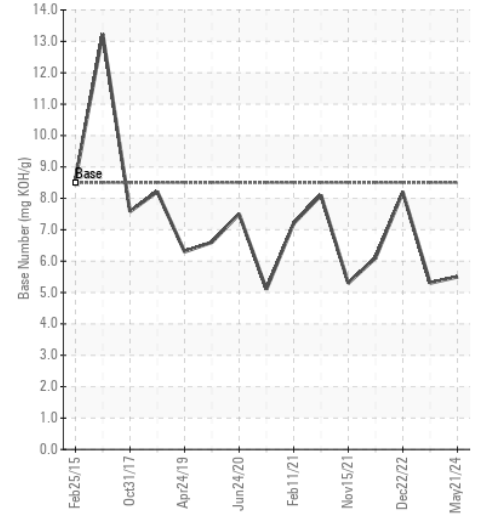
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : WC0909691

Lab Number : 06192018

Unique Number : 11048770

Test Package : FLEET

Received : 28 May 2024

Tested : 29 May 2024

Diagnosed : 30 May 2024 - Don Baldrige

GUY M TURNER & TURNER TRANSFER

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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)