



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
KENWORTH 433
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PCA0106745	PCA0082947	PCA0069335
Sample Date		Client Info		25 Mar 2024	04 Feb 2024	05 Jun 2023
Machine Age	mls	Client Info		407717	0	335687
Oil Age	mls	Client Info		0	0	1000
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	15	14	29
Chromium	ppm	ASTM D5185m	>20	1	<1	2
Nickel	ppm	ASTM D5185m	>4	<1	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	3	3	8
Lead	ppm	ASTM D5185m	>40	1	2	3
Copper	ppm	ASTM D5185m	>330	2	<1	6
Tin	ppm	ASTM D5185m	>15	1	1	3
Vanadium	ppm	ASTM D5185m		<1	<1	<1
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.

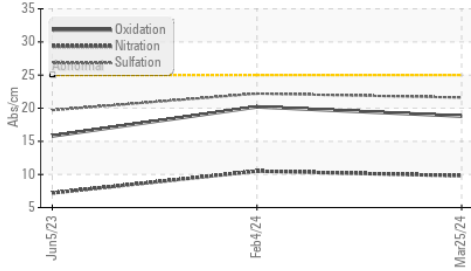
Silicon	ppm	ASTM D5185m	>25	5	5	43
Potassium	ppm	ASTM D5185m	>20	4	4	4
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	9.8	10.5	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.6	22.2	19.7
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

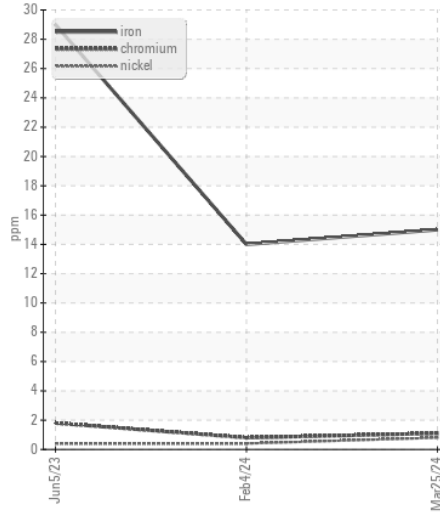
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	<1	6	6
Boron	ppm	ASTM D5185m	250	6	1	5
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	62	56	86
Manganese	ppm	ASTM D5185m		<1	<1	3
Magnesium	ppm	ASTM D5185m	450	873	989	1271
Calcium	ppm	ASTM D5185m	3000	1096	1047	1524
Phosphorus	ppm	ASTM D5185m	1150	1059	1063	1357
Zinc	ppm	ASTM D5185m	1350	1215	1231	1804
Sulfur	ppm	ASTM D5185m	4250	3152	2693	4511
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.8	20.2	15.8
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.0	6.0	8.8
Visc @ 100°C	cSt	ASTM D445	14.4	13.7	13.8	13.8

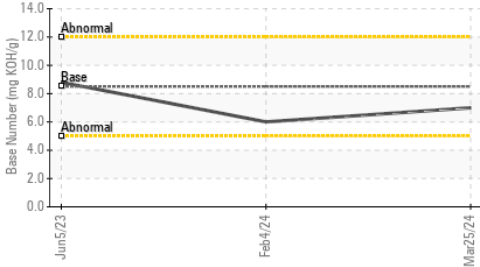
FT-IR (Direct Trend)



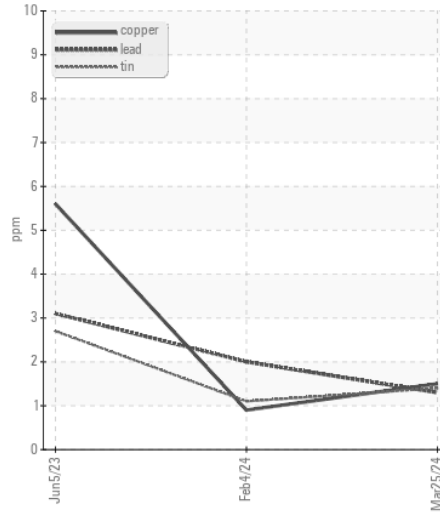
Ferrous Alloys



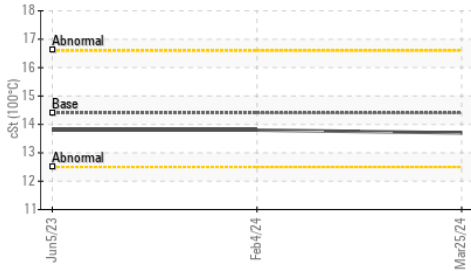
Base Number



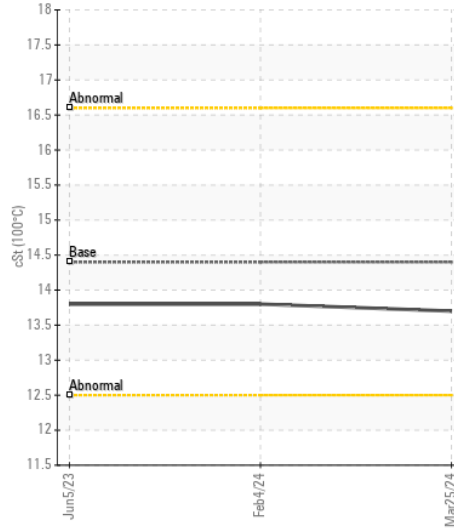
Non-ferrous Metals



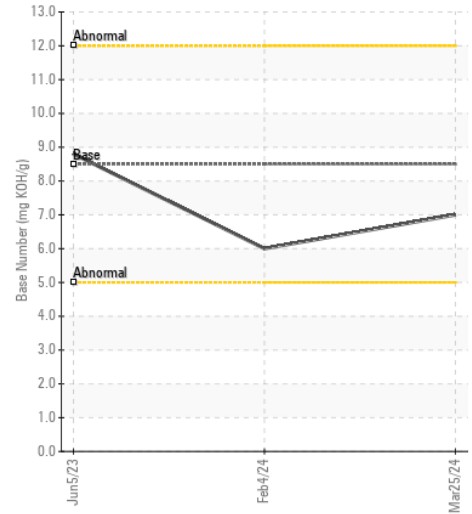
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : PCA0106745

Lab Number : 06156694

Unique Number : 10992117

Test Package : FLEET

Received : 22 Apr 2024

Tested : 23 Apr 2024

Diagnosed : 23 Apr 2024 - Wes Davis

LEFEBVRE AND SONS

10895 171ST AVE NW

ELK RIVER, MN

US 55330

Contact: JAY LEFEBVRE

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T:

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)