



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
VOLVO A45G 342655
Component
Diesel Engine
Fluid
VOLVO VDS-4.5 Premium Motor Oil 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		ML0001454	VCP367764	VCP400980
Sample Date		Client Info		09 May 2024	12 Sep 2023	27 Feb 2023
Machine Age	hrs	Client Info		7999	6616	5355
Oil Age	hrs	Client Info		1383	500	1100
Filter Age	hrs	Client Info		0	0	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	>100	19	18	13
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	1	2
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>25	4	1	4
Lead	ppm	ASTM D5185m	>40	1	5	2
Copper	ppm	ASTM D5185m	>330	5	4	4
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<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.

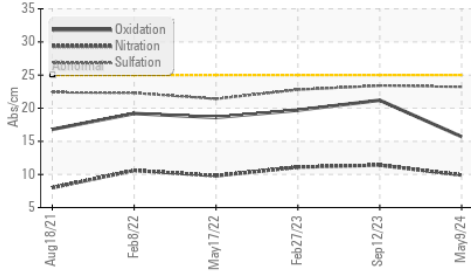
Silicon	ppm	ASTM D5185m	>25	4	4	4
Potassium	ppm	ASTM D5185m	>20	0	2	1
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.7	0.8	0.6
Nitration	Abs/cm	*ASTM D7624	>20	9.9	11.4	11.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.2	23.4	22.8
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

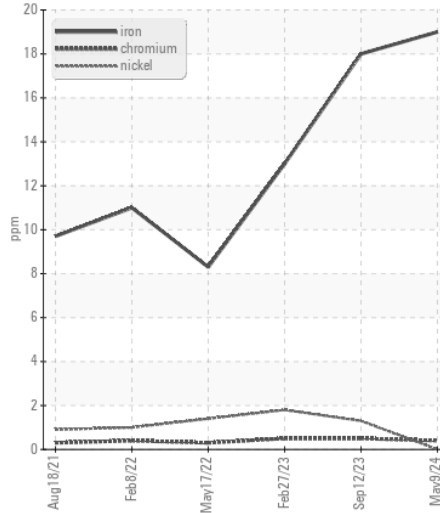
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		3	4	3
Boron	ppm	ASTM D5185m		0	18	17
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		81	48	54
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		78	711	664
Calcium	ppm	ASTM D5185m		2295	1354	1314
Phosphorus	ppm	ASTM D5185m		946	683	614
Zinc	ppm	ASTM D5185m		1104	930	897
Sulfur	ppm	ASTM D5185m		3990	2825	2582
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.7	21.2	19.7
Base Number (BN)	mg KOH/g	ASTM D2896		4.3	5.5	5.7
Visc @ 100°C	cSt	ASTM D445		13.0	13.2	13.0

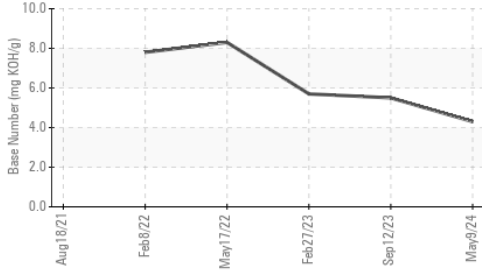
FT-IR (Direct Trend)



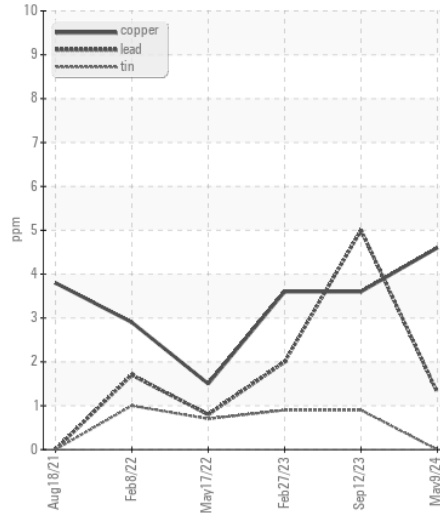
Ferrous Alloys



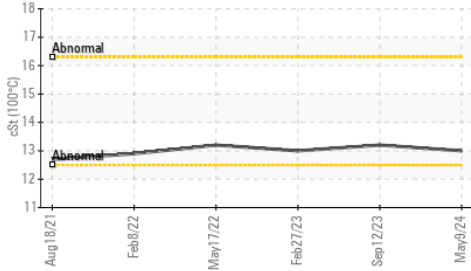
Base Number



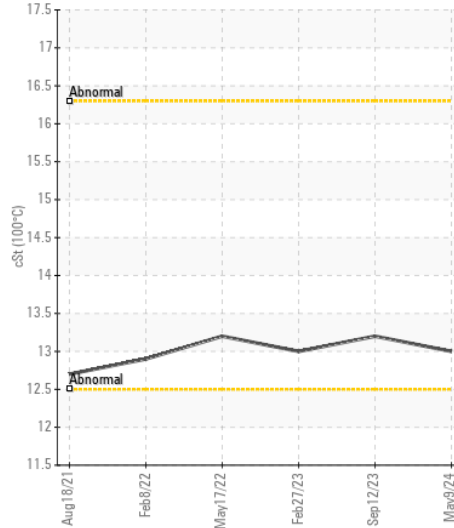
Non-ferrous Metals



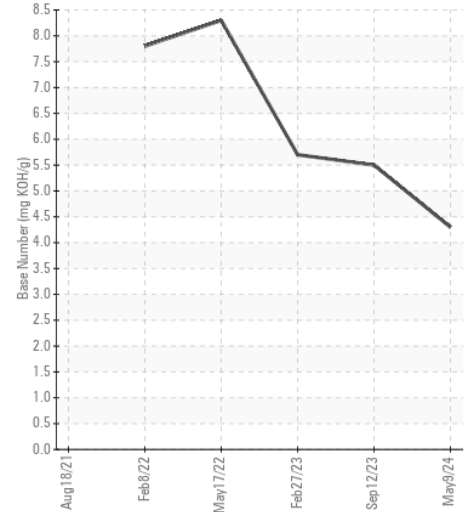
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ML0001454 **Received** : 14 May 2024
Lab Number : 06178313 **Tested** : 14 May 2024
Unique Number : 11029639 **Diagnosed** : 16 May 2024 - Sean Felton
Test Package : CONST (Additional Tests: TBN)

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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)