



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
VOLVO 15816
Component
Diesel Engine
Fluid
SHELL ROTELLA T4 15W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0888397	WC0760393	WC0692748
Sample Date		Client Info		25 Jan 2024	30 Jun 2023	09 Oct 2022
Machine Age	mls	Client Info		603220	552300	477440
Oil Age	mls	Client Info		24310	25460	21450
Filter Age	mls	Client Info		24310	25460	21450
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	>100	20	15	14
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	0	3
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	3	2	2
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

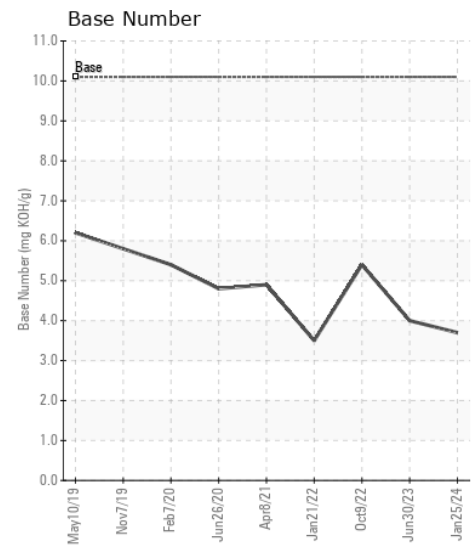
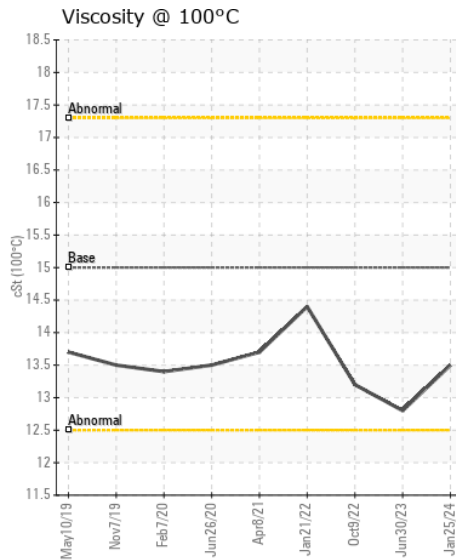
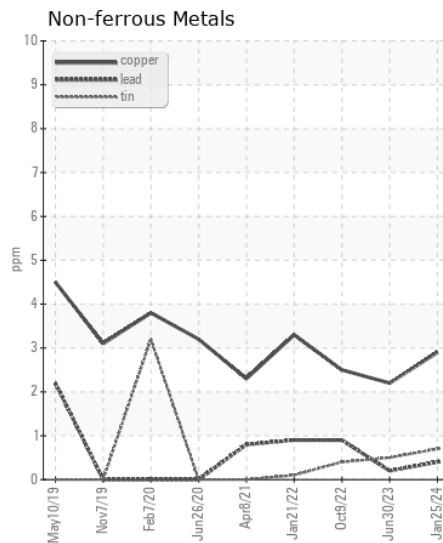
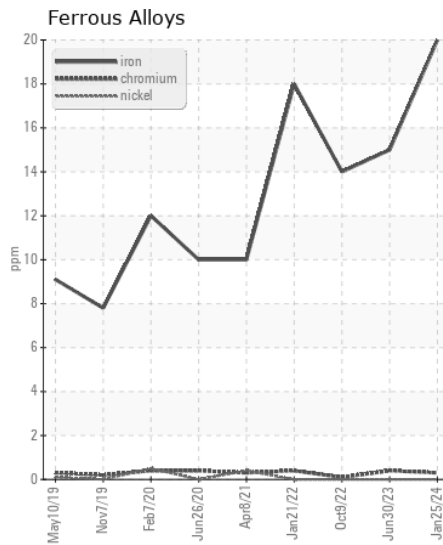
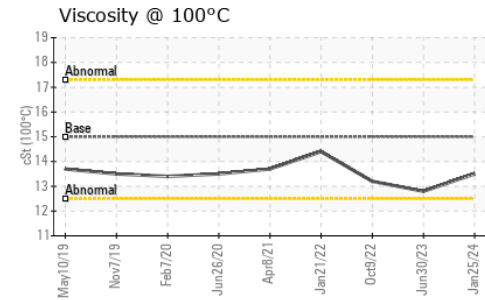
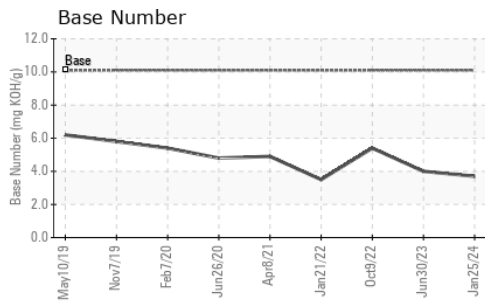
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	6	4	5
Potassium	ppm	ASTM D5185m	>20	5	5	<1
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	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	10.4	10.4	10.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	27.5	27.9	27.6
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		9	10	8
Boron	ppm	ASTM D5185m		21	22	45
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		16	35	65
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		101	159	327
Calcium	ppm	ASTM D5185m		1937	2005	1628
Phosphorus	ppm	ASTM D5185m		965	938	958
Zinc	ppm	ASTM D5185m		1177	1211	1256
Sulfur	ppm	ASTM D5185m		3329	3775	3720
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.4	22.4	21.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	3.7	4.0	5.4
Visc @ 100°C	cSt	ASTM D445	15	13.5	12.8	13.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0888397
Lab Number : 06089312
Unique Number : 10876757
Test Package : FLEET

Received : 14 Feb 2024
Tested : 15 Feb 2024
Diagnosed : 15 Feb 2024 - Wes Davis

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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)