



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Machine Id
VOLVO VN 21537
Component
Front Diesel Engine
Fluid
SHELL ROTELLA T 10W30 (38 QTS)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0909781	WC0832031	WC0766676
Sample Date		Client Info		16 Apr 2024	25 Sep 2023	15 Mar 2023
Machine Age	mls	Client Info		314736	294359	272139
Oil Age	mls	Client Info		20377	22220	16009
Filter Age	mls	Client Info		20377	22220	16009
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	29	61	24
Chromium	ppm	ASTM D5185m	>20	<1	2	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>25	4	4	4
Lead	ppm	ASTM D5185m	>40	3	<1	7
Copper	ppm	ASTM D5185m	>330	3	9	2
Tin	ppm	ASTM D5185m	>15	1	2	1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

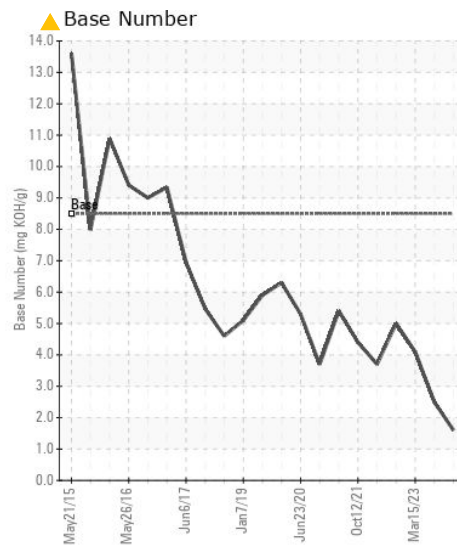
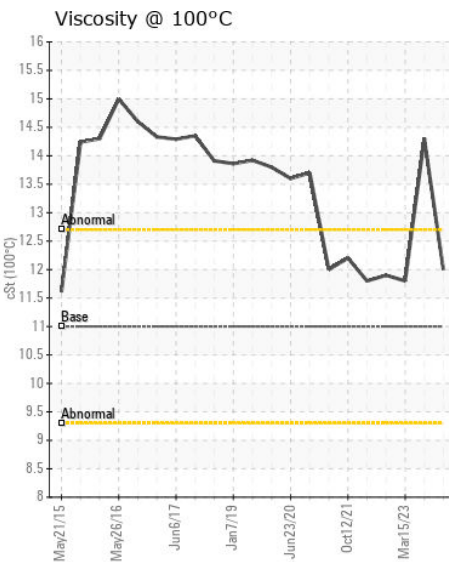
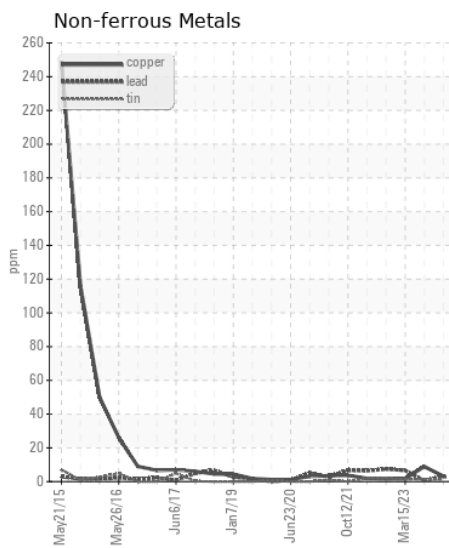
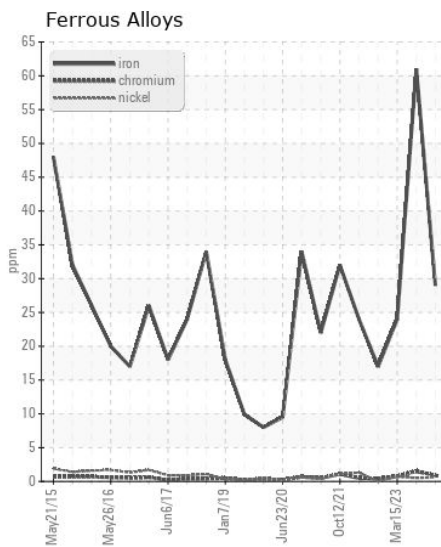
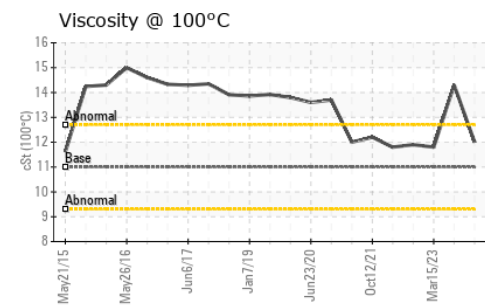
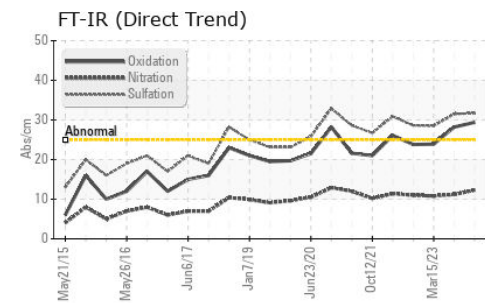
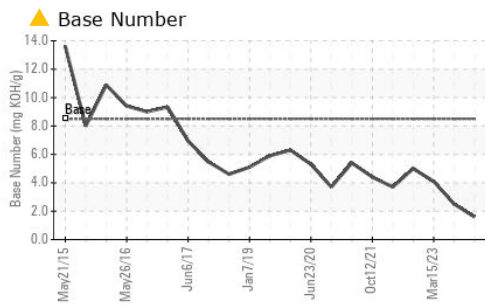
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	8	9	8
Potassium	ppm	ASTM D5185m	>20	12	5	10
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	0.4	0.5	0.4
Nitration	Abs/cm	*ASTM D7624	>20	12.3	11.2	10.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	31.7	31.5	28.5
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 level is low.

Sodium	ppm	ASTM D5185m		4	8	3
Boron	ppm	ASTM D5185m	269	31	24	36
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m	0	13	105	7
Manganese	ppm	ASTM D5185m		<1	2	1
Magnesium	ppm	ASTM D5185m	20	75	● 1500	64
Calcium	ppm	ASTM D5185m	1521	2037	● 2272	2151
Phosphorus	ppm	ASTM D5185m	948	955	● 1711	884
Zinc	ppm	ASTM D5185m	893	1187	● 2002	1188
Sulfur	ppm	ASTM D5185m		3210	● 3828	3566
Oxidation	Abs/.1mm	*ASTM D7414	>25	29.4	28.2	23.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	▲ 1.6	▲ 2.5	4.1
Visc @ 100°C	cSt	ASTM D445	11.0	12.0	● 14.3	11.8



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0909781
Lab Number : 06154010
Unique Number : 10989433
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)