



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Area
Store 9 - Marietta
Machine Id
KENWORTH 1027

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		LEC0048378	LEC0047104	LEC0046178
Sample Date		Client Info		16 Mar 2024	23 Jan 2024	10 Dec 2023
Machine Age	mls	Client Info		1045302	45928	45438
Oil Age	mls	Client Info		10000	400	400
Filter Age	mls	Client Info		10000	400	400
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	SEVERE	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	22	17	14
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	5	5	5
Lead	ppm	ASTM D5185m	>40	3	3	1
Copper	ppm	ASTM D5185m	>330	0	1	<1
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

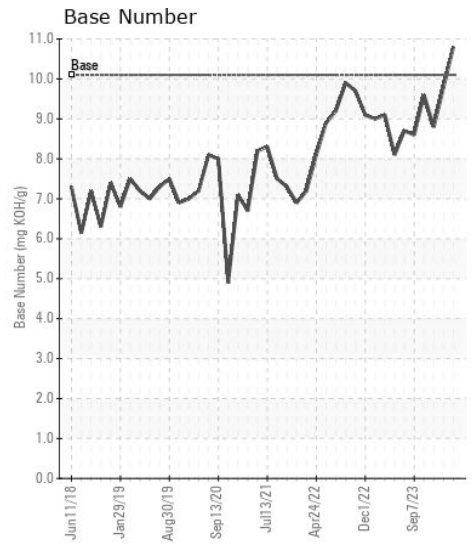
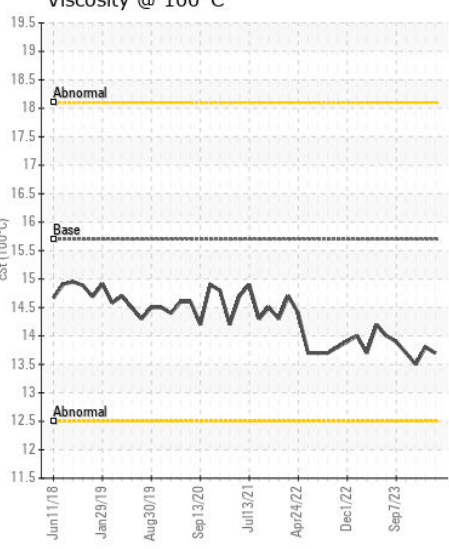
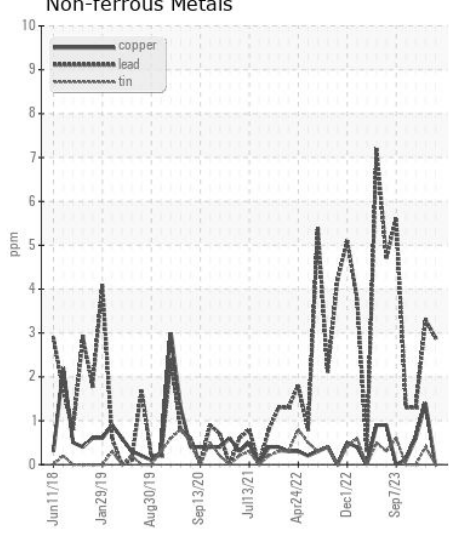
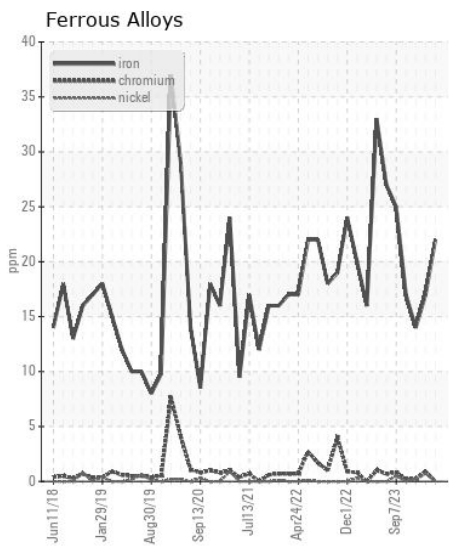
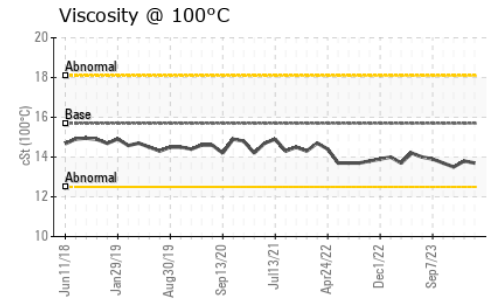
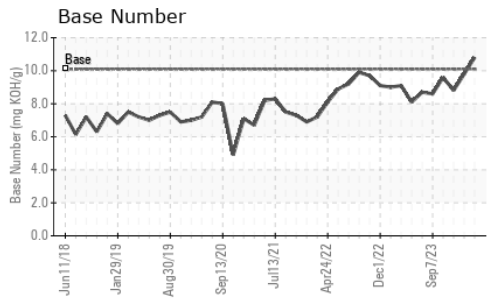
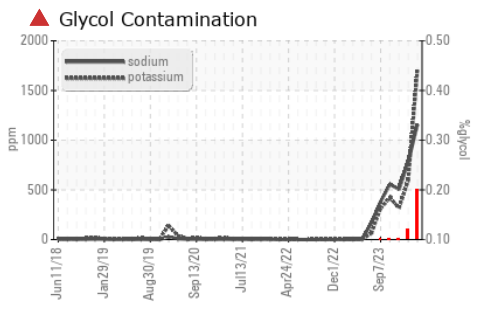
Sodium and/or potassium levels are high. Test for glycol is positive. There is a high concentration of glycol present in the oil.

Silicon	ppm	ASTM D5185m	>120	11	12	8
Potassium	ppm	ASTM D5185m	>20	▲ 1716	▲ 599	▲ 317
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		▲ 0.20	▲ 0.12	▲ 0.10
Soot %	%	*ASTM D7844	>3	1.5	1.1	0.9
Nitration	Abs/cm	*ASTM D7624	>20	14.2	11.8	10.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	27.6	25.9	25.1
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. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		▲ 1157	▲ 784	▲ 505
Boron	ppm	ASTM D5185m	316	178	229	225
Barium	ppm	ASTM D5185m	0.0	<1	0	0
Molybdenum	ppm	ASTM D5185m	1.2	535	306	252
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m	24	619	639	647
Calcium	ppm	ASTM D5185m	2292	1512	1392	1519
Phosphorus	ppm	ASTM D5185m	1064	605	707	729
Zinc	ppm	ASTM D5185m	1160	835	822	869
Sulfur	ppm	ASTM D5185m	4996	3065	2746	2785
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.9	18.8	18.7
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	10.8	9.8	8.8
Visc @ 100°C	cSt	ASTM D445	15.7	13.7	13.8	13.5



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0048378 **Received** : 20 Mar 2024
Lab Number : **06123327** **Tested** : 22 Mar 2024
Unique Number : 10937478 **Diagnosed** : 22 Mar 2024 - Don Baldrige
Test Package : CONST (Additional Tests: TBN)

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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)