

WEAR NORMAL CONTAMINATION SEVERE FLUID CONDITION NORMAL

Machine Id VOLVO L110H 12152 Component Hydraulic System Fluid VOLVO SUPER HYDRAULIC OIL 46 (--- GAL)

RECOMMENDATION

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation.

WEAR

All component wear rates are normal.

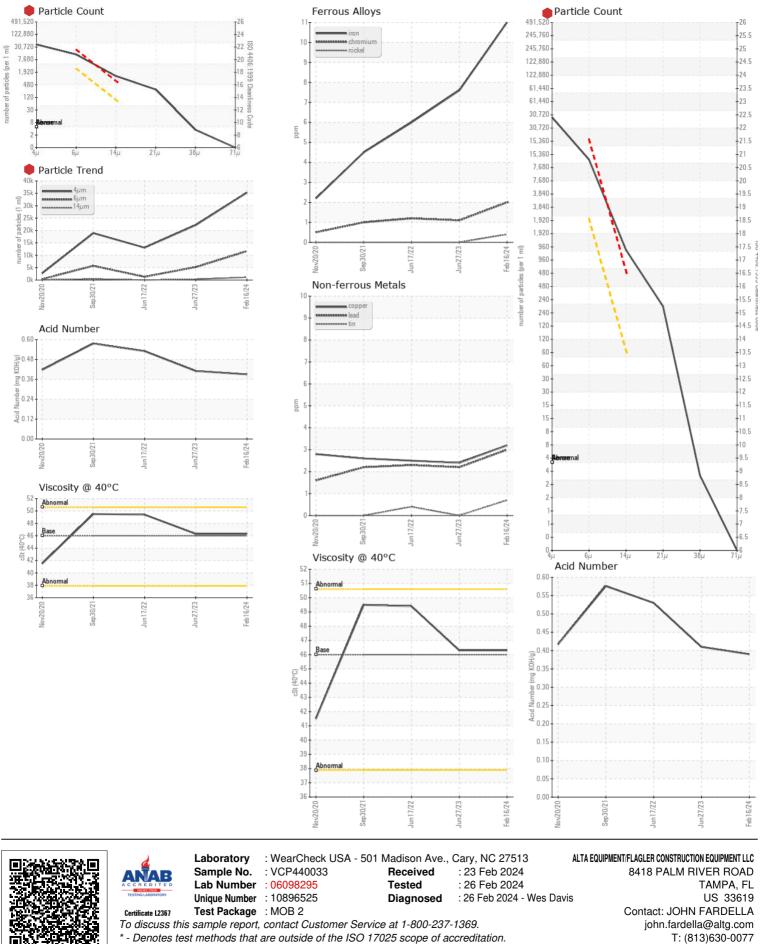
CONTAMINATION

There is a high amount of particulates (2 to 100 microns in size) present in the oil.

FLUID CONDITION

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VCP440033	VCP416013	VCP375933
Sample Date		Client Info		16 Feb 2024	27 Jun 2023	17 Jun 2022
Machine Age	hrs	Client Info		6265	5254	3476
Oil Age	hrs	Client Info		2000	3000	3476
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				SEVERE	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185m	>50	11	8	6
Chromium	ppm	ASTM D5185m	>20	2	1	1
Nickel	ppm	ASTM D5185m	>10	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		<1	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	<1	<1
Lead	ppm	ASTM D5185m	>20	3	2	2
Copper	ppm	ASTM D5185m	>150	3	2	2
Tin	ppm	ASTM D5185m	>20	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>20	6	5	4
Potassium	ppm	ASTM D5185m	>20	<1	<1	0
Water	ppiii	WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>0.1	35290	22171	13056
Particles >6µm		ASTM D7647	>2500	→ 11664	▲ 5219	1299
Particles >14µm		ASTM D7647	>80	1098	▲ 333	23
Particles >21µm		ASTM D7647	>20	251	▲ 63	6
Particles >38µm		ASTM D7647	>4	3	0	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)		22/21/17	▲ 22/20/16	21/17/12
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
Sodium	ppm	ASTM D5185m		0	0	0
Boron	ppm	ASTM D5185m	14	5	4	2
Barium	ppm	ASTM D5185m	0.0	5	2	0
Molybdenum	ppm	ASTM D5185m	0.0	15	15	1
Manganese	ppm	ASTM D5185m	0.0	<1	0	0
Magnesium	ppm	ASTM D5185m	2.6	16	17	13
Calcium	ppm	ASTM D5185m	49	563	640	915
Phosphorus	ppm	ASTM D5185m	354	358	424	432
Zinc	ppm	ASTM D5185m	419	503	544	565
Sulfur	ppm	ASTM D5185m	3719	1763	2048	1874
Acid Number (AN)	mg KOH/g	ASTM D8045		0.39	0.41	0.53
Visc @ 40°C	cSt	ASTM D445	46	46.3	46.3	49.4



* - 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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