



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Area
Store 9 - Marietta

Machine Id
KENWORTH 73

Component
Diesel Engine

Fluid
SHELL ROTELLA T 15W40 (10 GAL)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LEC0045801	LEC0045135	LEC0045284
Sample Date		Client Info		05 Jan 2024	19 Nov 2023	06 Oct 2023
Machine Age	hrs	Client Info		50897	50435	49983
Oil Age	hrs	Client Info		400	400	400
Filter Age	hrs	Client Info		400	400	400
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	NORMAL	NORMAL

WEAR

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

Iron	ppm	ASTM D5185m	>100	25	15	31
Chromium	ppm	ASTM D5185m	>20	<1	<1	1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	▲ 38	8	0
Lead	ppm	ASTM D5185m	>40	2	4	12
Copper	ppm	ASTM D5185m	>330	<1	1	1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Sodium and/or potassium levels are high. Test for glycol is positive.

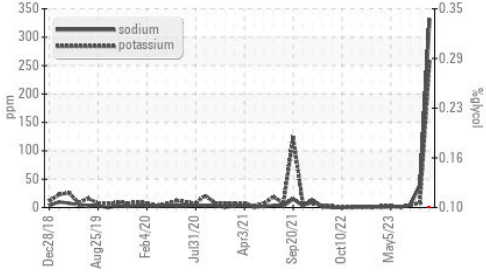
Silicon	ppm	ASTM D5185m	>120	10	6	8
Potassium	ppm	ASTM D5185m	>20	▲ 262	7	5
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		◆ 0.10	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.8	0.8	1.5
Nitration	Abs/cm	*ASTM D7624	>20	9.8	9.2	12.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.1	25.0	27.1
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

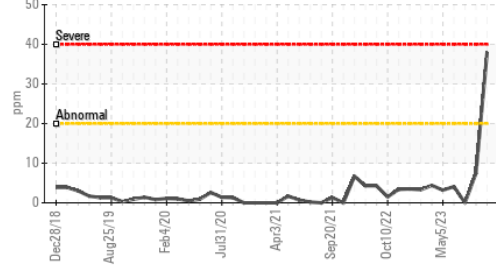
The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		▲ 332	39	4
Boron	ppm	ASTM D5185m	316	235	226	95
Barium	ppm	ASTM D5185m	0.0	0	0	2
Molybdenum	ppm	ASTM D5185m	1.2	192	131	127
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	24	683	696	572
Calcium	ppm	ASTM D5185m	2292	1489	1635	1496
Phosphorus	ppm	ASTM D5185m	1064	766	705	648
Zinc	ppm	ASTM D5185m	1160	861	900	798
Sulfur	ppm	ASTM D5185m	4996	2496	2426	2360
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.2	18.2	21.4
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	8.7	8.6	6.7
Visc @ 100°C	cSt	ASTM D445	15.7	13.7	13.9	14.4

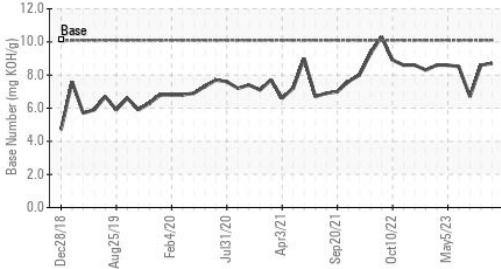
Glycol Contamination



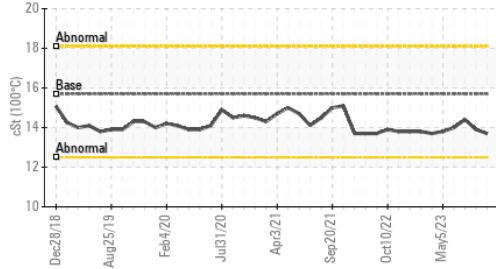
Aluminum (ppm)



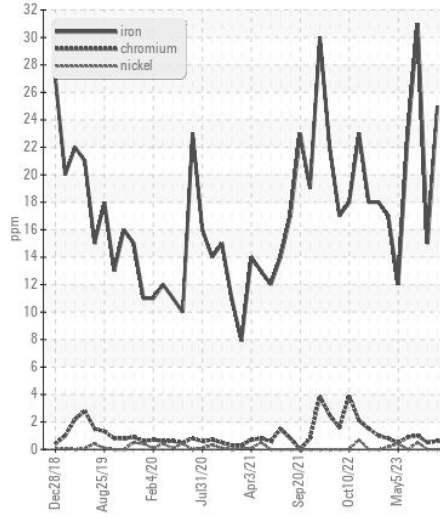
Base Number



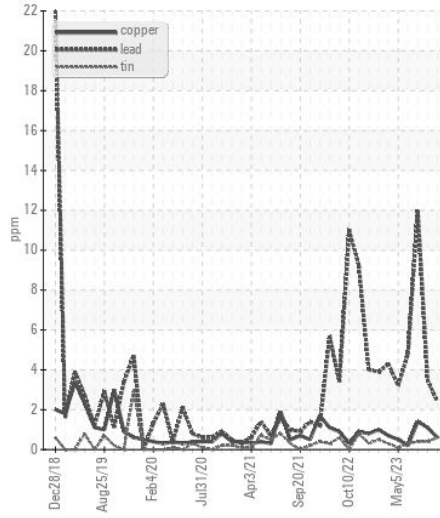
Viscosity @ 100°C



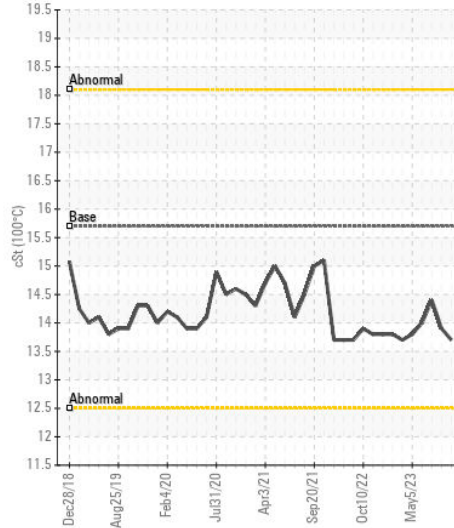
Ferrous Alloys



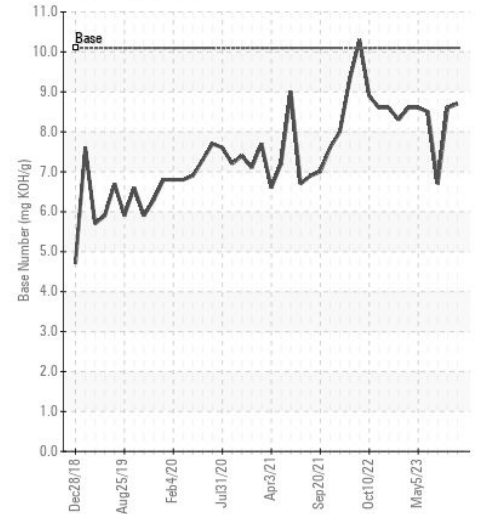
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0045801 **Received** : 16 Jan 2024
Lab Number : 06060795 **Diagnosed** : 17 Jan 2024
Unique Number : 10832177 **Diagnostician** : Jonathan Hester
Test Package : CONST (Additional Tests: Glycol, 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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