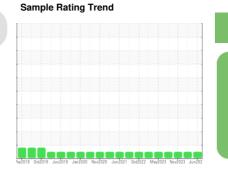


OIL ANALYSIS REPORT







VOLVO A45G 342044 Component Diesel Engine

Fluid VOLVO VDS-4.5 Premium Motor Oil 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Machine Id

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

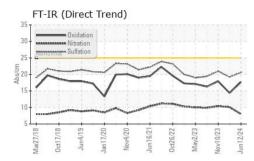
Fluid Condition

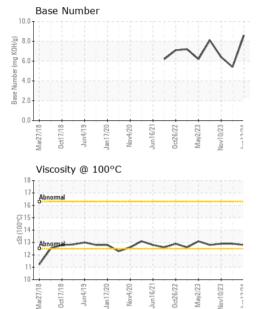
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		ML0002785	ML0000586	VCP407646
Sample Date		Client Info		12 Jun 2024	29 Mar 2024	10 Nov 2023
Machine Age	hrs	Client Info		10882	10397	9892
Oil Age	hrs	Client Info		500	505	500
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	٧	method	limit/base	current	history1	history2
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
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	6	9	7
Chromium	ppm	ASTM D5185m	>20	0	0	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	4	3
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	3	17	1
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium		AOTH DELOS			-	0
Gaumum	ppm	ASTM D5185m		0	0	0
ADDITIVES	ррп	method	limit/base	0 current	0 history1	0 history2
	ppm		limit/base		-	-
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 35 0 48	history1 47	history2 16
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	current 35 0	history1 47 0	history2 16 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 35 0 48	history1 47 0 83	history2 16 0 44
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 35 0 48 <1	history1 47 0 83 <1	history2 16 0 44 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 35 0 48 <1 514	history1 47 0 83 <1 152	history2 16 0 44 <1 694
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 35 0 48 <1 514 1457	history1 47 0 83 <1 152 2000	history2 16 0 44 <1 694 1150
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 35 0 48 <1 514 1457 822	history1 47 0 83 <1 152 2000 984	history2 16 0 44 <1 694 1150 674
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base	current 35 0 48 <1 514 1457 822 1053	history1 47 0 83 <1 152 2000 984 1105	history2 16 0 44 <1 694 1150 674 840
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		Current 35 0 48 <1 514 1457 822 1053 2965	history1 47 0 83 <1 152 2000 984 1105 3870	history2 16 0 44 <1 694 1150 674 840 2301 history2 4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	35 0 48 <1 514 1457 822 1053 2965 current	history1 47 0 83 <1 152 2000 984 1105 3870 history1	history2 16 0 44 <1 694 1150 674 840 2301 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >25	current 35 0 48 <1 514 1457 822 1053 2965 current 4	history1 47 0 83 <1 152 2000 984 1105 3870 history1 4	history2 16 0 44 <1 694 1150 674 840 2301 history2 4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >25	Current 35 0 48 <1 514 1457 822 1053 2965 Current 4 2 <1 2 <1	history1 47 0 83 <1 152 2000 984 1105 3870 history1 4 2 0 history1 4 2 0 history1	history2 16 0 44 <1 694 1150 674 840 2301 history2 4 3 1 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	method ASTM D5185m	limit/base >25 >20 limit/base	35 0 48 <1 514 1457 822 1053 2965 current 4 2 <1	history1 47 0 83 <1 152 2000 984 1105 3870 history1 4 2 0 history1 4 2 0 history1 0.4	history2 16 0 44 <1 694 1150 674 840 2301 history2 4 3 1 history2 0.5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >25 >20 limit/base	Current 35 0 48 <1 514 1457 822 1053 2965 Current 4 2 <1 2 <1	history1 47 0 83 <1 152 2000 984 1105 3870 history1 4 2 0 history1 4 2 0 history1	history2 16 0 44 <1 694 1150 674 840 2301 history2 4 3 1 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	method ASTM D5185m	limit/base >25 >20 limit/base >3	Current 35 0 48 <1 514 1457 822 1053 2965 current 4 2 <1 current 0.4	history1 47 0 83 <1 152 2000 984 1105 3870 history1 4 2 0 history1 4 2 0 history1 0.4	history2 16 0 44 <1 694 1150 674 840 2301 history2 4 3 1 history2 0.5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >25 >20 limit/base >3 >20	Current 35 0 48 <1 514 1457 822 1053 2965 current 4 2 <1 current 0.4 8.0	history1 47 0 83 <1 152 2000 984 1105 3870 history1 4 2 0 history1 0 history1 0.4 10.1	history2 16 0 44 <1 694 1150 674 840 2301 history2 4 3 1 history2 0.5 10.4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	Iimit/base >25 >20 Iimit/base >3 >20 >30	35 0 48 <1 514 1457 822 1053 2965 current 4 2 <1 current 4 2 <1 current 0.4 8.0 20.6	history1 47 0 83 <1 152 2000 984 1105 3870 history1 4 2 0 history1 0 10.1 19.2	history2 16 0 44 <1 694 1150 674 840 2301 history2 4 3 1 history2 0.5 10.4 21.0

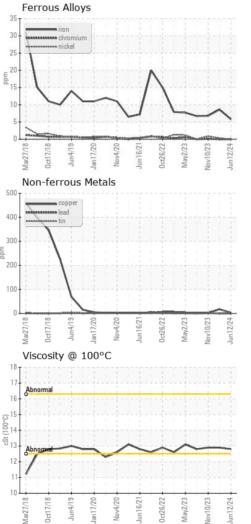


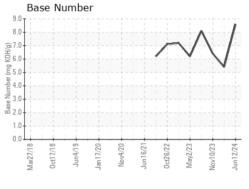
OIL ANALYSIS REPORT





VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
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
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		12.8	12.9	12.9
GRAPHS						





MCCLUNG-LOGAN EQUIPMENT CO - RICHMOND Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. : ML0002785 Received : 14 Jun 2024 1345 MOUNTAIN ROAD Lab Number : 06211047 Tested : 18 Jun 2024 GLEN ALLEN, VA Unique Number : 11083911 Diagnosed : 18 Jun 2024 - Angela Borella US 23060 Test Package : CONST (Additional Tests: TBN) Contact: KYLE RATLIFFE Certificate 12367 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. T: F: (804)266-1611

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) Report Id: VOLVO8882 [WUSCAR] 06211047 (Generated: 06/22/2024 05:03:11) Rev: 1

Submitted By: Service - Alex Anderson

Page 2 of 2