



VOLVO

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
VOLVO EC220EL 315670

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		VCP451400	VCP438455	VCP435538
Sample Date		Client Info		06 Jul 2024	23 Apr 2024	13 Feb 2024
Machine Age	hrs	Client Info		2502	1935	1394
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				NORMAL	NORMAL	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	12	9	10
Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Nickel	ppm	ASTM D5185m	>10	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>10	3	2	4
Lead	ppm	ASTM D5185m	>20	2	1	2
Copper	ppm	ASTM D5185m	>15	3	1	2
Tin	ppm	ASTM D5185m	>10	1	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

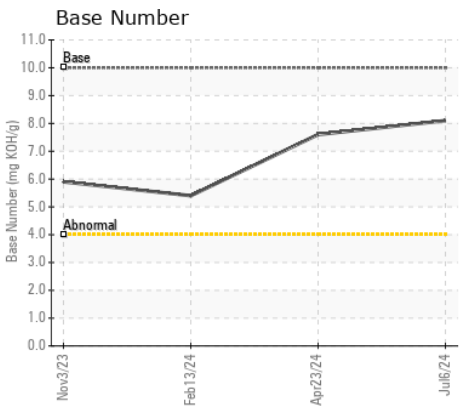
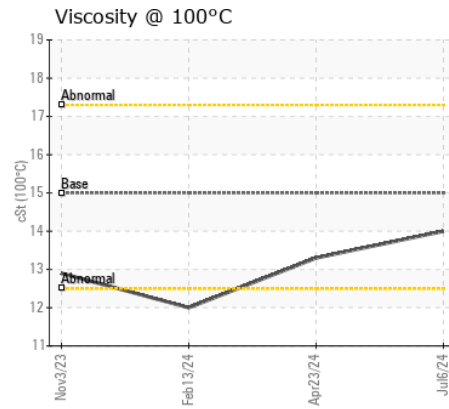
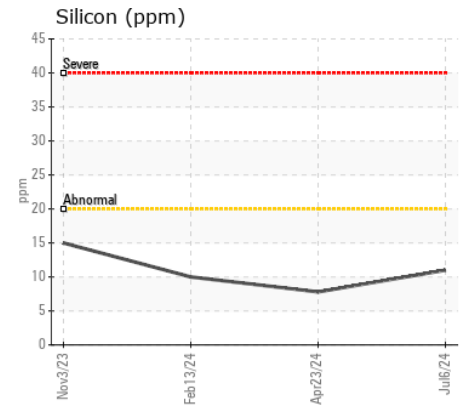
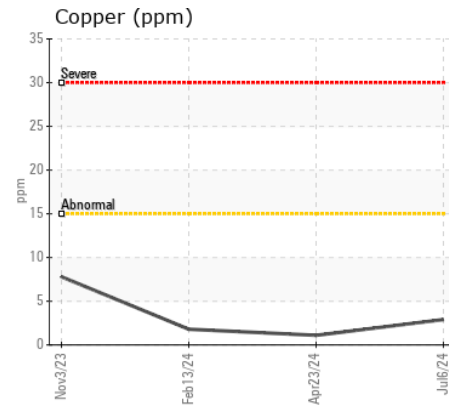
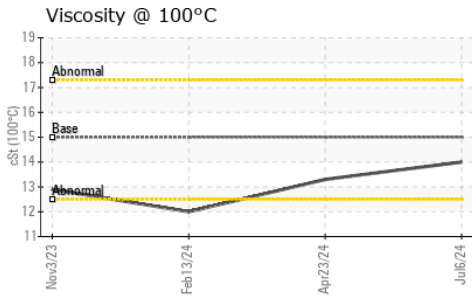
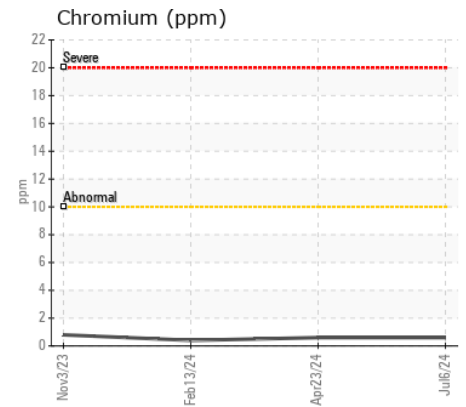
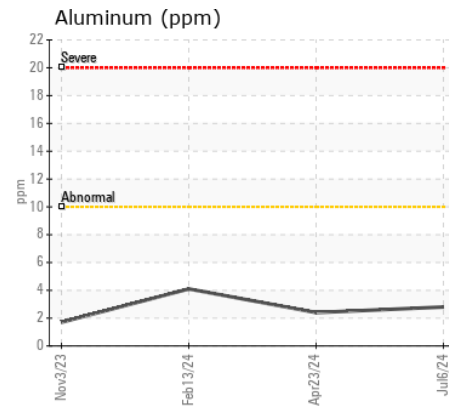
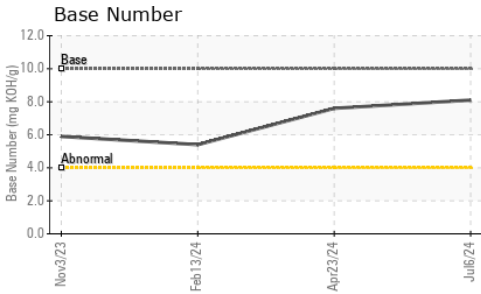
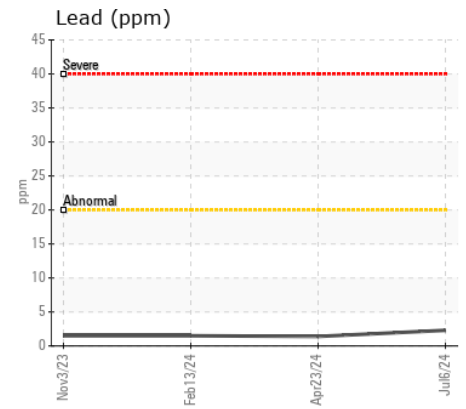
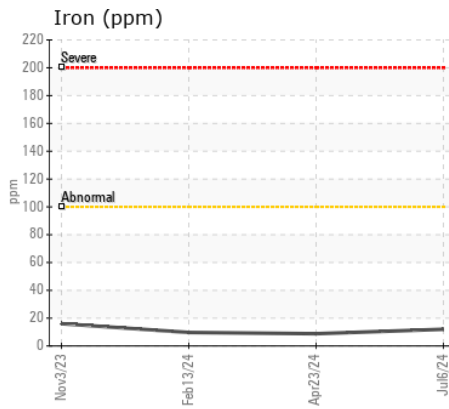
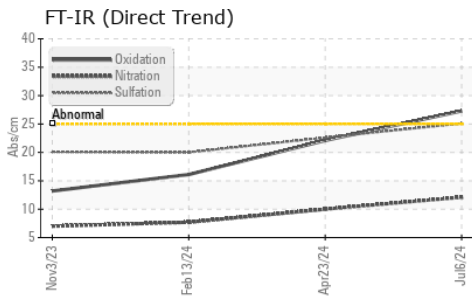
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	11	8	10
