



VOLVO

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	NORMAL

Area
PERMACON [388435]

Machine Id
VOLVO L90H 625860

Component
Hydraulic System

Fluid
VOLVO SUPER HYDRAULIC OIL 46 (--- GAL)



RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VCP394554	VCP353217	---
Sample Date		Client Info		14 Dec 2023	07 Mar 2023	---
Machine Age	hrs	Client Info		4013	3154	---
Oil Age	hrs	Client Info		4000	3000	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	Not Changd	---
Filter Changed		Client Info		Changed	Not Changd	---
Sample Status				MARGINAL	ATTENTION	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>50	7	6	---
Chromium	ppm	ASTM D5185(m)	>20	2	2	---
Nickel	ppm	ASTM D5185(m)	>10	<1	0	---
Titanium	ppm	ASTM D5185(m)		0	0	---
Silver	ppm	ASTM D5185(m)		0	0	---
Aluminum	ppm	ASTM D5185(m)	>20	1	<1	---
Lead	ppm	ASTM D5185(m)	>20	1	1	---
Copper	ppm	ASTM D5185(m)	>20	2	2	---
Tin	ppm	ASTM D5185(m)	>20	0	0	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
White Metal	scalar	Visual*	NONE	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---

CONTAMINATION

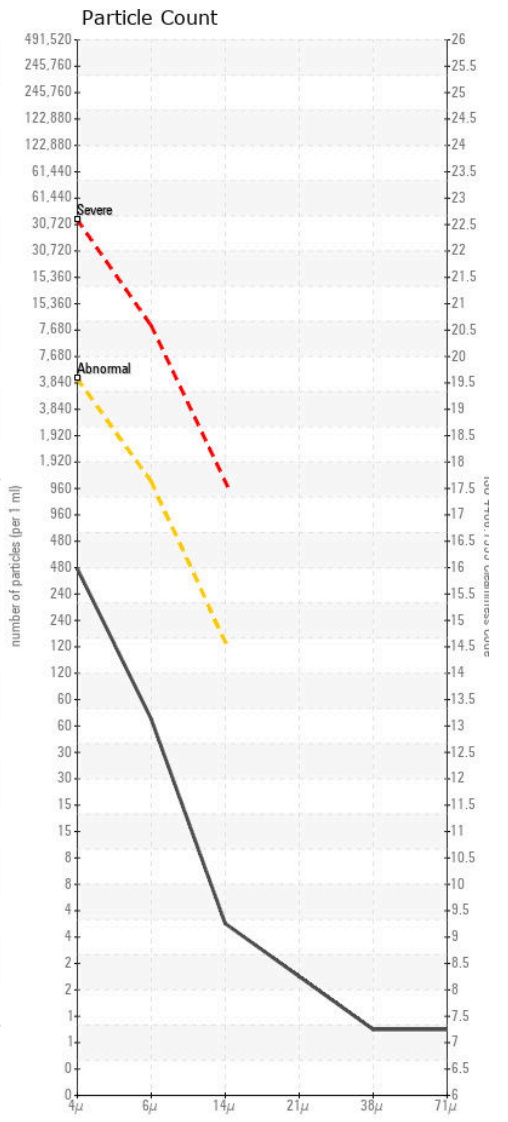
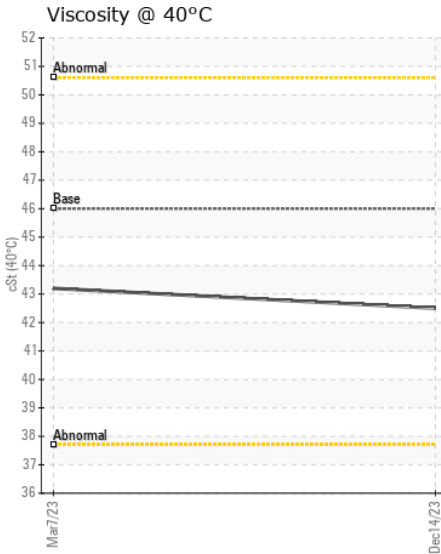
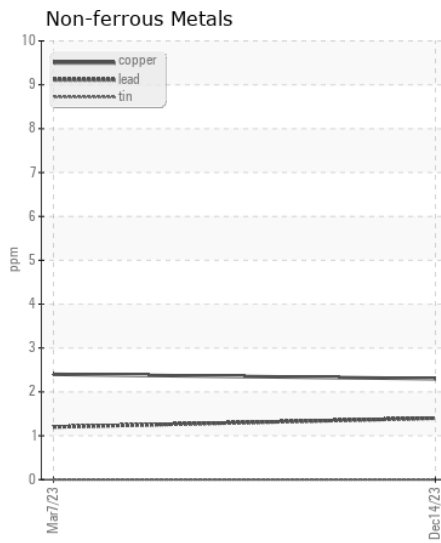
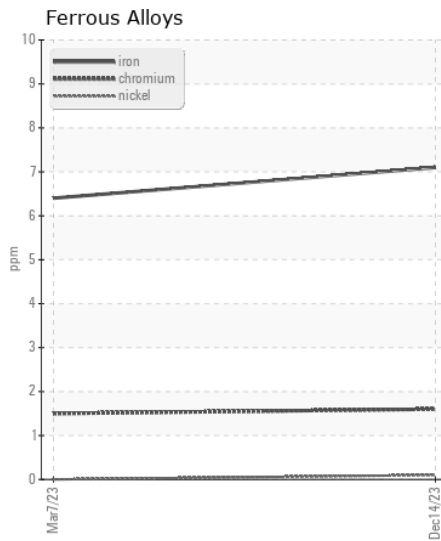
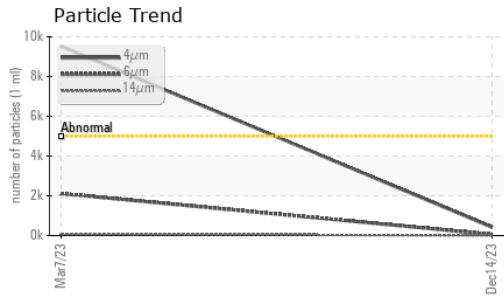
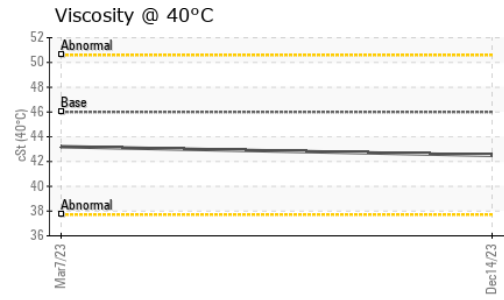
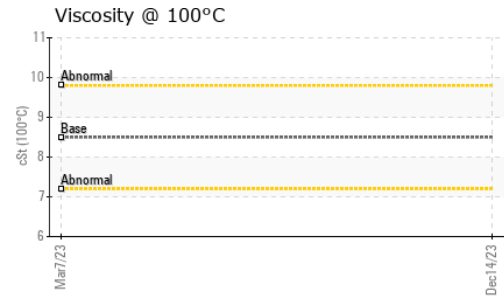
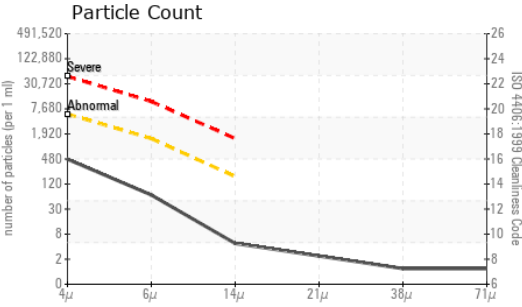
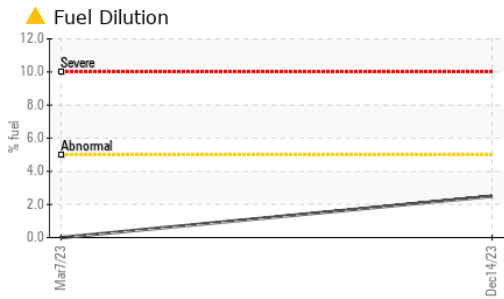
Light fuel dilution occurring. No other contaminants were detected in the oil.

