



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Machine Id  
**VOLVO A35G 340244**  
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		<b>ML0001459</b>	VCP415476	VCP408856
Sample Date		Client Info		<b>16 May 2024</b>	03 Oct 2023	14 Jun 2023
Machine Age	hrs	Client Info		<b>9405</b>	8435	8088
Oil Age	hrs	Client Info		<b>970</b>	500	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>9</b>	5	4
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	0	<1
Nickel	ppm	ASTM D5185m	>2	<b>3</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	1	0
Silver	ppm	ASTM D5185m	>2	<b>1</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>7</b>	4	4
Lead	ppm	ASTM D5185m	>40	<b>1</b>	<1	0
Copper	ppm	ASTM D5185m	>330	<b>1</b>	<1	0
Tin	ppm	ASTM D5185m	>15	<b>1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

There is no indication of any contamination in the oil.

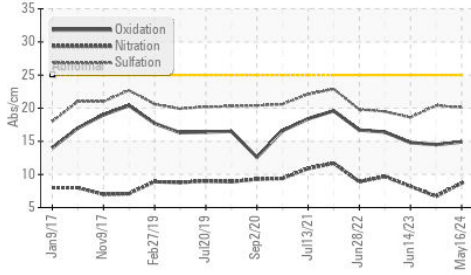
Silicon	ppm	ASTM D5185m	>25	<b>8</b>	6	5
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	0	0
Fuel		WC Method	>6.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.7</b>	6.7	8.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.1</b>	20.4	18.6
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

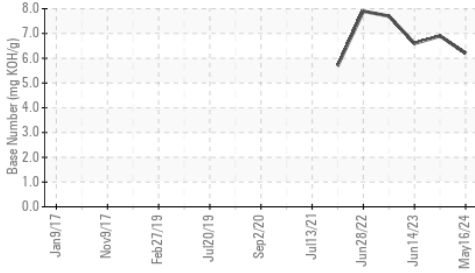
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>2</b>	2	2
Boron	ppm	ASTM D5185m		<b>51</b>	272	51
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>86</b>	85	85
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>101</b>	360	129
Calcium	ppm	ASTM D5185m		<b>2055</b>	1425	2272
Phosphorus	ppm	ASTM D5185m		<b>1004</b>	1020	1005
Zinc	ppm	ASTM D5185m		<b>1151</b>	1219	1246
Sulfur	ppm	ASTM D5185m		<b>3931</b>	3191	4666
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.9</b>	14.5	14.8
Base Number (BN)	mg KOH/g	ASTM D2896		<b>6.2</b>	6.9	6.6
Visc @ 100°C	cSt	ASTM D445		<b>12.8</b>	12.7	13.0

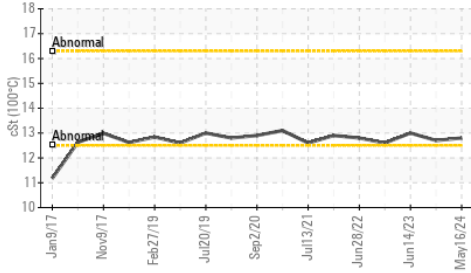
**FT-IR (Direct Trend)**



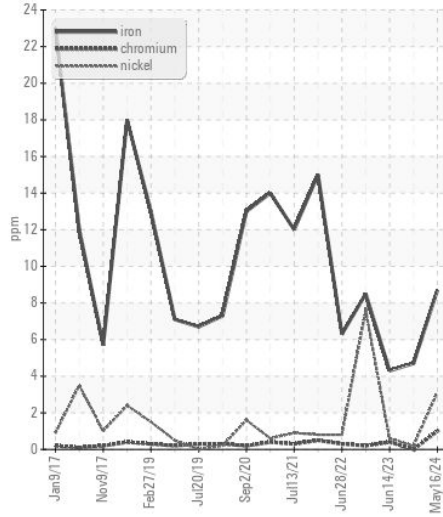
**Base Number**



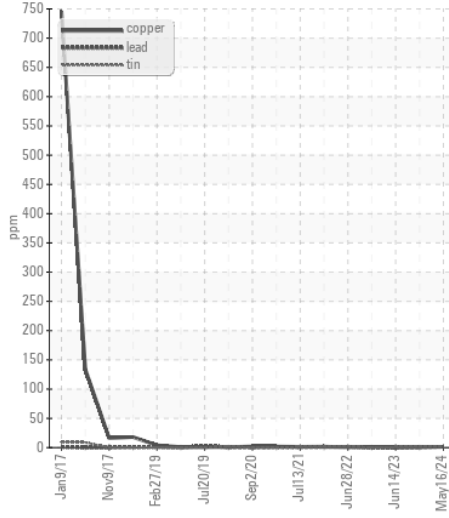
**Viscosity @ 100°C**



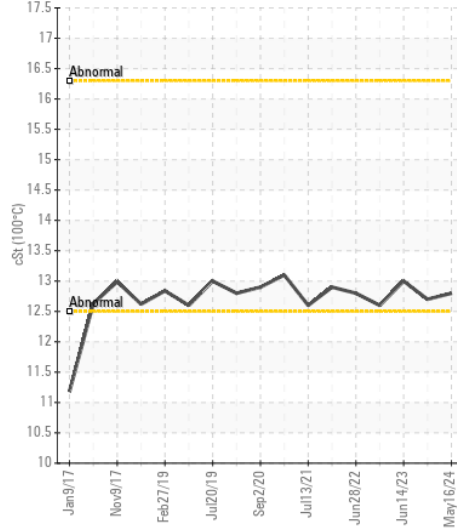
**Ferrous Alloys**



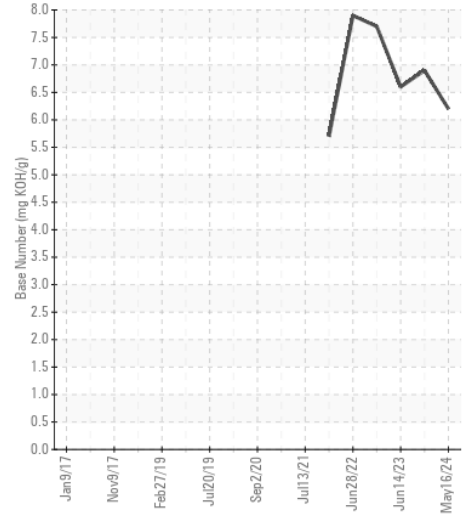
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : ML0001459 **Received** : 21 May 2024  
**Lab Number** : 06185931 **Tested** : 22 May 2024  
**Unique Number** : 11042683 **Diagnosed** : 23 May 2024 - Jonathan Hester  
**Test Package** : CONST ( Additional Tests: TBN )

**MCCLUNG-LOGAN EQUIPMENT CO - RICHMOND**  
 1345 MOUNTAIN ROAD  
 GLEN ALLEN, VA  
 US 23060  
 Contact: KYLE RATLIFFE  
 KRATLIFFE@MCCLUNG-LOGAN.COM

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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