



# VOLVO

## OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Machine Id  
**VOLVO L110H 631123**

Component  
**Diesel Engine**

Fluid  
**VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>VCP446472</b>	VCP444130	VCP431770
Sample Date		Client Info		<b>10 Jul 2024</b>	04 Mar 2024	06 Oct 2023
Machine Age	hrs	Client Info		<b>9296</b>	8776	2606
Oil Age	hrs	Client Info		<b>0</b>	500	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	N/A
Filter Changed		Client Info		<b>Changed</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>11</b>	12	10
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>10	<b>4</b>	6	5
Lead	ppm	ASTM D5185m	>20	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m	>15	<b>&lt;1</b>	2	1
Tin	ppm	ASTM D5185m	>10	<b>0</b>	1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

There is no indication of any contamination in the oil.

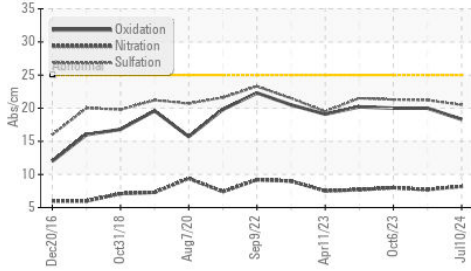
Silicon	ppm	ASTM D5185m	>20	<b>4</b>	6	4
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	2	2
Fuel		WC Method	>6.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.2</b>	7.7	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.5</b>	21.2	21.3
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

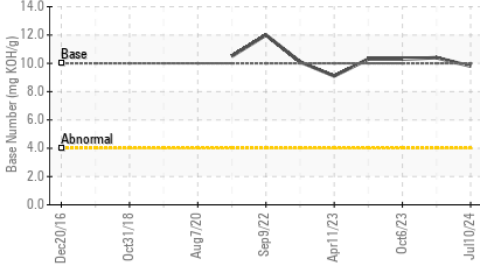
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>2</b>	3	3
Boron	ppm	ASTM D5185m	2.5	<b>21</b>	35	22
Barium	ppm	ASTM D5185m	0.0	<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m	0.7	<b>42</b>	45	48
Manganese	ppm	ASTM D5185m	0.0	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	256	<b>615</b>	521	516
Calcium	ppm	ASTM D5185m	2057	<b>1661</b>	1731	1649
Phosphorus	ppm	ASTM D5185m	935	<b>974</b>	981	978
Zinc	ppm	ASTM D5185m	1223	<b>1140</b>	1139	1168
Sulfur	ppm	ASTM D5185m	4079	<b>3519</b>	3213	3349
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>18.3</b>	20.0	20.0
Base Number (BN)	mg KOH/g	ASTM D2896	10	<b>9.8</b>	10.4	10.3
Visc @ 100°C	cSt	ASTM D445	15.0	<b>12.6</b>	13.0	12.6

