



# VOLVO

## OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Machine Id  
**VOLVO L90H 05625448**  
Component  
**Diesel Engine**  
Fluid  
**VALVOLINE 15W40 (--- GAL)**

### RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VCP438662	VCP430821	VCP416427
Sample Date		Client Info		22 Jan 2024	14 Dec 2023	10 Oct 2023
Machine Age	hrs	Client Info		6059	5859	5552
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ATTENTION	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	3	3	10
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	1	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>30	3	3	4
Lead	ppm	ASTM D5185m	>40	1	0	0
Copper	ppm	ASTM D5185m	>20	<1	0	<1
Tin	ppm	ASTM D5185m	>20	<1	<1	<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

Fuel content negligible. There is no indication of any contamination in the oil.

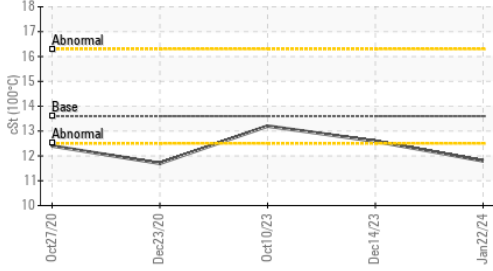
Silicon	ppm	ASTM D5185m	>20	6	7	11
Potassium	ppm	ASTM D5185m	>20	14	2	0
Fuel	%	ASTM D3524	>6.0	0.3	0.4	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.1	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	6.0	6.7	7.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.5	16.9	22.4
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	>0.2	NEG	NEG	NEG

### FLUID CONDITION

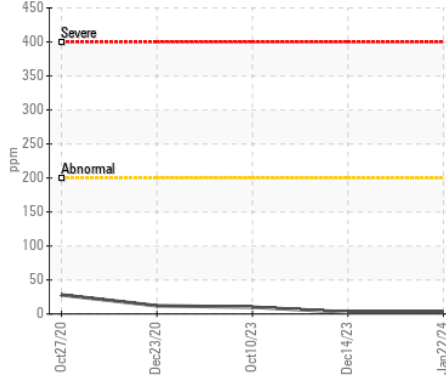
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		8	<1	2
Boron	ppm	ASTM D5185m	39	20	26	30
Barium	ppm	ASTM D5185m	1	0	<1	0
Molybdenum	ppm	ASTM D5185m	49	26	53	43
Manganese	ppm	ASTM D5185m	1	<1	<1	<1
Magnesium	ppm	ASTM D5185m	616	123	201	512
Calcium	ppm	ASTM D5185m	1554	1724	1932	1754
Phosphorus	ppm	ASTM D5185m	899	816	763	970
Zinc	ppm	ASTM D5185m	1069	948	979	1175
Sulfur	ppm	ASTM D5185m	2624	3617	3103	2926
Oxidation	Abs/.1mm	*ASTM D7414	>25	8.5	10.6	22.1
Base Number (BN)	mg KOH/g	ASTM D2896	6.9	6.5	7.1	9.9
Visc @ 100°C	cSt	ASTM D445	13.6	▲ 11.8	12.59	13.2

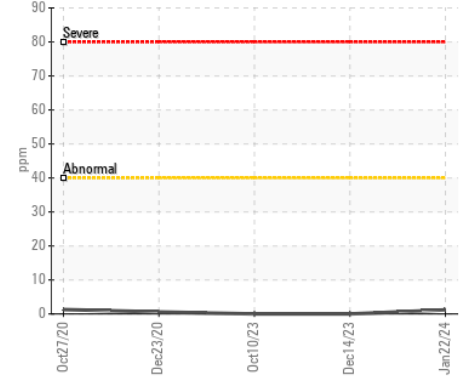
▲ Viscosity @ 100°C



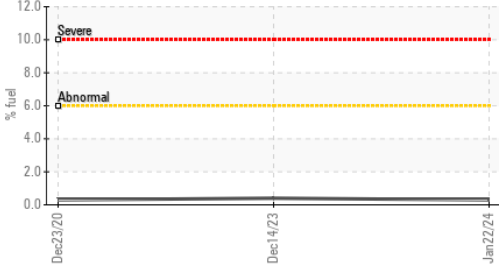
Iron (ppm)



