



# VOLVO

## OIL ANALYSIS REPORT

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



Machine Id  
**VOLVO EC300EL 314178**

Component  
**Diesel Engine**

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

### RECOMMENDATION

No corrective action is recommended at this time. 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>VCP436829</b>	VCP437752	VCP350797
Sample Date		Client Info		<b>12 Jul 2024</b>	11 Apr 2024	24 Feb 2022
Machine Age	hrs	Client Info		<b>2843</b>	2342	336
Oil Age	hrs	Client Info		<b>0</b>	0	336
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>ABNORMAL</b>	ABNORMAL	ABNORMAL

### WEAR

The aluminum level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>9</b>	18	23
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	1	3
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	1	5
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	1
Aluminum	ppm	ASTM D5185m	>10	<b>▲ 12</b>	▲ 12	▲ 37
Lead	ppm	ASTM D5185m	>20	<b>0</b>	1	3
Copper	ppm	ASTM D5185m	>15	<b>&lt;1</b>	4	11
Tin	ppm	ASTM D5185m	>10	<b>0</b>	2	2
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	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.

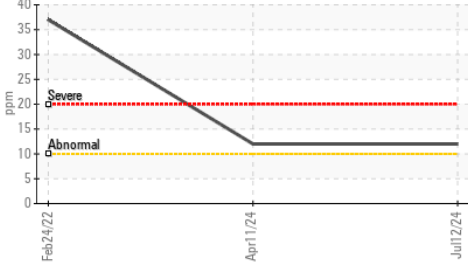
Silicon	ppm	ASTM D5185m	>20	<b>8</b>	9	17
Potassium	ppm	ASTM D5185m	>20	<b>29</b>	19	10
Fuel		WC Method	>6.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.2</b>	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.5</b>	9.0	7.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.9</b>	21.1	17.6
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

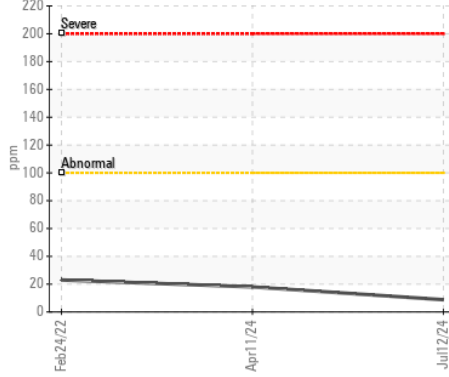
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		<b>3</b>	10	3
Boron	ppm	ASTM D5185m	2.5	<b>28</b>	28	10
Barium	ppm	ASTM D5185m	0.0	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m	0.7	<b>40</b>	54	2
Manganese	ppm	ASTM D5185m	0.0	<b>&lt;1</b>	<1	3
Magnesium	ppm	ASTM D5185m	256	<b>539</b>	631	289
Calcium	ppm	ASTM D5185m	2057	<b>1746</b>	1846	2094
Phosphorus	ppm	ASTM D5185m	935	<b>936</b>	1050	1043
Zinc	ppm	ASTM D5185m	1223	<b>1092</b>	1243	1156
Sulfur	ppm	ASTM D5185m	4079	<b>3237</b>	3324	4722
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.2</b>	20.2	10.5
Base Number (BN)	mg KOH/g	ASTM D2896	10	<b>10.3</b>	9.2	8.1
Visc @ 100°C	cSt	ASTM D445	15.0	<b>13.2</b>	13.0	12.6

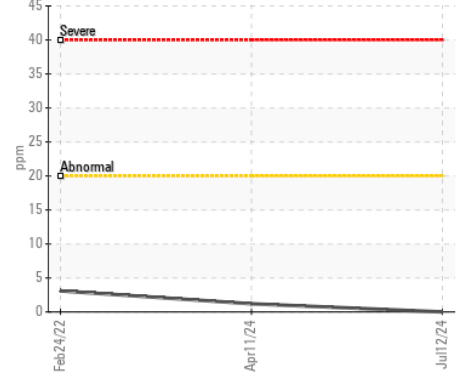
▲ Aluminum (ppm)



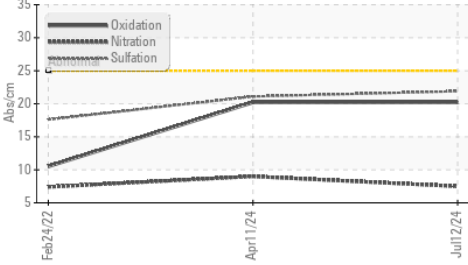
Iron (ppm)