Potassium	ppm	ASTM D5185m	>20	3	2	2
Fuel		WC Method	>6.0	<1.0	<1.0	0.6
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	12.1	10.0	7.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.1	22.6	20.0
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 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		4	1	3
Boron	ppm	ASTM D5185m	2.5	23	71	225
Barium	ppm	ASTM D5185m	0.0	0	0	10
Molybdenum	ppm	ASTM D5185m	0.7	48	55	114
Manganese	ppm	ASTM D5185m	0.0	<1	0	0
Magnesium	ppm	ASTM D5185m	256	618	443	522
Calcium	ppm	ASTM D5185m	2057	1995	1568	1752
Phosphorus	ppm	ASTM D5185m	935	1113	993	1355
Zinc	ppm	ASTM D5185m	1223	1342	1185	1592
Sulfur	ppm	ASTM D5185m	4079	3680	3156	4497
Oxidation	Abs/.1mm	*ASTM D7414	>25	27.3	22.1	16.1
Base Number (BN)	mg KOH/g	ASTM D2896	10	8.1	7.6	5.4
Visc @ 100°C	cSt	ASTM D445	15.0	14.0	13.3	12.0



Certificate L2367

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

Sample No. : VCP451400

Lab Number : 06231913

Unique Number : 11115406

Test Package : MOB 1 (Additional Tests: TBN)

Received : 10 Jul 2024

Tested : 10 Jul 2024

Diagnosed : 11 Jul 2024 - Don Baldrige

ALTA EQUIPMENT COMPANY

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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)