



VOLVO

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Machine Id
VOLVO EC480EL 315150

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		VCP436677	VCP405371	VCP418619
Sample Date		Client Info		09 Apr 2024	07 Dec 2023	11 Aug 2023
Machine Age	hrs	Client Info		1876	1188	640
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	Changed
Filter Changed		Client Info		Changed	N/A	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

The copper level has decreased, but is still abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	6	6	18
Chromium	ppm	ASTM D5185m	>10	<1	0	<1
Nickel	ppm	ASTM D5185m	>10	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>10	2	0	2
Lead	ppm	ASTM D5185m	>20	<1	<1	<1
Copper	ppm	ASTM D5185m	>15	▲ 19	▲ 74	▲ 265
Tin	ppm	ASTM D5185m	>10	1	0	2
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

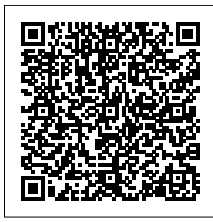
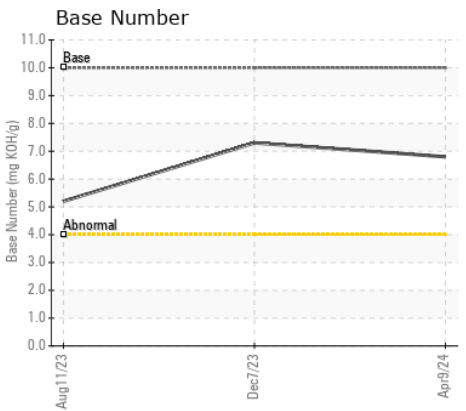
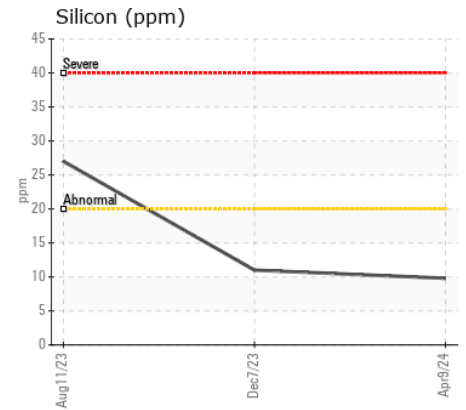
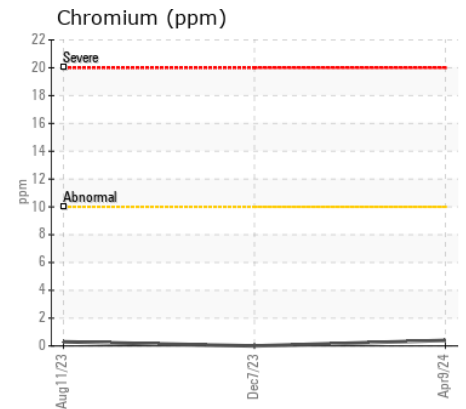
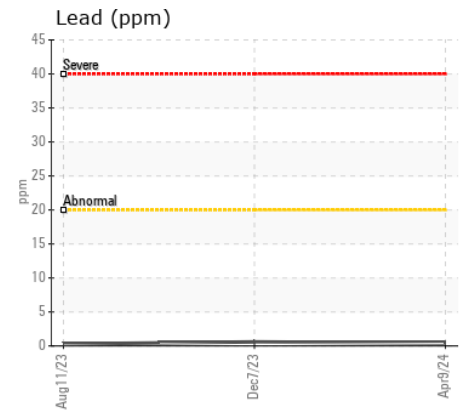
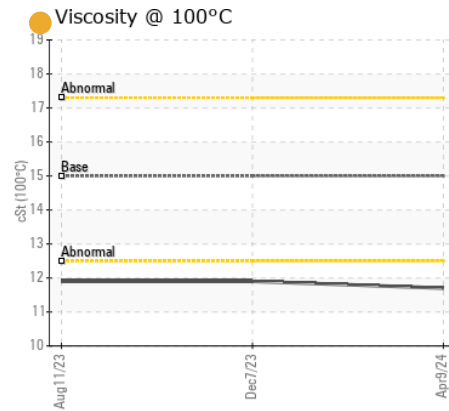
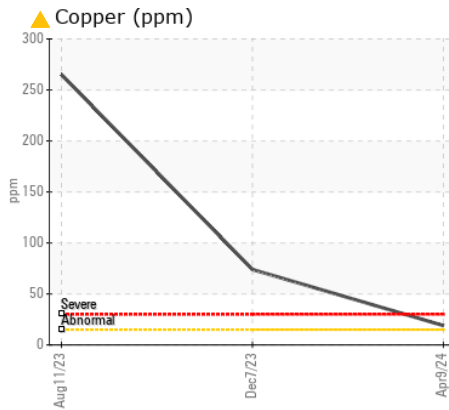
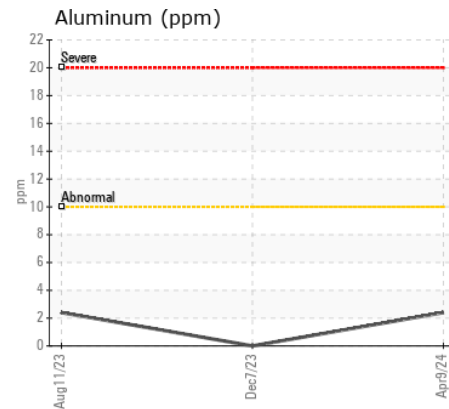
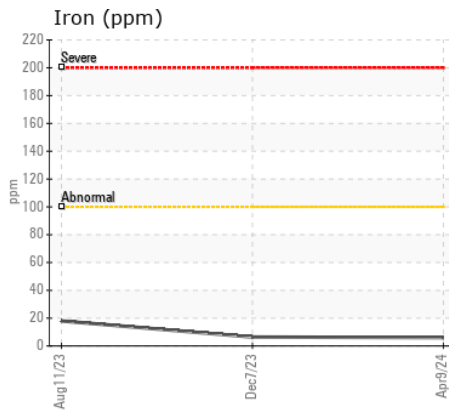
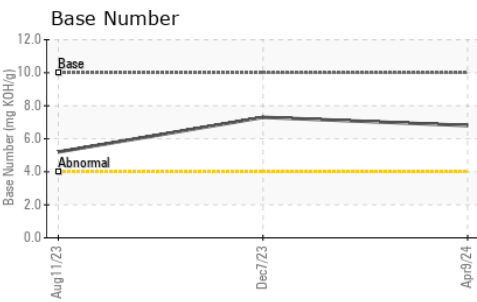
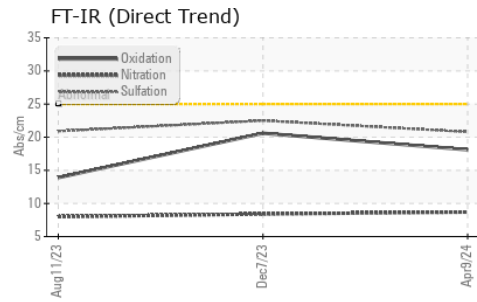
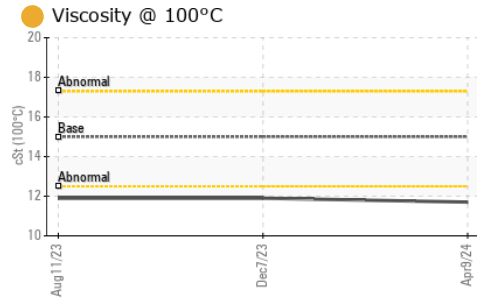