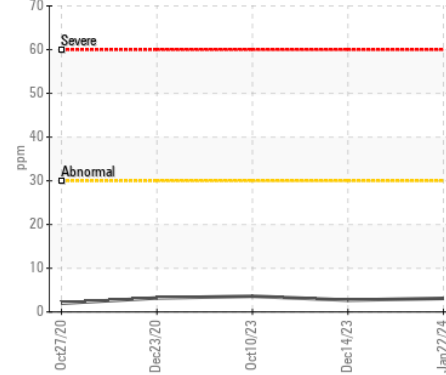
Lead (ppm)



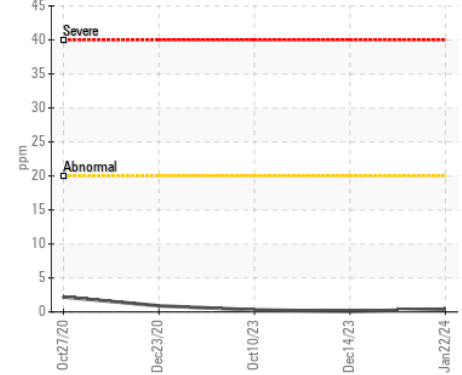
Fuel Dilution



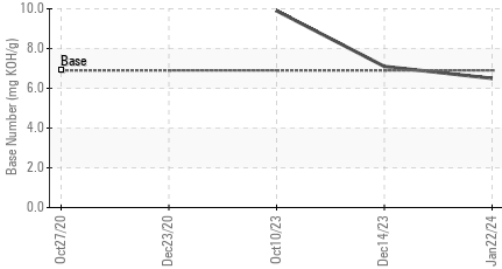
Aluminum (ppm)



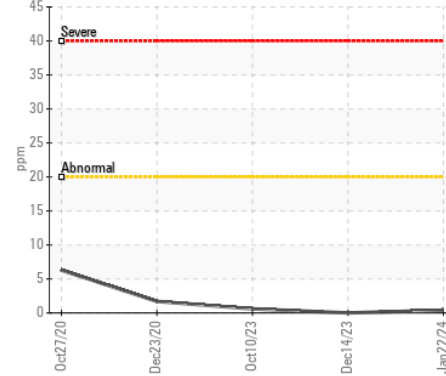
Chromium (ppm)



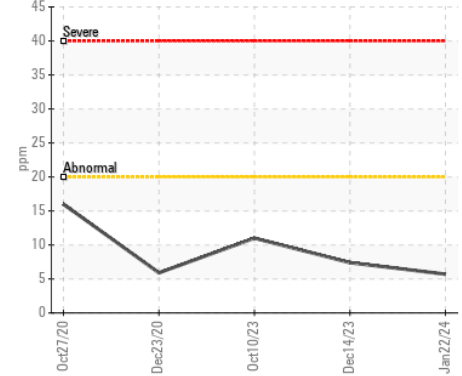
Base Number



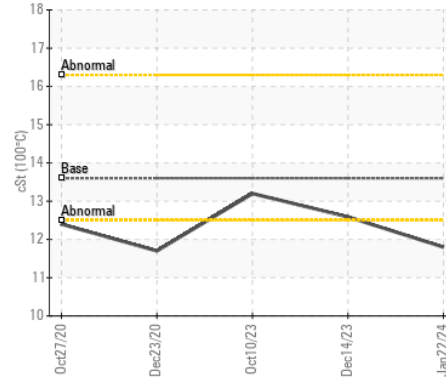
Copper (ppm)



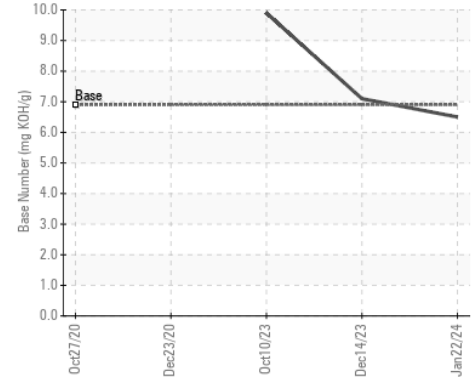
Silicon (ppm)



▲ Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VCP438662 **Received** : 31 Jan 2024  
**Lab Number** : 06075486 **Diagnosed** : 02 Feb 2024  
**Unique Number** : 10857577 **Diagnostician** : Jonathan Hester  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, PercentFuel, TBN )

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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