



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER Z3392
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (20 QTS)

RECOMMENDATION

Resample at the next service interval to monitor. (Customer Sample Comment: Hoirs=8,034)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		IL0033881	IL0022957	IL0018955
Sample Date		Client Info		13 Jun 2024	20 Apr 2022	09 Mar 2021
Machine Age	mls	Client Info		194637	160460	126254
Oil Age	mls	Client Info		160460	16000	0
Filter Age	mls	Client Info		0	16000	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	28	32	38
Chromium	ppm	ASTM D5185m	>20	0	<1	1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	8	9	13
Lead	ppm	ASTM D5185m	>40	0	<1	2
Copper	ppm	ASTM D5185m	>330	6	<1	2
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

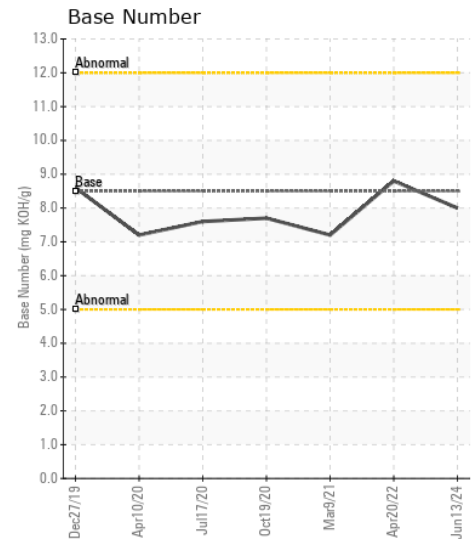
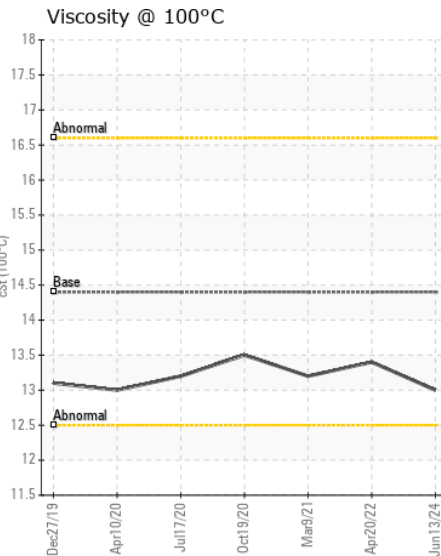
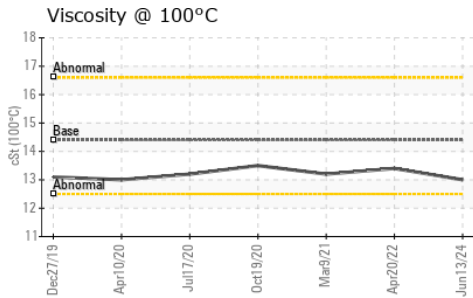
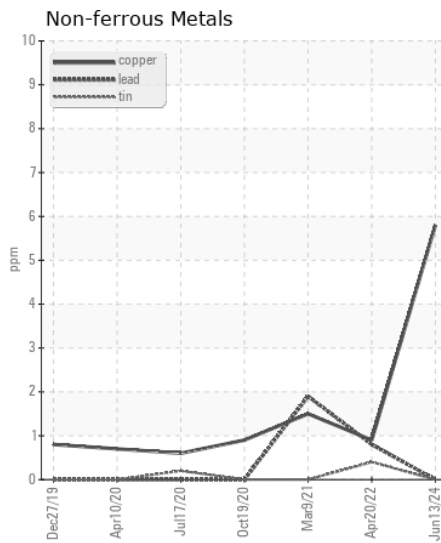
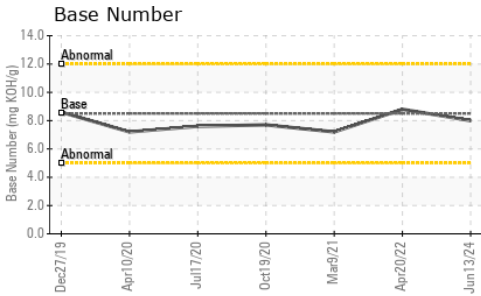
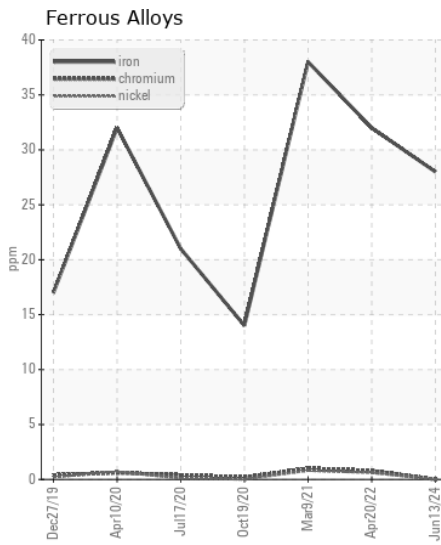
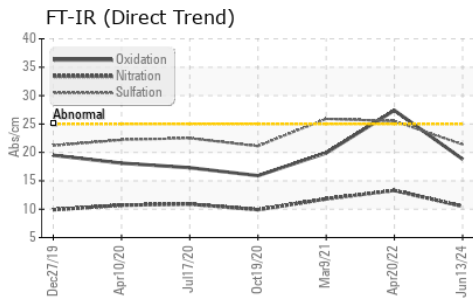
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	5	7	5
Potassium	ppm	ASTM D5185m	>20	4	6	8
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.5	0.8	0.8
Nitration	Abs/cm	*ASTM D7624	>20	10.5	13.3	11.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.4	25.5	25.9
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	>216	2	2	4
Boron	ppm	ASTM D5185m	250	5	38	35
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	65	46	8
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	969	627	740
Calcium	ppm	ASTM D5185m	3000	1149	1911	1385
Phosphorus	ppm	ASTM D5185m	1150	1088	863	710
Zinc	ppm	ASTM D5185m	1350	1264	1040	824
Sulfur	ppm	ASTM D5185m	4250	3444	2405	2273
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.8	27.4	19.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.0	8.8	7.2
Visc @ 100°C	cSt	ASTM D445	14.4	13.0	13.4	13.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : IL0033881
Lab Number : 06235386
Unique Number : 11124220
Test Package : FLEET

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 1333 AMERON DR
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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)