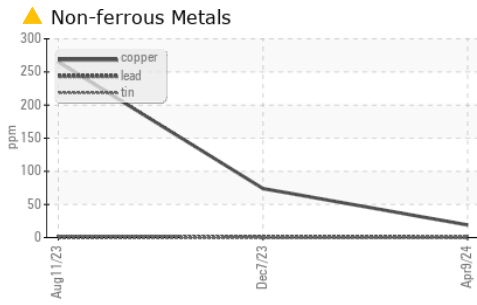
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	10	11	27
Potassium	ppm	ASTM D5185m	>20	2	0	2
Fuel		WC Method	>6.0	<1.0	<1.0	1.5
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	8.7	8.4	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.8	22.5	20.9
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	>0.1	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		<1	<1	2
Boron	ppm	ASTM D5185m	2.5	5	14	2
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	0.7	59	48	23
Manganese	ppm	ASTM D5185m	0.0	<1	<1	3
Magnesium	ppm	ASTM D5185m	256	800	451	151
Calcium	ppm	ASTM D5185m	2057	1422	1691	2136
Phosphorus	ppm	ASTM D5185m	935	1013	844	903
Zinc	ppm	ASTM D5185m	1223	1224	1046	1108
Sulfur	ppm	ASTM D5185m	4079	3061	3095	3847
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.1	20.6	13.9
Base Number (BN)	mg KOH/g	ASTM D2896	10	6.8	7.3	5.2
Visc @ 100°C	cSt	ASTM D445	15.0	● 11.7	● 11.9	● 11.9



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VCP436677 **Received** : 15 Apr 2024
Lab Number : 06148364 **Tested** : 15 Apr 2024
Unique Number : 10978442 **Diagnosed** : 17 Apr 2024 - Sean Felton
Test Package : MOB 1 (Additional Tests: TBN)

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Certificate L2367
 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)