



OIL ANALYSIS REPORT

WEAR
CONTAMINATION
FLUID CONDITION

ATTENTION
NORMAL
NORMAL

Machine Id
FREIGHTLINER 9046

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 15W40 (18 QTS)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

WEAR

An increase in the copper level is noted. All other component wear rates are normal.

CONTAMINATION

There is no indication of any contamination in the oil.

FLUID CONDITION

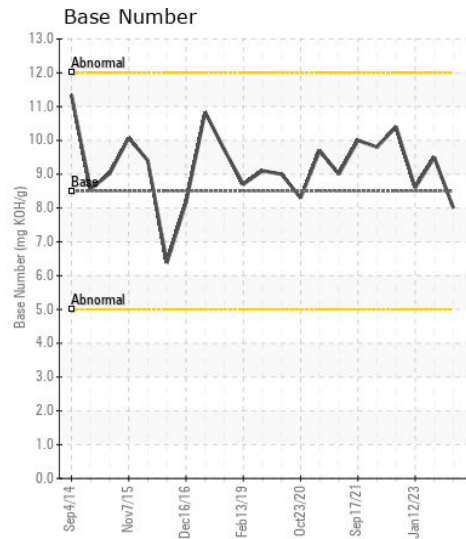
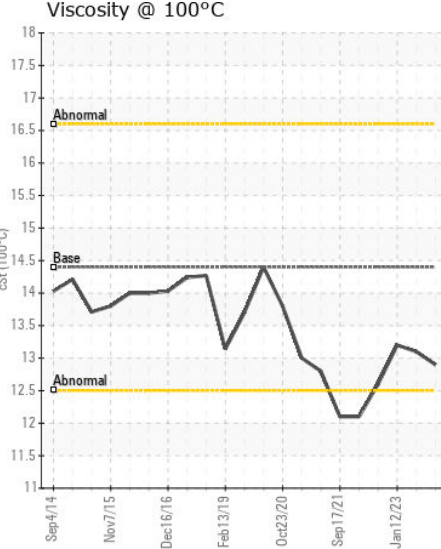
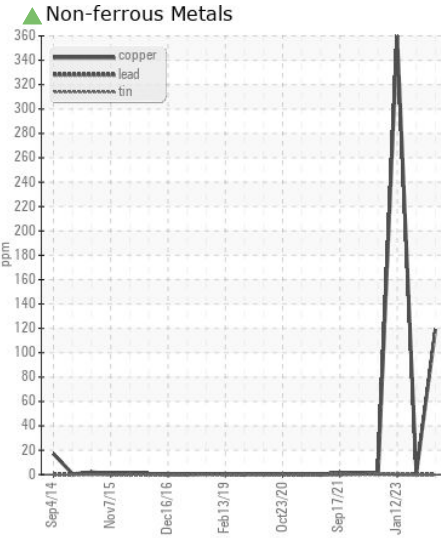
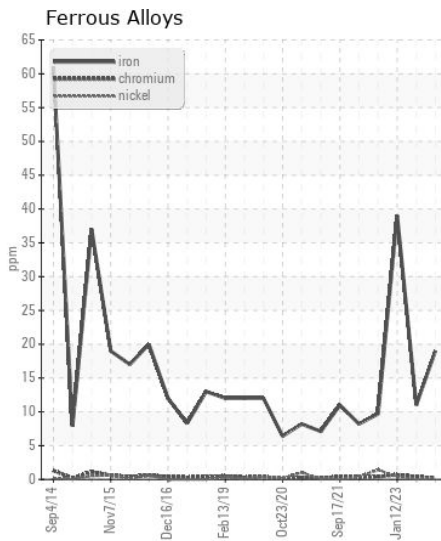
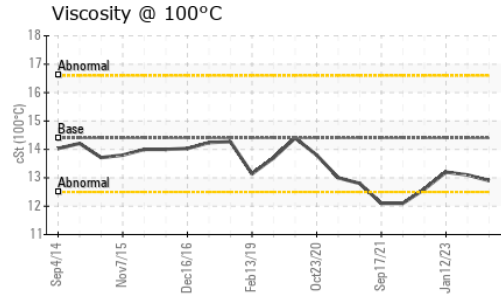
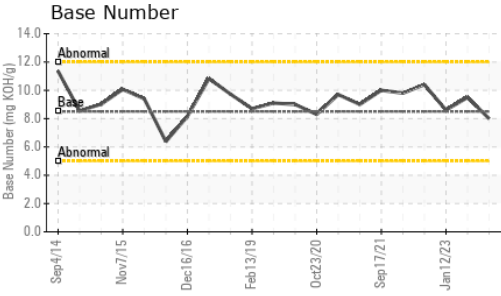
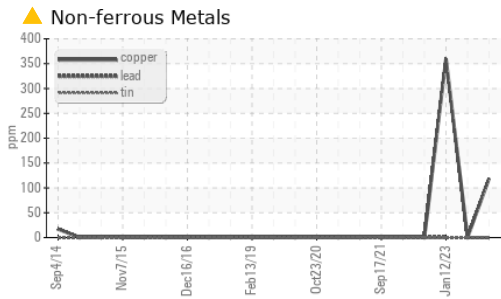
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0891636	WC0778811	WC0763959
Sample Date		Client Info		03 Dec 2023	27 Jan 2023	12 Jan 2023
Machine Age	mls	Client Info		221069	272594	220440
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ATTENTION	NORMAL	ABNORMAL

Iron	ppm	ASTM D5185m	>80	19	11	39
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	5	3	18
Lead	ppm	ASTM D5185m	>30	0	0	0
Copper	ppm	ASTM D5185m	>150	▲ 119	<1	▲ 360
Tin	ppm	ASTM D5185m	>5	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

Silicon	ppm	ASTM D5185m	>20	4	4	5
Potassium	ppm	ASTM D5185m	>20	4	2	7
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	0.1	0.4	0.5
Nitration	Abs/cm	*ASTM D7624	>20	8.1	7.4	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.0	19.3	20.9
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

Sodium	ppm	ASTM D5185m	>158	<1	<1	1
Boron	ppm	ASTM D5185m	250	0	1	2
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	65	57	58
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	1039	925	931
Calcium	ppm	ASTM D5185m	3000	1099	1005	1048
Phosphorus	ppm	ASTM D5185m	1150	1094	963	962
Zinc	ppm	ASTM D5185m	1350	1268	1182	1217
Sulfur	ppm	ASTM D5185m	4250	3582	3582	3204
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.2	14.7	16.6
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.0	9.5	8.6
Visc @ 100°C	cSt	ASTM D445	14.4	12.9	13.1	13.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0891636 **Received** : 12 Jan 2024
Lab Number : 06059922 **Diagnosed** : 16 Jan 2024
Unique Number : 10831304 **Diagnostician** : Don Baldrige
Test Package : FLEET

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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)