



# VOLVO

## OIL ANALYSIS REPORT

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



Area  
**[674480]**  
Machine Id  
**VOLVO EC480E 314409**  
Component  
**Diesel Engine**  
Fluid  
**VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (--- 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		<b>VCP445315</b>	VCP416924	VCP407124
Sample Date		Client Info		<b>12 Mar 2024</b>	07 Sep 2023	08 Jun 2023
Machine Age	hrs	Client Info		<b>3616</b>	3073	2589
Oil Age	hrs	Client Info		<b>500</b>	500	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ATTENTION</b>	ATTENTION	ATTENTION

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>11</b>	8	7
Chromium	ppm	ASTM D5185m	>10	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>10	<b>2</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>10	<b>2</b>	6	0
Lead	ppm	ASTM D5185m	>20	<b>1</b>	0	<1
Copper	ppm	ASTM D5185m	>15	<b>5</b>	3	14
Tin	ppm	ASTM D5185m	>10	<b>1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

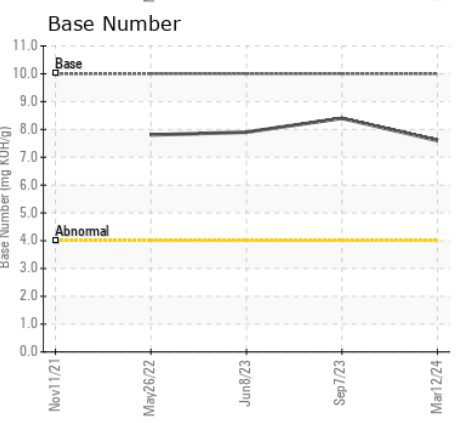
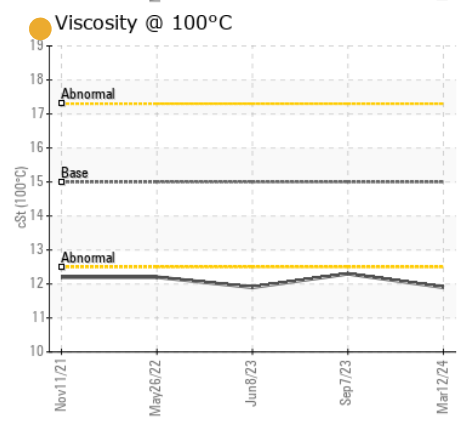
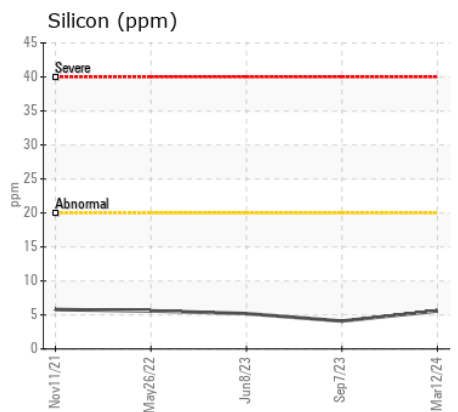
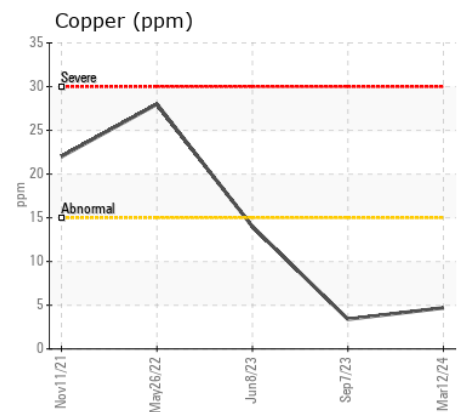
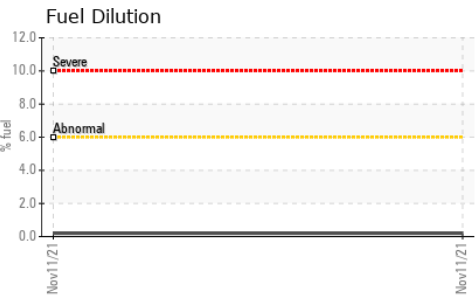
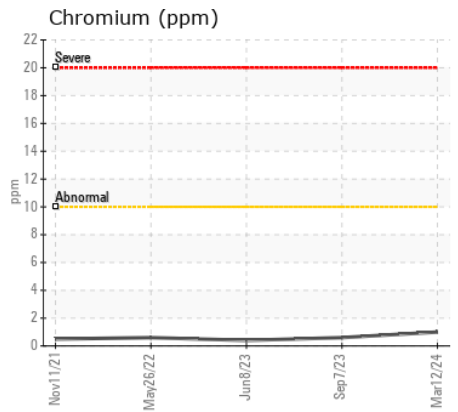
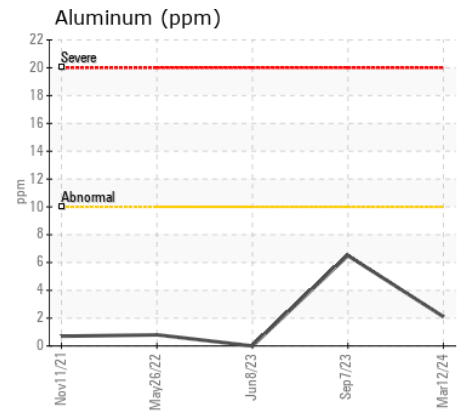
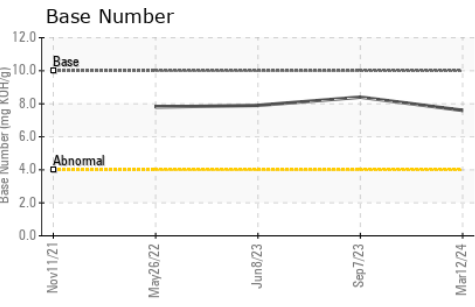
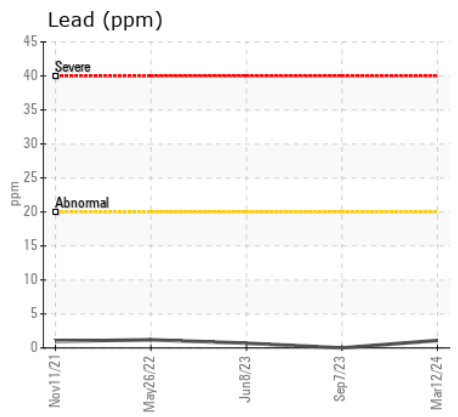
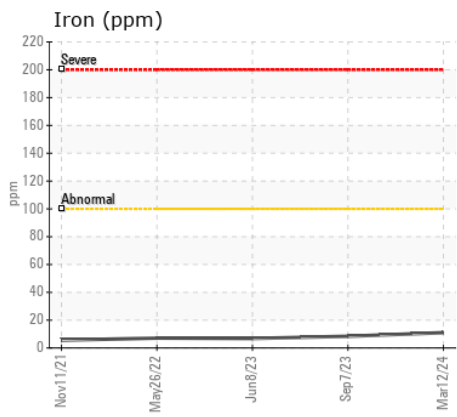
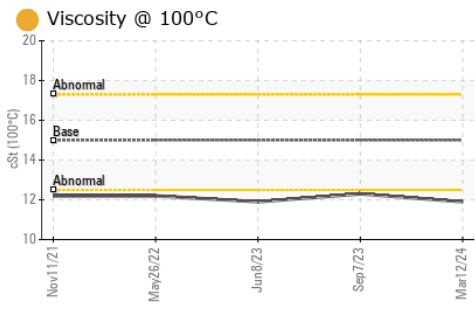