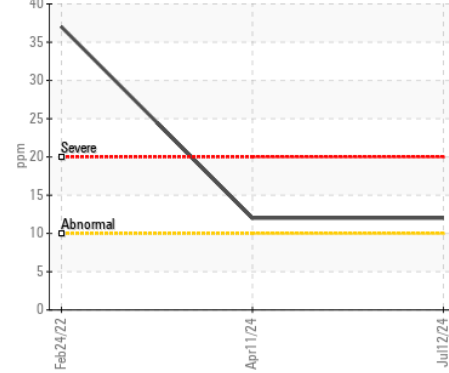
Lead (ppm)



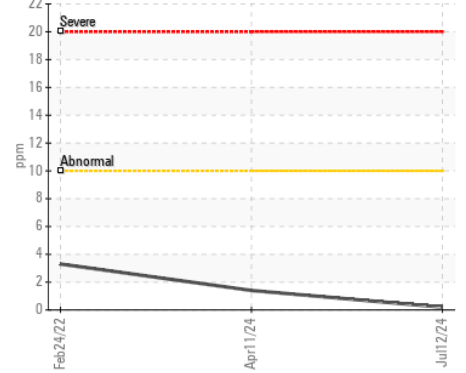
FT-IR (Direct Trend)



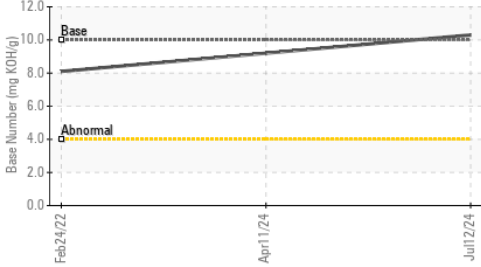
▲ Aluminum (ppm)



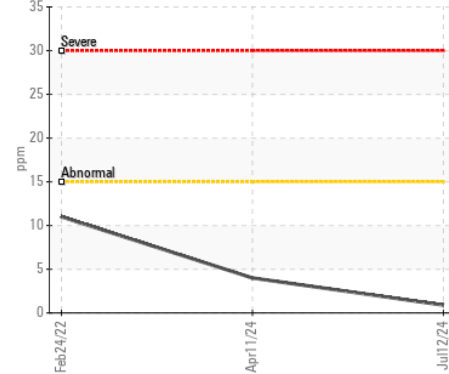
Chromium (ppm)



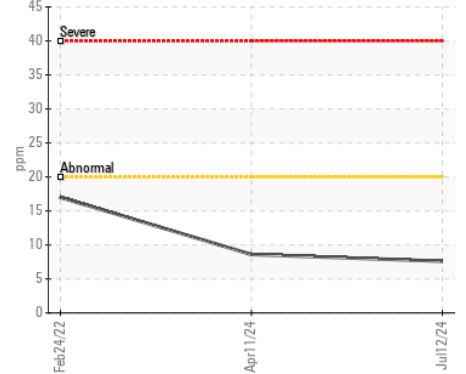
Base Number



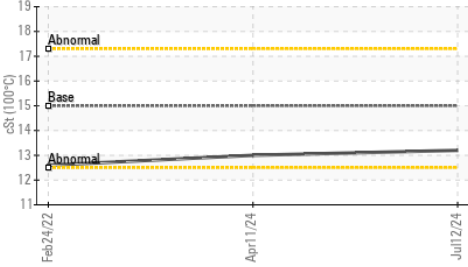
Copper (ppm)



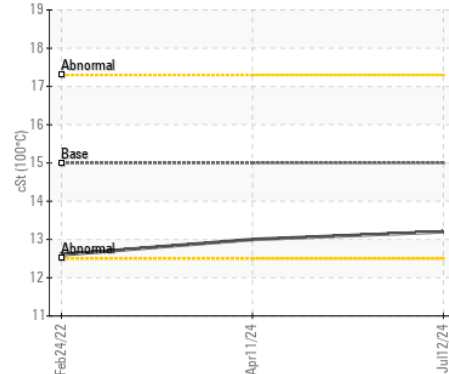
Silicon (ppm)



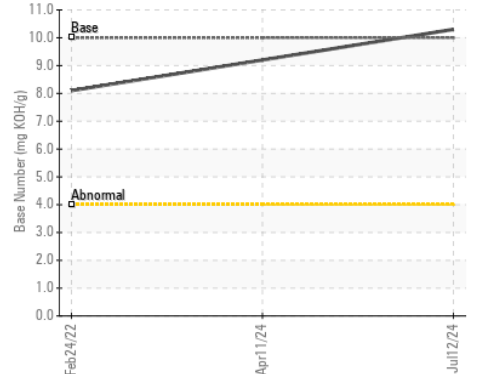
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : VCP436829

Lab Number : 06235443

Unique Number : 11124277

Test Package : MOB 1 ( Additional Tests: TBN )

Received : 15 Jul 2024

Tested : 15 Jul 2024

Diagnosed : 15 Jul 2024 - Sean Felton

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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)