Silicon	ppm	ASTM D5185(m)	>20	4	4	---
Potassium	ppm	ASTM D5185(m)	>20	3	<1	---
Fuel	%	ASTM D7593*		▲ 2.5	---	---
Water		WC Method	>0.2	NEG	NEG	---
Soot %	%	ASTM D7844*		0	---	---
Nitration	Abs/cm	ASTM D7624*		2.6	---	---
Sulfation	Abs/.1mm	ASTM D7415*		29.5	---	---
Particles >4µm		ASTM D7647	>5000	417	▲ 9525	---
Particles >6µm		ASTM D7647	>1300	58	▲ 2113	---
Particles >14µm		ASTM D7647	>160	4	67	---
Particles >21µm		ASTM D7647	>40	2	12	---
Particles >38µm		ASTM D7647	>10	1	0	---
Particles >71µm		ASTM D7647	>3	1	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	16/13/9	▲ 20/18/13	---
Silt	scalar	Visual*	NONE	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	---

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		1	2	---
Boron	ppm	ASTM D5185(m)	14	<1	<1	---
Barium	ppm	ASTM D5185(m)	0.0	0	0	---
Molybdenum	ppm	ASTM D5185(m)	0.0	0	<1	---
Manganese	ppm	ASTM D5185(m)	0.0	0	0	---
Magnesium	ppm	ASTM D5185(m)	2.6	5	6	---
Calcium	ppm	ASTM D5185(m)	49	67	72	---
Phosphorus	ppm	ASTM D5185(m)	354	338	376	---
Zinc	ppm	ASTM D5185(m)	419	424	448	---
Sulfur	ppm	ASTM D5185(m)	3719	1955	2007	---
Oxidation	Abs/.1mm	ASTM D7414*		21.4	---	---
Visc @ 40°C	cSt	ASTM D7279(m)	46	42.5	43.2	---
Visc @ 100°C	cSt	ASTM D7279(m)	8.5	7.5	---	---
Viscosity Index (VI)	Scale	ASTM D2270*	163	143	---	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : VCP394554 **Received** : 02 Jan 2024
Lab Number : 02605962 **Diagnosed** : 05 Jan 2024
Unique Number : 5707048 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: FT-IR, FuelDilution, KV100, PercentFuel, PrtCount, VI)

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To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.