



VOLVO

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Machine Id
VOLVO ECR235EL 311165
Component
Diesel Engine
Fluid
VALVOLINE 15W40 (--- 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		VCP432778	VCP424489	VCP344882
Sample Date		Client Info		26 Feb 2024	28 Sep 2023	30 Jan 2023
Machine Age	hrs	Client Info		9249	9006	8302
Oil Age	hrs	Client Info		0	0	500
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Not Changd	N/A
Filter Changed		Client Info		Changed	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

The aluminum level is abnormal. Piston wear is indicated.

Iron	ppm	ASTM D5185m	>100	33	24	28
Chromium	ppm	ASTM D5185m	>10	9	2	▲ 15
Nickel	ppm	ASTM D5185m	>10	3	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>10	▲ 43	▲ 20	▲ 19
Lead	ppm	ASTM D5185m	>20	0	<1	<1
Copper	ppm	ASTM D5185m	>15	2	3	6
Tin	ppm	ASTM D5185m	>10	<1	<1	1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Fuel content negligible. There is no indication of any contamination in the oil.

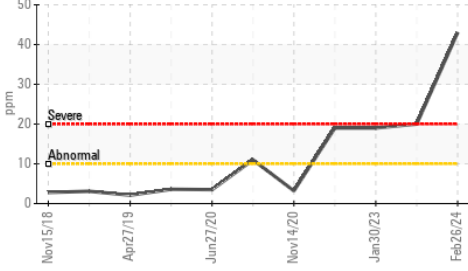
Silicon	ppm	ASTM D5185m	>20	12	7	17
Potassium	ppm	ASTM D5185m	>20	2	5	2
Fuel	%	ASTM D3524	>6.0	0.4	0.5	1.3
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.1	0.5
Nitration	Abs/cm	*ASTM D7624	>20	5.6	4.8	5.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.7	14.5	19.2
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

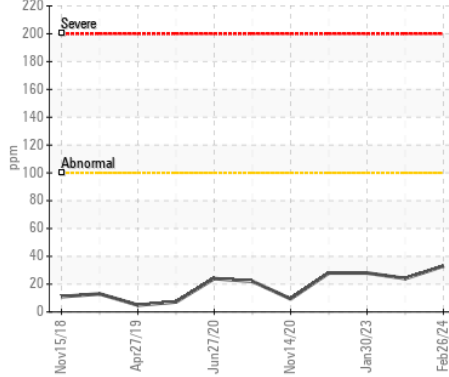
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		3	4	<1
Boron	ppm	ASTM D5185m	39	34	14	11
Barium	ppm	ASTM D5185m	1	0	0	0
Molybdenum	ppm	ASTM D5185m	49	35	23	20
Manganese	ppm	ASTM D5185m	1	<1	1	<1
Magnesium	ppm	ASTM D5185m	616	351	114	169
Calcium	ppm	ASTM D5185m	1554	1196	1646	711
Phosphorus	ppm	ASTM D5185m	899	837	761	563
Zinc	ppm	ASTM D5185m	1069	959	902	730
Sulfur	ppm	ASTM D5185m	2624	2591	3010	1934
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.1	8.2	14.1
Base Number (BN)	mg KOH/g	ASTM D2896	6.9	7.3	6.7	▲ 2.8
Visc @ 100°C	cSt	ASTM D445	13.6	● 10.5	12.3	● 8.4

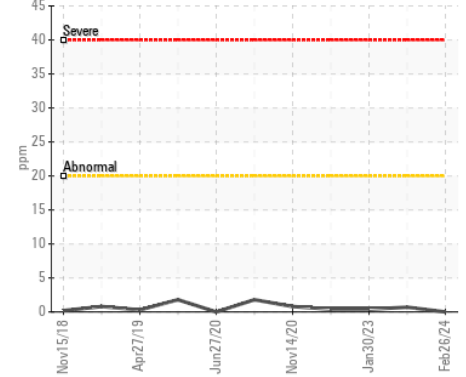
▲ Aluminum (ppm)



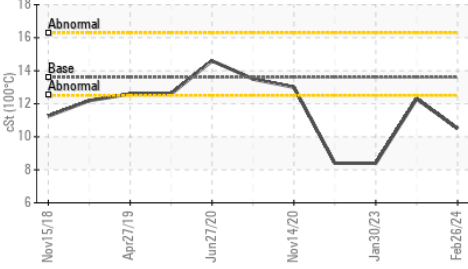
Iron (ppm)