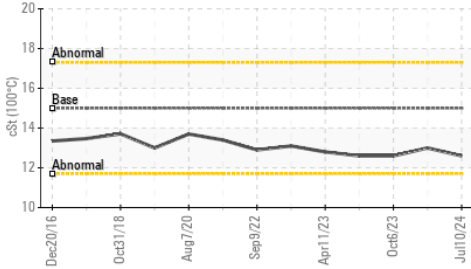
**FT-IR (Direct Trend)**



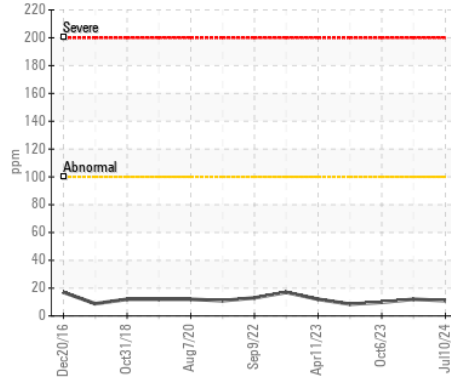
**Base Number**



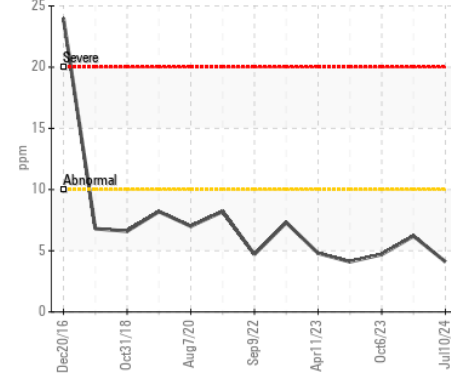
**Viscosity @ 100°C**



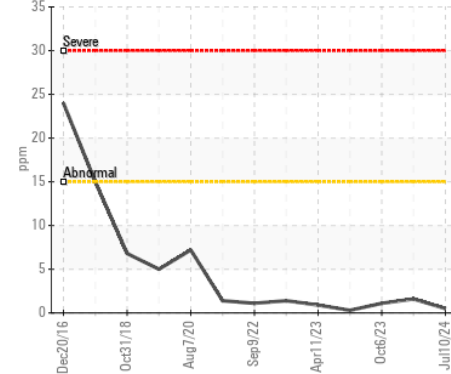
**Iron (ppm)**



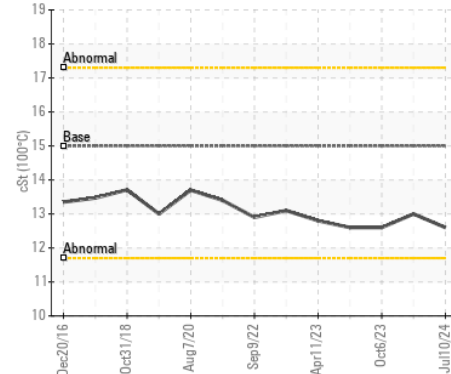
**Aluminum (ppm)**



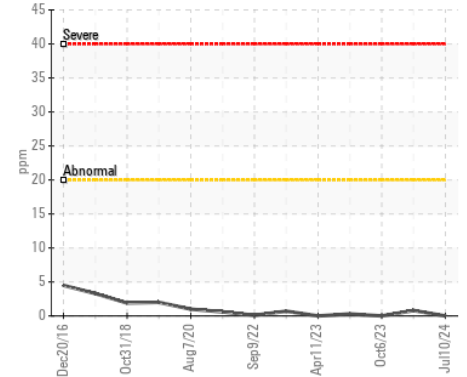
**Copper (ppm)**



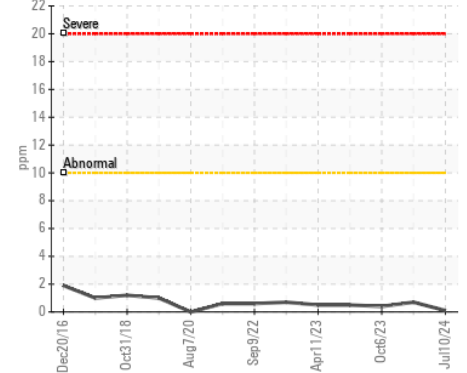
**Viscosity @ 100°C**



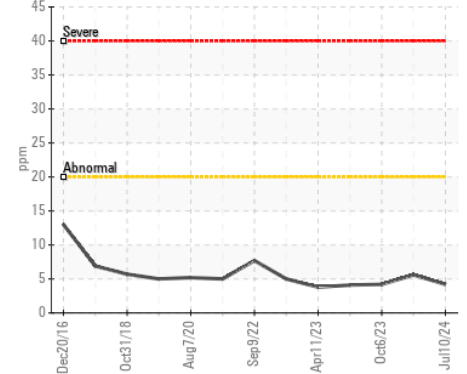
**Lead (ppm)**



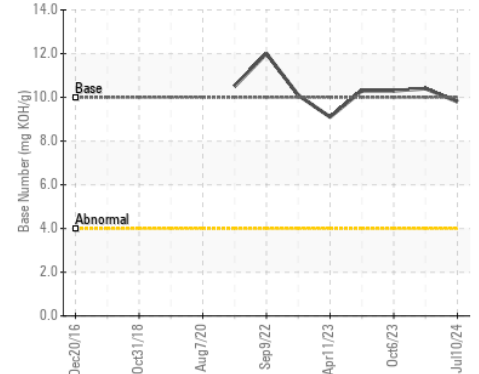
**Chromium (ppm)**



**Silicon (ppm)**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VCP446472 **Received** : 15 Jul 2024  
**Lab Number** : 06235425 **Tested** : 15 Jul 2024  
**Unique Number** : 11124259 **Diagnosed** : 15 Jul 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: 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)

**RIPA AND ASSOCIATES**

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