



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Machine Id
VOLVO A35D 12002
Component
Diesel Engine
Fluid
SHELL Rotella T5 15W-40 (--- GAL)

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		ML0000409	VCP315684	VCP315685
Sample Date		Client Info		06 May 2024	12 Jan 2023	24 Mar 2022
Machine Age	hrs	Client Info		15055	14560	14063
Oil Age	hrs	Client Info		0	503	429
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ATTENTION	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	6	6	8
Chromium	ppm	ASTM D5185m	>10	0	<1	<1
Nickel	ppm	ASTM D5185m	>10	<1	<1	1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>10	2	2	2
Lead	ppm	ASTM D5185m	>20	<1	<1	1
Copper	ppm	ASTM D5185m	>15	1	1	1
Tin	ppm	ASTM D5185m	>10	0	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

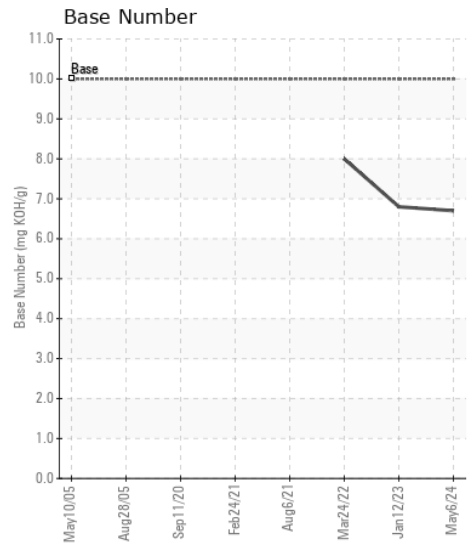
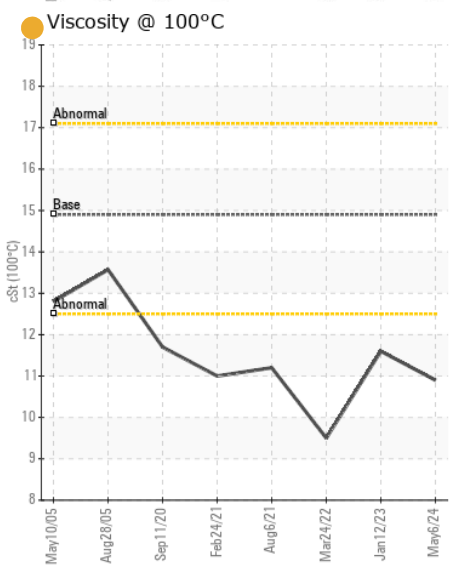
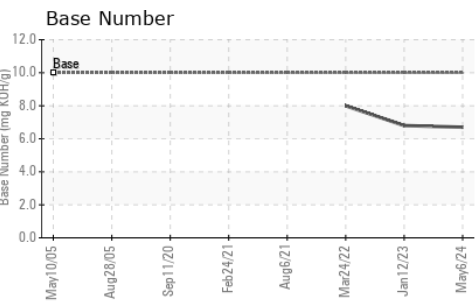
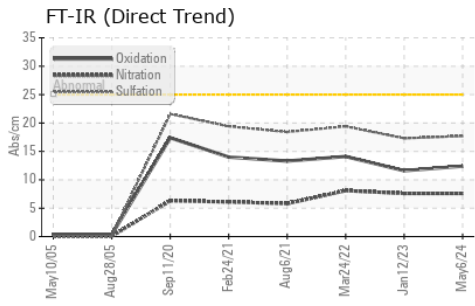
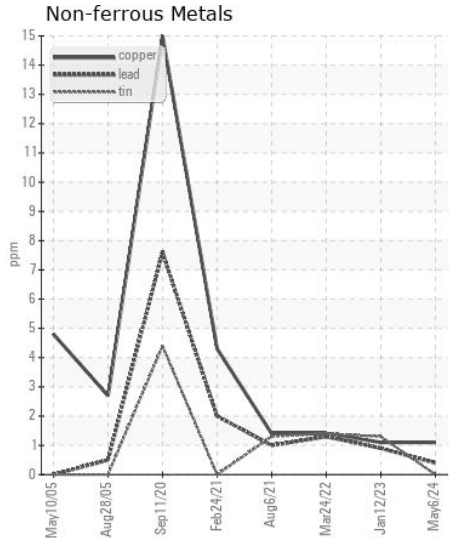
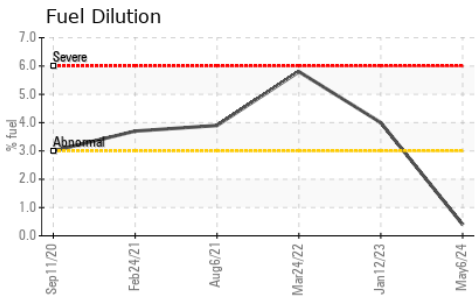
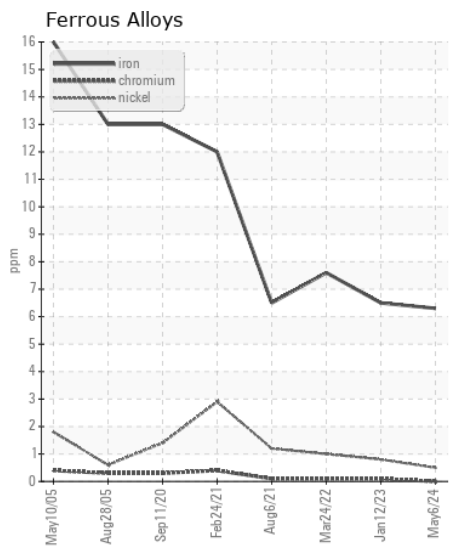
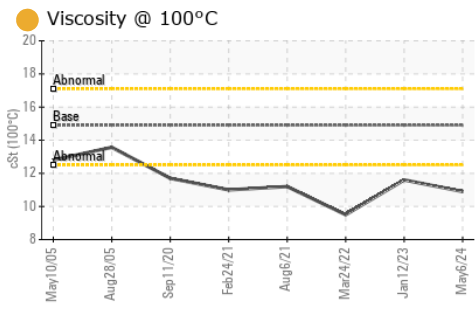
Fuel content negligible. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	4	4	4
Potassium	ppm	ASTM D5185m	>20	<1	0	<1
Fuel	%	ASTM D3524	>3.0	0.4	▲ 4.0	▲ 5.8
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	7.6	7.6	8.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.7	17.3	19.4
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	>0.1	NEG	NEG	NEG

FLUID CONDITION

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		3	<1	2
Boron	ppm	ASTM D5185m		95	43	79
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		73	59	78
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		110	101	166
Calcium	ppm	ASTM D5185m		2105	2001	2137
Phosphorus	ppm	ASTM D5185m		964	873	1054
Zinc	ppm	ASTM D5185m		1092	1038	1107
Sulfur	ppm	ASTM D5185m		3886	3926	3307
Oxidation	Abs/.1mm	*ASTM D7414	>25	12.4	11.6	14.1
Base Number (BN)	mg KOH/g	ASTM D2896	10	6.7	6.8	8.0
Visc @ 100°C	cSt	ASTM D445	14.9	● 10.9	▲ 11.6	▲ 9.5



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ML0000409 **Received** : 14 May 2024
Lab Number : 06178309 **Tested** : 17 May 2024
Unique Number : 11029635 **Diagnosed** : 17 May 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: PercentFuel, TBN)
 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)

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