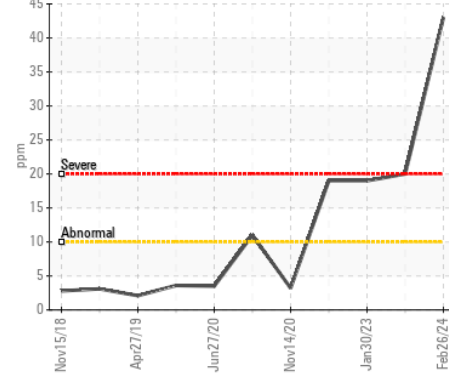
Lead (ppm)



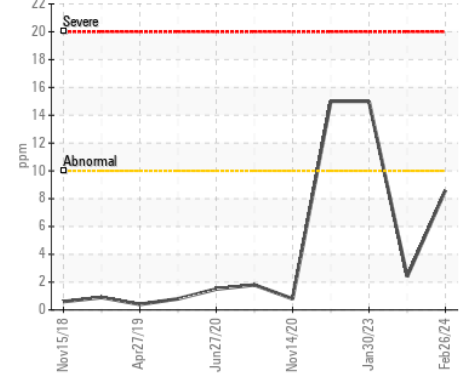
● Viscosity @ 100°C



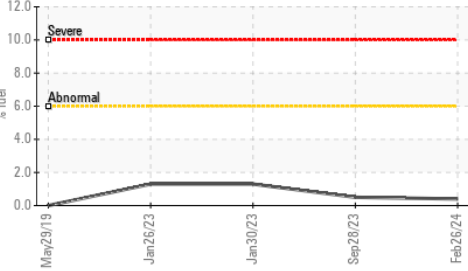
▲ Aluminum (ppm)



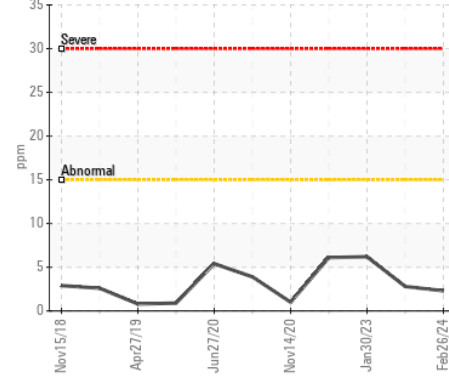
Chromium (ppm)



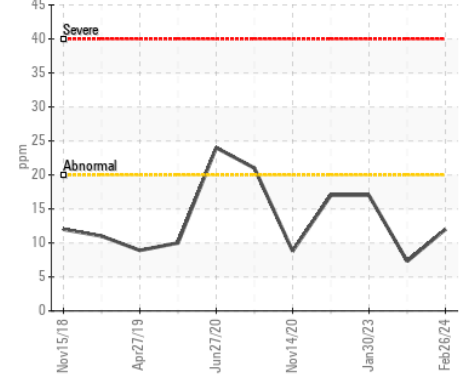
Fuel Dilution



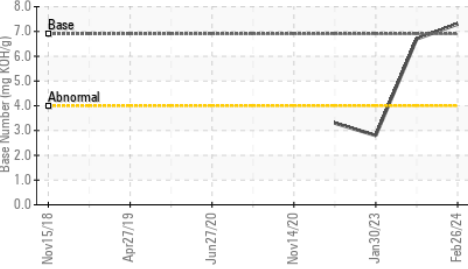
Copper (ppm)



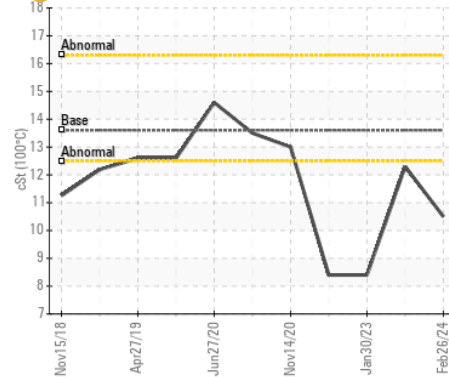
Silicon (ppm)



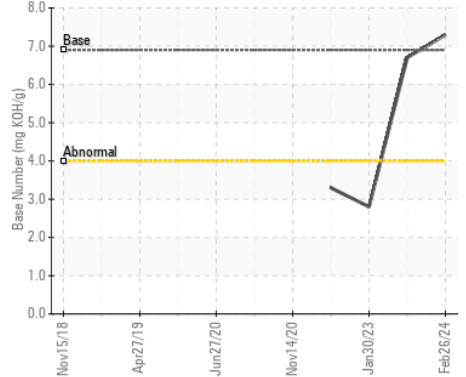
Base Number



● Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VCP432778 **Received** : 01 Mar 2024
Lab Number : 06105692 **Tested** : 05 Mar 2024
Unique Number : 10903922 **Diagnosed** : 05 Mar 2024 - Jonathan Hester
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, 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)

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