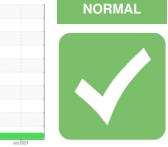


# **OIL ANALYSIS REPORT**

Sample Rating Trend





VOLVO A45G 342394 Component Hydraulic System

VOLVO SUPER HYDRAULIC OIL 46 (--- GAL)

## DIAGNOSIS Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		ML0002740	ML0000907	VCP368488
Sample Date		Client Info		07 Jun 2024	26 Mar 2024	15 Nov 2022
Machine Age	hrs	Client Info		8550	8192	5993
Oil Age	hrs	Client Info		358	4119	2000
Oil Changed		Client Info		N/A	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	8	14	10
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m		2	3	2
Lead	ppm	ASTM D5185m	>20	2	1	2
Copper	ppm	ASTM D5185m	>150	4	5	5
Tin	ppm	ASTM D5185m	>20	<1	0	<1
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES	ppm	method	limit/base	0 current	0 history1	0 history2
	ppm		limit/base	-	history1 0	history2 0
ADDITIVES Boron Barium		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	14 0.0 0.0	current 0 0 <1	history1 0 0 0	history2 0 0 <1
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	14 0.0 0.0 0.0	Current 0 0 <1 0	history1 0 0 0 0 0	history2 0 0 <1 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	14 0.0 0.0 0.0 2.6	Current 0 0 <1 0 3	history1 0 0 0 0 2	history2 0 0 <1 0 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	14 0.0 0.0 0.0 2.6 49	Current 0 0 <1 0 3 85	history1 0 0 0 0 2 116	history2 0 0 <1 0 <1 0 <1 57
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	14 0.0 0.0 2.6 49 354	Current 0 0 <1 0 3 85 325	history1 0 0 0 0 2 116 351	history2 0 <1 0 <1 57 353
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	14 0.0 0.0 2.6 49 354 419	Current 0 0 <1 0 3 85 325 457	history1 0 0 0 0 2 116 351 463	history2 0 0 <1 0 <1 57 57 353 461
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	14 0.0 0.0 2.6 49 354 419 3719	Current 0 0 <1 0 3 85 325	history1 0 0 0 0 2 116 351 463 4349	history2 0 0 <1 0 <1 57 353 461 4608
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 ASTM D5185m	14 0.0 0.0 2.6 49 354 419 3719 <b>limit/base</b>	Current 0 0 <1 0 3 85 325 457 2958 Current	history1 0 0 0 2 116 351 463 4349 history1	history2 0 0 <1 0 <1 57 353 461 4608 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185m	14 0.0 0.0 2.6 49 354 419 3719	Current 0 0 <1 0 3 85 325 457 2958 Current 5	history1     0     0     0     0     0     10     2     116     351     463     4349     history1     7	history2   0   0   <1   0   <1   57   353   461   4608   history2   5
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	14 0.0 0.0 2.6 49 354 419 3719 imit/base >20	current     0     0     <1     0     3     85     325     457     2958     current     5     0	history1     0     0     0     0     0     10     2     116     351     463     4349     history1     7     3	history2   0   0   <1   0   <1   57   353   461   4608   history2   5   2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185m	14 0.0 0.0 2.6 49 354 419 3719 <b>limit/base</b>	Current 0 0 <1 0 3 85 325 457 2958 Current 5	history1     0     0     0     0     0     10     2     116     351     463     4349     history1     7	history2   0   0   <1   0   <1   57   353   461   4608   history2   5
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	14 0.0 0.0 2.6 49 354 419 3719 imit/base >20	current     0	history1     0     0     0     0     0     10     2     116     351     463     4349     history1     7     3	history2   0   0   <1   0   <1   57   353   461   4608   history2   5   2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method     ASTM D5185m	14 0.0 0.0 2.6 49 354 419 3719 <b>limit/base</b> >20	current     0     0     <1     0     3     85     325     457     2958     current     5     0     1	history1     0     0     0     0     0     10     2     116     351     463     4349     history1     7     3     0	history2   0   0   <1   0   <1   57   353   461   4608   history2   5   2   0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method     ASTM D5185m	14 0.0 0.0 2.6 49 354 419 3719 limit/base >20 20 limit/base	current     0     0     <1     0     3     85     325     457     2958     current     5     0     1     current     309     22	history1   0   0   0   0   0   0   0   0   0   116   351   463   4349   history1   7   3   0   history1   391   90	history2   0   0   <1   0   <1   57   353   461   4608   history2   5   2   0   0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method     ASTM D5185m	14 0.0 0.0 2.6 49 354 419 3719 <i>limit/base</i> >20 <i>limit/base</i> >20 <i>limit/base</i>	current     0     0     -     0     -     0     3     85     325     457     2958     current     5     0     1     current     309     22     2	history1     0     0     0     0     0     0     0     0     0     0     0     0     116     351     463     4349     history1     7     3     0     history1     391     90     8	history2   0   0   <1   0   <1   57   353   461   4608   history2   5   2   0   history2   3205   307   23
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method     ASTM D5185m     ASTM D7647     ASTM D7647     ASTM D7647     ASTM D7647     ASTM D7647	14 0.0 0.0 2.6 49 354 419 3719 <b>imit/base</b> >20 <b>imit/base</b> >20 <b>imit/base</b> >20	Current     0     0     <1     0     3     85     325     457     2958     current     5     0     1     current     309     22     2     0	history1     0     0     0     0     0     0     0     0     0     0     116     351     463     4349     history1     7     3     0     history1     391     90     8     1	history2   0   0   <1   0   <1   57   353   461   4608   history2   5   2   0   history2   3205   307   23   3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method     ASTM D5185m	14 0.0 0.0 2.6 49 354 419 3719 <b>Iimit/base</b> >20 <b>Jimit/base</b> >20 <b>Jimit/base</b> >20 <b>Jimit/base</b>	current     0     0     -     0     -     0     3     85     325     457     2958     current     5     0     1     current     309     22     2	history1     0     0     0     0     0     0     0     0     0     0     0     0     116     351     463     4349     history1     7     3     0     history1     391     90     8	history2     0     0     <1     0     <1     57     353     461     4608     history2     5     2     0     history2     3205     307     23