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>6</b>	4	5
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	0	3
Fuel	%	ASTM D3524	>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>0.5</b>	0.6	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.1</b>	7.6	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.5</b>	19.5	20.7
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 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		<b>1</b>	2	0
Boron	ppm	ASTM D5185m	2.5	<b>1</b>	0	4
Barium	ppm	ASTM D5185m	0.0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	0.7	<b>60</b>	58	59
Manganese	ppm	ASTM D5185m	0.0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	256	<b>955</b>	960	859
Calcium	ppm	ASTM D5185m	2057	<b>1120</b>	1054	1149
Phosphorus	ppm	ASTM D5185m	935	<b>1101</b>	1017	975
Zinc	ppm	ASTM D5185m	1223	<b>1258</b>	1238	1160
Sulfur	ppm	ASTM D5185m	4079	<b>3461</b>	3542	2826
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.6</b>	14.3	17.0
Base Number (BN)	mg KOH/g	ASTM D2896	10	<b>7.6</b>	8.4	7.9
Visc @ 100°C	cSt	ASTM D445	15.0	<b>11.9</b>	12.3	11.9



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VCP445315 **Received** : 20 Mar 2024  
**Lab Number** : 06123415 **Tested** : 22 Mar 2024  
**Unique Number** : 10937566 **Diagnosed** : 22 Mar 2024 - Don Baldrige  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, PercentFuel, TBN )

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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)