



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
FLEET
Machine Id
Volvo1 (S/N 4v4nc9eh4rn643763)
Component
Diesel Engine
Fluid
{not provided} (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PCA0112309	PCA0108158	---
Sample Date		Client Info		07 Jan 2024	08 Nov 2023	---
Machine Age	hrs	Client Info		0	0	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		N/A	N/A	---
Filter Changed		Client Info		N/A	N/A	---
Sample Status				ABNORMAL	ABNORMAL	---

WEAR

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core).

Iron	ppm	ASTM D5185m	>100	15	36	---
Chromium	ppm	ASTM D5185m	>20	<1	<1	---
Nickel	ppm	ASTM D5185m	>4	4	3	---
Titanium	ppm	ASTM D5185m		0	<1	---
Silver	ppm	ASTM D5185m	>3	5	17	---
Aluminum	ppm	ASTM D5185m	>20	6	▲ 22	---
Lead	ppm	ASTM D5185m	>40	<1	2	---
Copper	ppm	ASTM D5185m	>330	▲ 336	173	---
Tin	ppm	ASTM D5185m	>15	2	3	---
Vanadium	ppm	ASTM D5185m		<1	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

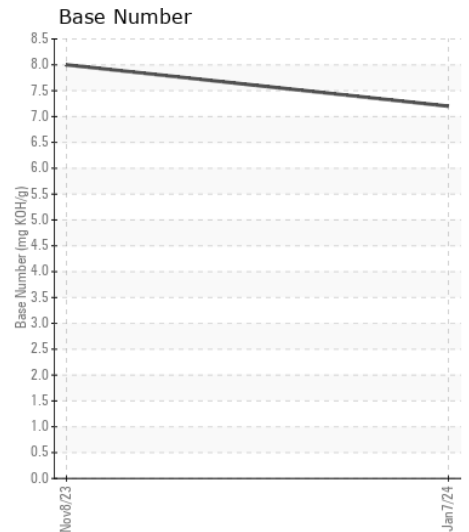
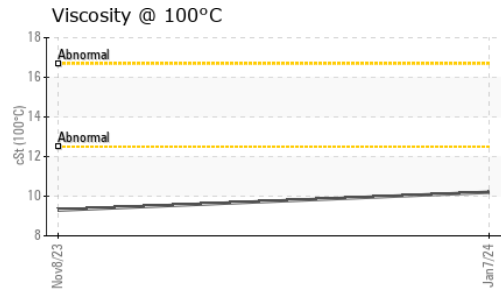
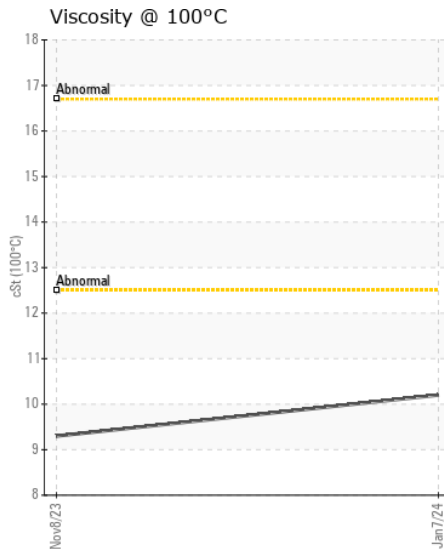
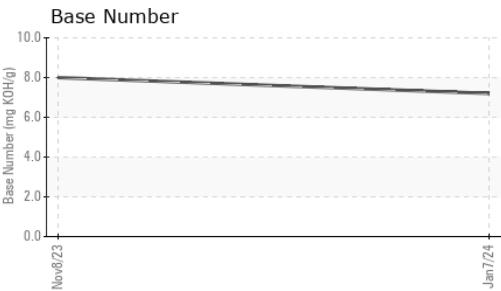
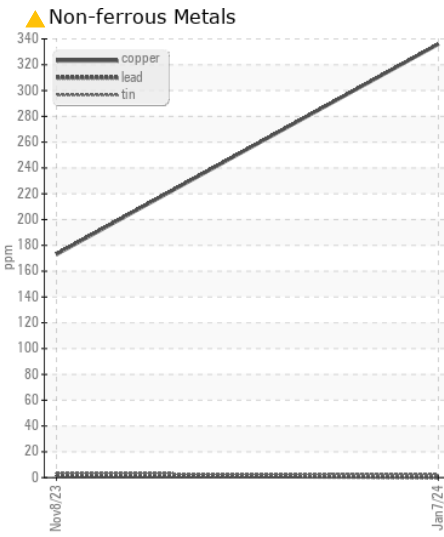
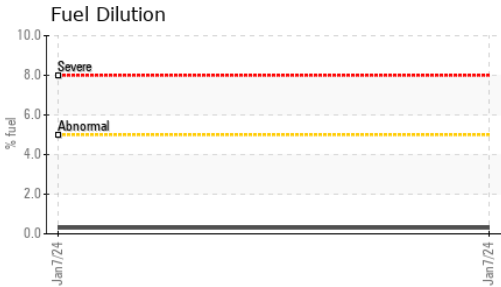
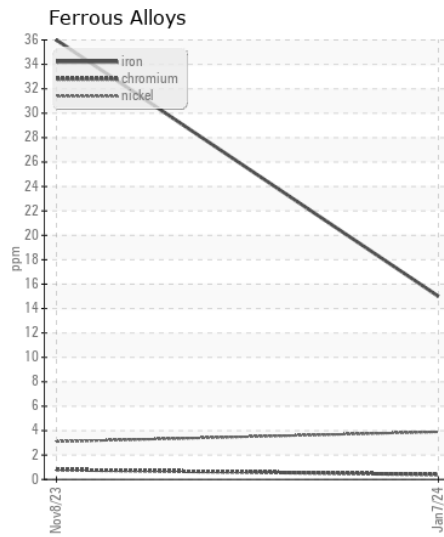
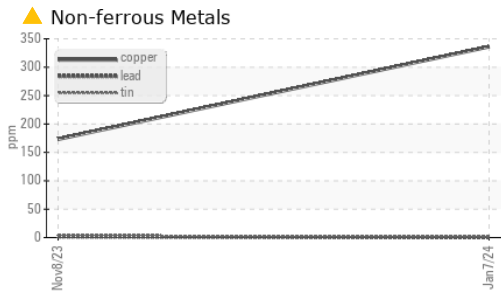
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	12	▲ 56	---
Potassium	ppm	ASTM D5185m	>20	10	64	---
Fuel	%	ASTM D3524	>5	0.3	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.2	0.2	---
Nitration	Abs/cm	*ASTM D7624	>20	7.8	8.9	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.3	24.6	---
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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		0	6	---
Boron	ppm	ASTM D5185m		16	245	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		66	114	---
Manganese	ppm	ASTM D5185m		1	3	---
Magnesium	ppm	ASTM D5185m		882	651	---
Calcium	ppm	ASTM D5185m		1069	1440	---
Phosphorus	ppm	ASTM D5185m		916	708	---
Zinc	ppm	ASTM D5185m		1165	812	---
Sulfur	ppm	ASTM D5185m		2636	2261	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.5	21.7	---
Base Number (BN)	mg KOH/g	ASTM D2896		7.2	8.0	---
Visc @ 100°C	cSt	ASTM D445		10.2	9.3	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0112309 **Received** : 11 Jan 2024
Lab Number : 06057914 **Diagnosed** : 15 Jan 2024
Unique Number : 10829296 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

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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)