ISO 4406 (c) >--/19/14

15/12/9

**Oil Cleanliness** 

19/15/12

16/14/10



0.50 Windper (mg KOH/d) 0.30 0.20 0.10 0.00

52 Abnormal

50 - 48 -() 46 - 8 () 00 - 9 () 44 -

40 38 36

6

particles (1 ml) 8 4k 2k

10 ZI

21

н

Ok

Aug30/2

Particle Trend

Acid Number

ov15/22

Nov15/22

Nov15/22

Jov15/22

Viscosity @ 40°C

Particle Trend

Aar26/24

Mar26/24

Mar26/24

# **OIL ANALYSIS REPORT**

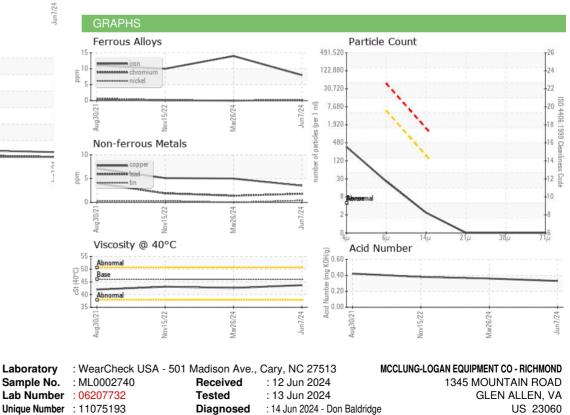
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.33	0.36	0.38
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	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	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	43.7	42.6	43.1
SAMPLE IMAGES		method	limit/base	current	history1	history2

Color

17/74



Bottom



Certificate L2367 Unique Number : 1107519 Test Package : CONST

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) F: (804)266-1611

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T: