



VOLVO

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area

[SWA536475-10]

Machine Id

VOLVO L220H 2823

Component

Hydraulic System

Fluid

VOLVO SUPER HYDRAULIC OIL 46 (--- GAL)



RECOMMENDATION

The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VCP430292	VCP417803	VCP364971
Sample Date		Client Info		10 Jun 2024	09 Sep 2023	16 Sep 2022
Machine Age	hrs	Client Info		10963	9460	7531
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changed	Not Changed	Not Changed
Filter Changed		Client Info		Changed	Not Changed	Not Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	17	17	13
Chromium	ppm	ASTM D5185m	>20	2	2	2
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	2	3
Lead	ppm	ASTM D5185m	>20	<1	0	<1
Copper	ppm	ASTM D5185m	>150	3	2	3
Tin	ppm	ASTM D5185m	>20	0	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

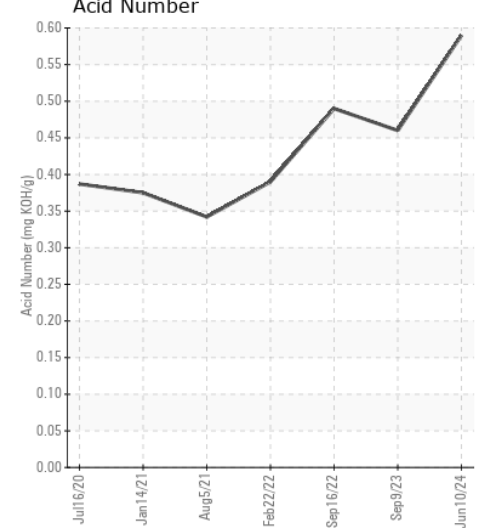
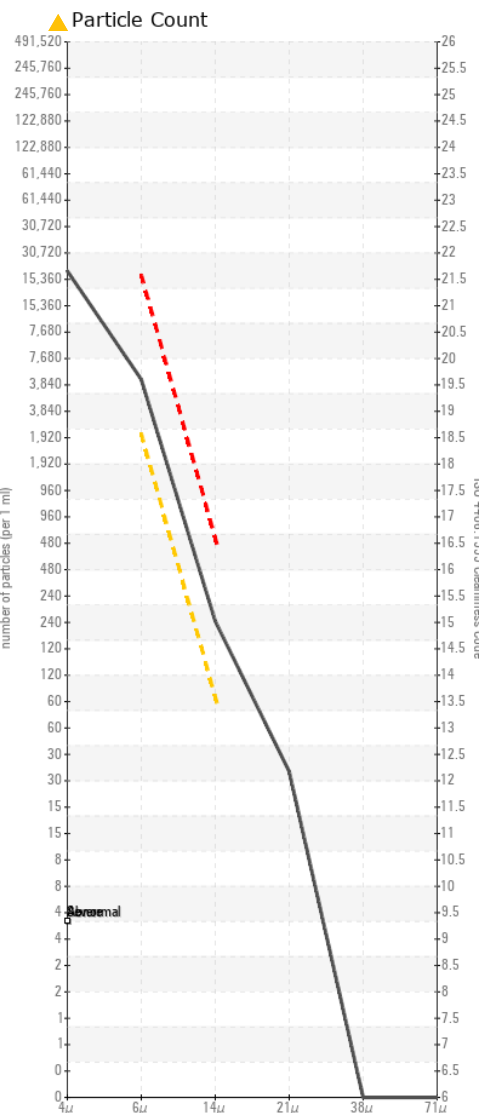
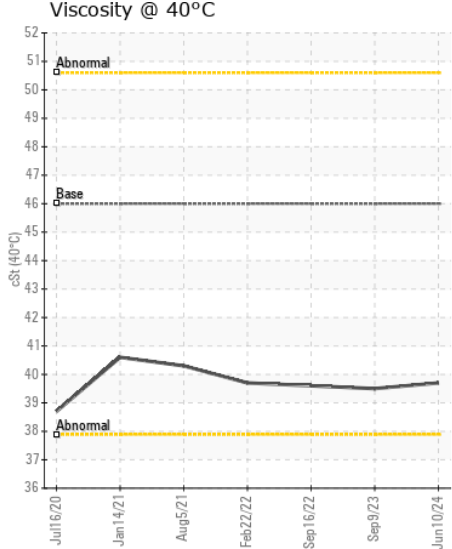
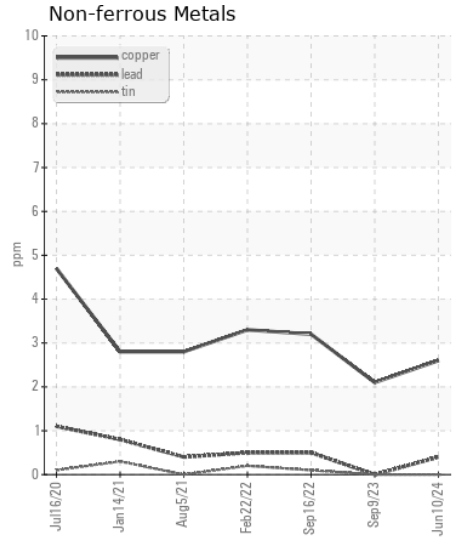
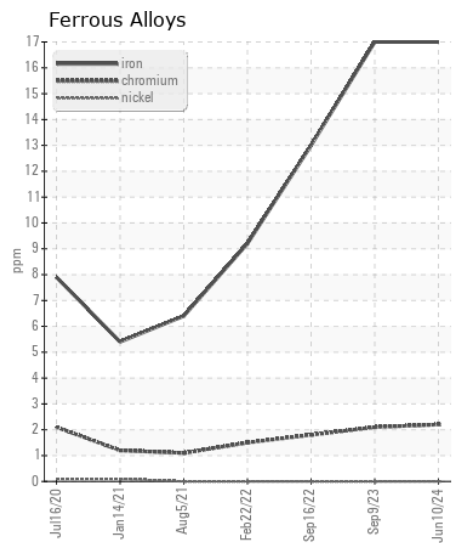
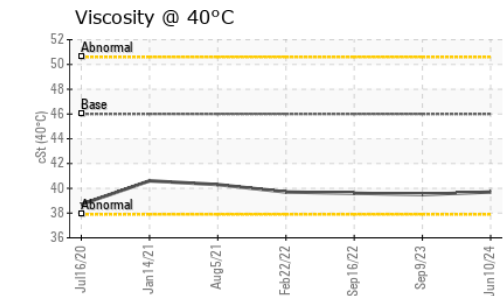
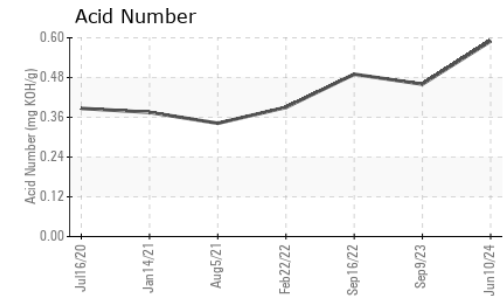
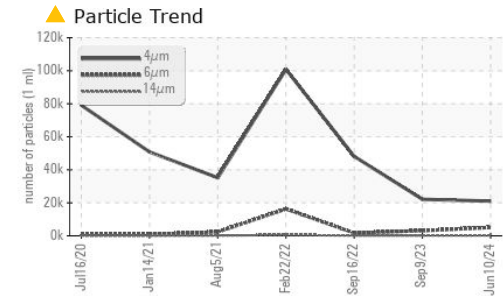
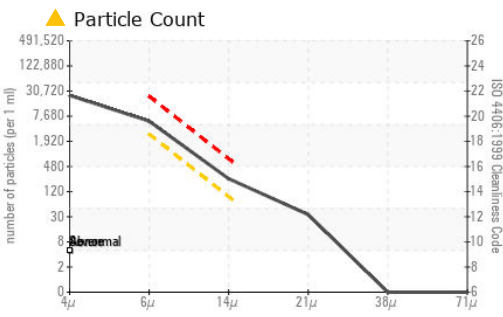
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>20	12	11	6
Potassium	ppm	ASTM D5185m	>20	2	<1	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647		21024	22128	48084
Particles >6µm		ASTM D7647	>2500	▲ 5084	● 3111	1687
Particles >14µm		ASTM D7647	>80	▲ 215	▲ 178	▲ 178
Particles >21µm		ASTM D7647	>20	● 30	● 32	▲ 36
Particles >38µm		ASTM D7647	>4	0	0	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>-/18/13	▲ 22/20/15	▲ 22/19/15	▲ 23/18/15
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

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.

Sodium	ppm	ASTM D5185m		2	2	1
Boron	ppm	ASTM D5185m	14	9	12	11
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	0.0	<1	0	<1
Manganese	ppm	ASTM D5185m	0.0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	2.6	6	10	1
Calcium	ppm	ASTM D5185m	49	504	463	394
Phosphorus	ppm	ASTM D5185m	354	454	334	415
Zinc	ppm	ASTM D5185m	419	603	553	513
Sulfur	ppm	ASTM D5185m	3719	4544	4627	4440
Acid Number (AN)	mg KOH/g	ASTM D8045		0.59	0.46	0.49
Visc @ 40°C	cSt	ASTM D445	46	39.7	39.5	39.6



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VCP430292
Lab Number : 06210002
Unique Number : 11082866
Test Package : MOB 2
Received : 14 Jun 2024
Tested : 17 Jun 2024
Diagnosed : 17 Jun 2024 - Wes Davis

CALLANAN
 RT 32 677 FLATBUSH RD
 EAST KINGSTON, NY
 US 12401
 Contact:

Certificate L2367
 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)