



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 38728

Component
Diesel Engine

Fluid
SHELL 15W40 (18 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0887077	WC0887090	WC0872577
Sample Date		Client Info		17 Jan 2024	28 Dec 2023	02 Nov 2023
Machine Age	mls	Client Info		0	0	0
Oil Age	mls	Client Info		0	0	0
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	ABNORMAL	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>130	4	14	8
Chromium	ppm	ASTM D5185m	>10	<1	<1	0
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	4	3
Lead	ppm	ASTM D5185m	>20	0	0	<1
Copper	ppm	ASTM D5185m	>125	<1	4	2
Tin	ppm	ASTM D5185m	>4	<1	<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

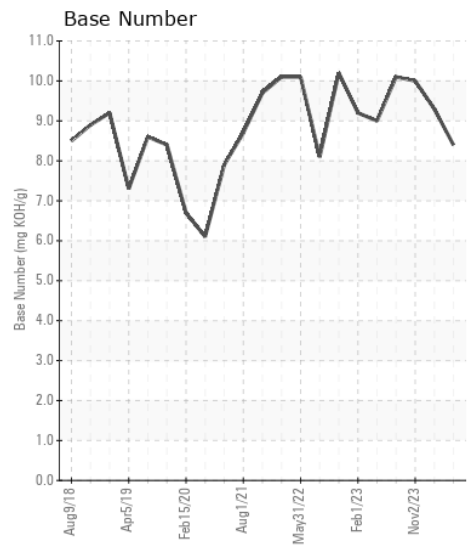
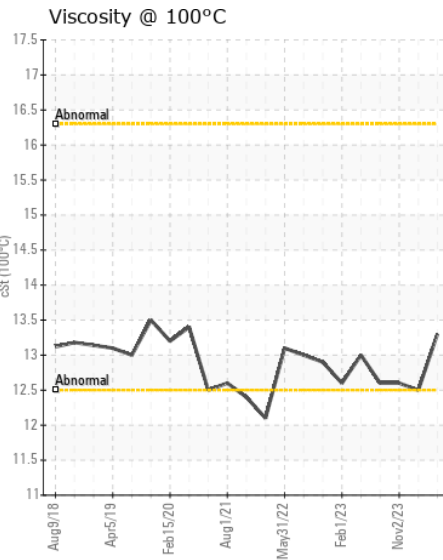
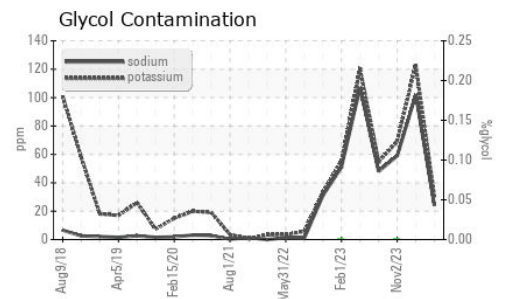
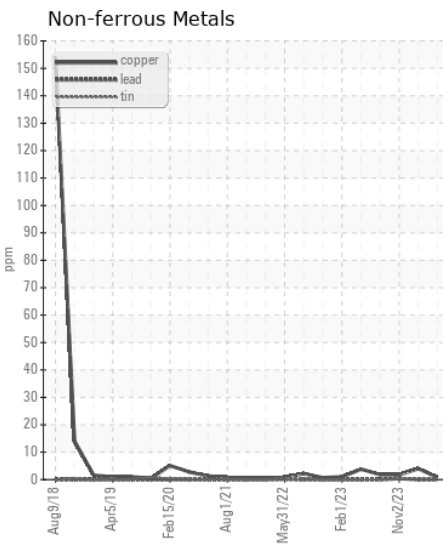
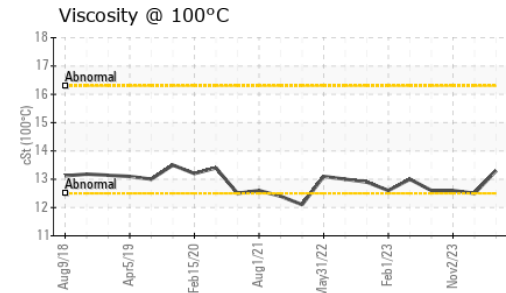
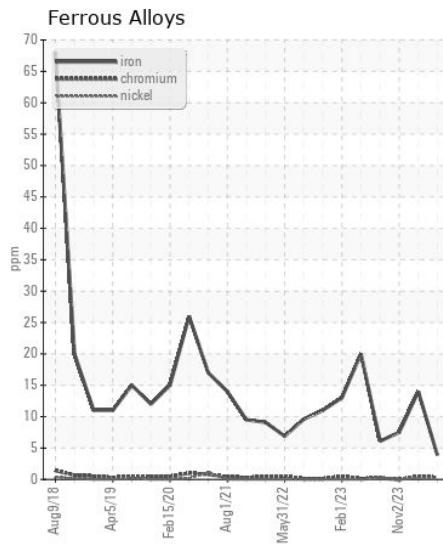
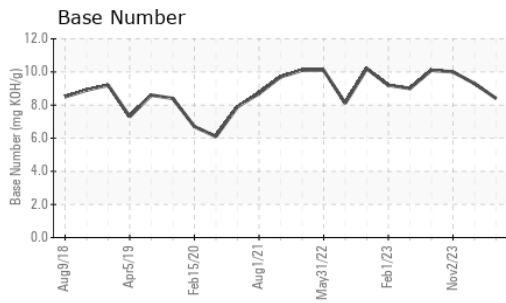
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	5	4	4
Potassium	ppm	ASTM D5185m	>20	31	▲ 123	▲ 69
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	0.0
Soot %	%	*ASTM D7844	>6	0.1	0.3	0.1
Nitration	Abs/cm	*ASTM D7624	>20	5.6	8.5	6.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.2	20.4	18.9
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

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	>150	24	▲ 102	▲ 59
Boron	ppm	ASTM D5185m		284	3	7
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		70	70	67
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		524	891	908
Calcium	ppm	ASTM D5185m		1239	1024	1078
Phosphorus	ppm	ASTM D5185m		981	1000	995
Zinc	ppm	ASTM D5185m		1121	1161	1273
Sulfur	ppm	ASTM D5185m		2979	3156	3256
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.8	16.2	14.4
Base Number (BN)	mg KOH/g	ASTM D2896		8.4	9.3	10.0
Visc @ 100°C	cSt	ASTM D445		13.3	12.5	12.6



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0887077 **Received** : 31 Jan 2024
Lab Number : 06076294 **Diagnosed** : 02 Feb 2024
Unique Number : 10858385 **Diagnostician** : Don Baldrige
Test Package : FLEET (Additional Tests: Glycol)

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Certificate L2367
 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)