



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



Area  
**[W07014299]**  
Machine Id  
**VOLVO EC460CL 110437**  
Component  
**Hydraulic System**  
Fluid  
**VOLVO SUPER HYDRAULIC OIL 46 (--- GAL)**

**RECOMMENDATION**

We recommend you service the filters on this component. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>ML0000678</b>	VCP181444	---
Sample Date		Client Info		<b>08 Feb 2024</b>	15 Dec 2015	---
Machine Age	hrs	Client Info		<b>0</b>	4194	---
Oil Age	hrs	Client Info		<b>0</b>	0	---
Filter Age	hrs	Client Info		<b>0</b>	0	---
Oil Changed		Client Info		<b>Not Changed</b>	Changed	---
Filter Changed		Client Info		<b>Not Changed</b>	N/A	---
Sample Status				<b>ABNORMAL</b>	NORMAL	---

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>25	<b>2</b>	19	---
Chromium	ppm	ASTM D5185m	>10	<b>0</b>	1	---
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	<1	---
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	---
Silver	ppm	ASTM D5185m		<b>0</b>	0	---
Aluminum	ppm	ASTM D5185m	>20	<b>&lt;1</b>	3	---
Lead	ppm	ASTM D5185m	>20	<b>0</b>	0	---
Copper	ppm	ASTM D5185m	>150	<b>9</b>	9	---
Tin	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

**CONTAMINATION**

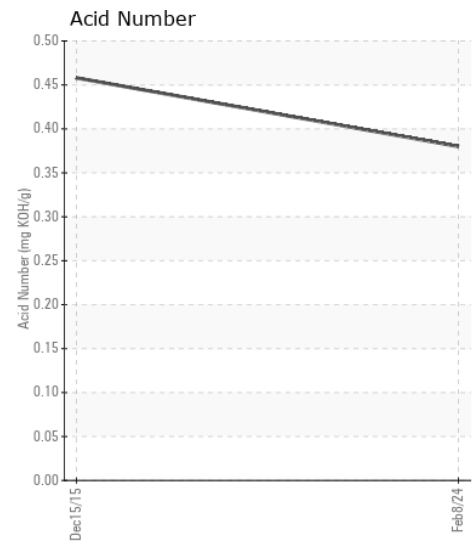
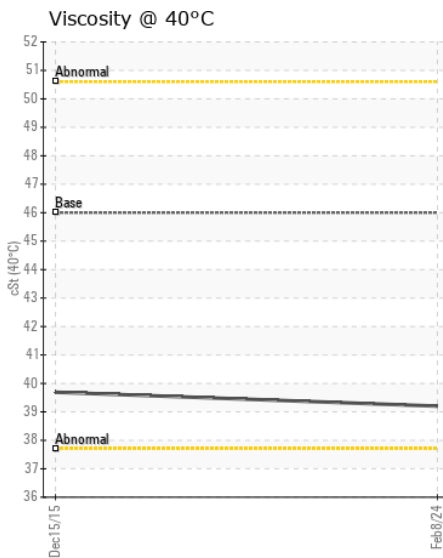
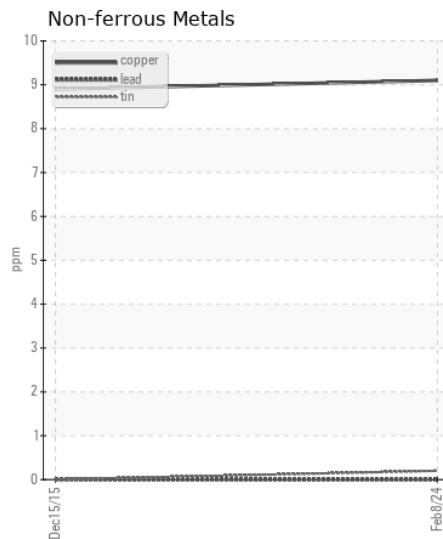
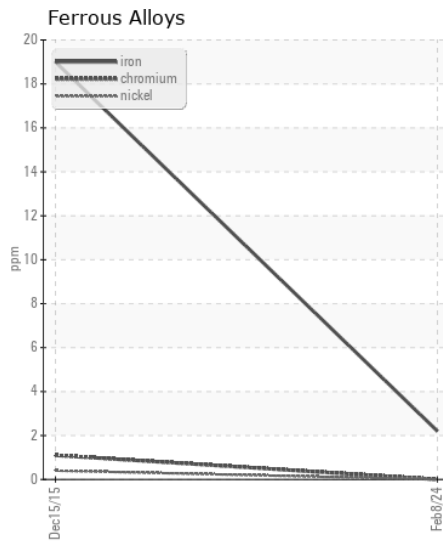
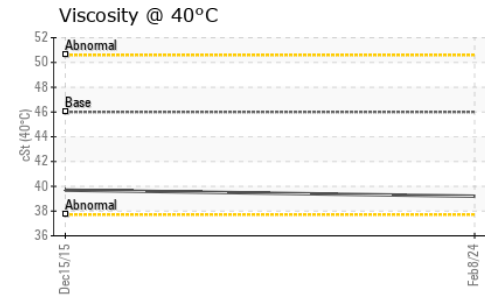
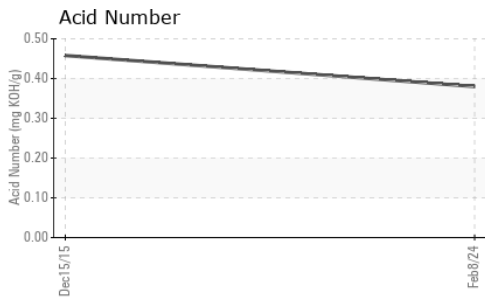
Moderate concentration of visible dirt/debris present in the oil.

