



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
VOLVO VN 21431
Component
Diesel Engine
Fluid
SHELL ROTELLA T 10W30 (38 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0909769	WC0831967	WC0729257
Sample Date		Client Info		23 Feb 2024	21 Aug 2023	16 Nov 2022
Machine Age	mls	Client Info		414571	394600	362446
Oil Age	mls	Client Info		19966	16608	21307
Filter Age	mls	Client Info		0	16608	21307
Oil Changed		Client Info		N/A	Changed	Changed
Filter Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	17	14	25
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	5	3
Lead	ppm	ASTM D5185m	>40	1	0	2
Copper	ppm	ASTM D5185m	>330	1	1	2
Tin	ppm	ASTM D5185m	>15	<1	<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

CONTAMINATION

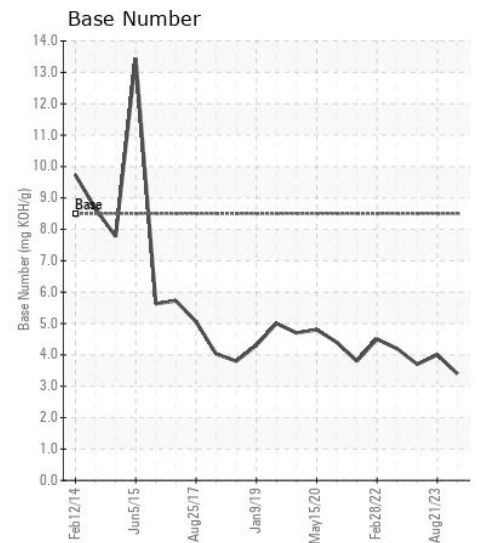
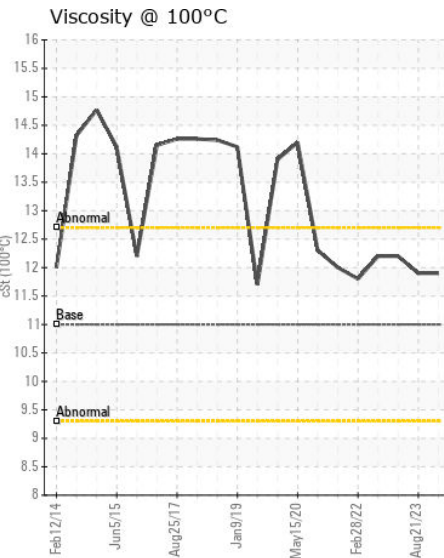
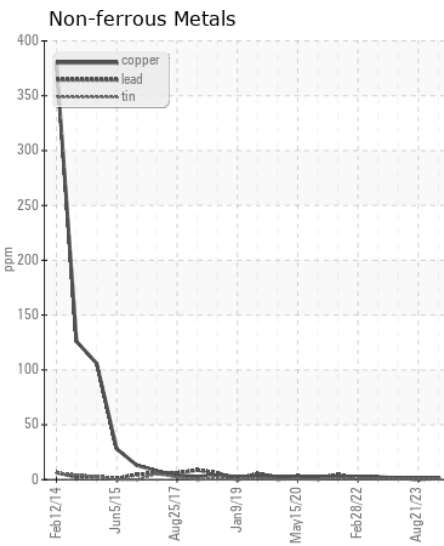
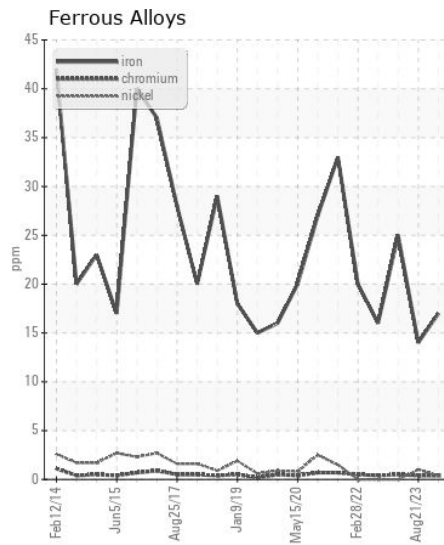
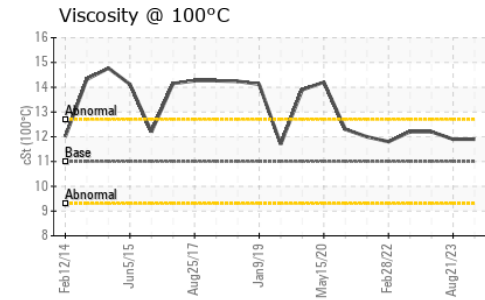
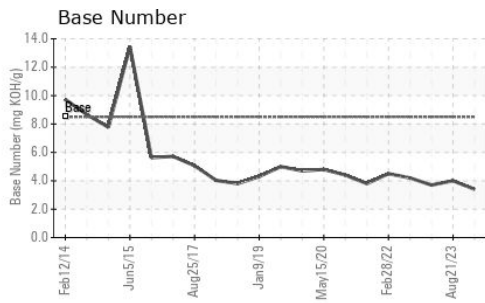
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	7	9	7
Potassium	ppm	ASTM D5185m	>20	14	19	14
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	11.1	9.2	11.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	28.5	24.4	31.7
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		6	8	6
Boron	ppm	ASTM D5185m	269	29	36	15
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m	0	10	7	7
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	20	80	48	43
Calcium	ppm	ASTM D5185m	1521	2256	2309	2200
Phosphorus	ppm	ASTM D5185m	948	1041	991	921
Zinc	ppm	ASTM D5185m	893	1275	1274	1103
Sulfur	ppm	ASTM D5185m		3384	4071	3612
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.9	19.7	26.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	3.4	4.0	3.7
Visc @ 100°C	cSt	ASTM D445	11.0	11.9	11.9	12.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0909769
Lab Number : 06103494
Unique Number : 10901724
Test Package : FLEET

Received : 28 Feb 2024
Tested : 01 Mar 2024
Diagnosed : 02 Mar 2024 - Don Baldrige

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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)