Silicon	ppm	ASTM D5185m	>50	<b>1</b>	16	---
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	10	---
Water		WC Method	>0.1	<b>NEG</b>	NEG	---
Particles >4µm		ASTM D7647	>40000	<b>---</b>	10364	---
Particles >6µm		ASTM D7647	>10000	<b>---</b>	861	---
Particles >14µm		ASTM D7647	>2500	<b>---</b>	49	---
Particles >21µm		ASTM D7647	>640	<b>---</b>	19	---
Particles >38µm		ASTM D7647	>160	<b>---</b>	2	---
Particles >71µm		ASTM D7647	>40	<b>---</b>	0	---
Oil Cleanliness		ISO 4406 (c)	>22/20/18	<b>---</b>	21/17/13	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>MODER</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	---

**FLUID CONDITION**

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

Sodium	ppm	ASTM D5185m		<b>&lt;1</b>	4	---
Boron	ppm	ASTM D5185m	14	<b>2</b>	5	---
Barium	ppm	ASTM D5185m	0.0	<b>&lt;1</b>	0	---
Molybdenum	ppm	ASTM D5185m	0.0	<b>&lt;1</b>	3	---
Manganese	ppm	ASTM D5185m	0.0	<b>&lt;1</b>	<1	---
Magnesium	ppm	ASTM D5185m	2.6	<b>22</b>	16	---
Calcium	ppm	ASTM D5185m	49	<b>108</b>	237	---
Phosphorus	ppm	ASTM D5185m	354	<b>331</b>	306	---
Zinc	ppm	ASTM D5185m	419	<b>415</b>	349	---
Sulfur	ppm	ASTM D5185m	3719	<b>2032</b>	2860	---
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.38</b>	0.458	---
Visc @ 40°C	cSt	ASTM D445	46	<b>39.2</b>	39.69	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : ML0000678  
**Lab Number** : 06087198  
**Unique Number** : 10874643  
**Test Package** : CONST

**Received** : 13 Feb 2024  
**Tested** : 14 Feb 2024  
**Diagnosed** : 14 Feb 2024 - Jonathan Hester

**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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 F: (804)266-1611