



Area
[W05004155-3]
Machine Id
VOLVO ECR145 311293
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 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		ML0000449	---	---
Sample Date		Client Info		08 Apr 2024	---	---
Machine Age	hrs	Client Info		2913	---	---
Oil Age	hrs	Client Info		500	---	---
Filter Age	hrs	Client Info		500	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ABNORMAL	---	---

WEAR

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

Iron	ppm	ASTM D5185m	>100	66	---	---
Chromium	ppm	ASTM D5185m	>10	2	---	---
Nickel	ppm	ASTM D5185m	>10	<1	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>2	0	---	---
Aluminum	ppm	ASTM D5185m	>10	▲ 20	---	---
Lead	ppm	ASTM D5185m	>20	<1	---	---
Copper	ppm	ASTM D5185m	>15	4	---	---
Tin	ppm	ASTM D5185m	>10	<1	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

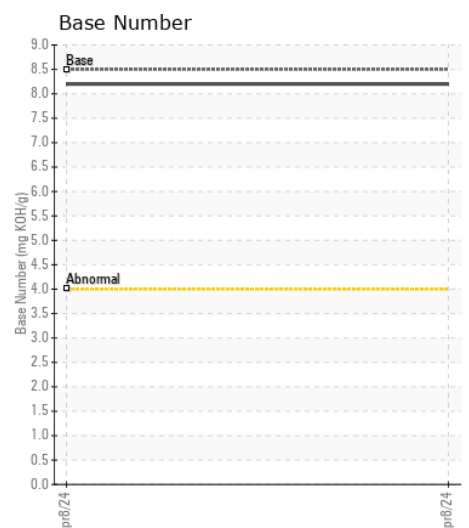
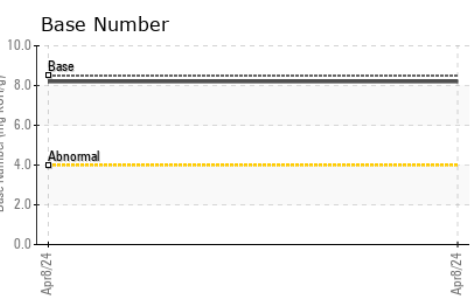
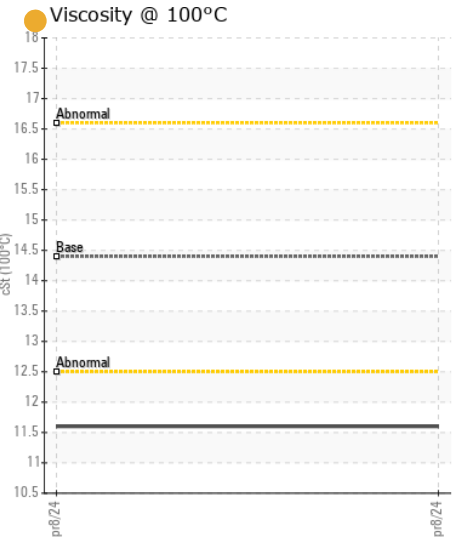
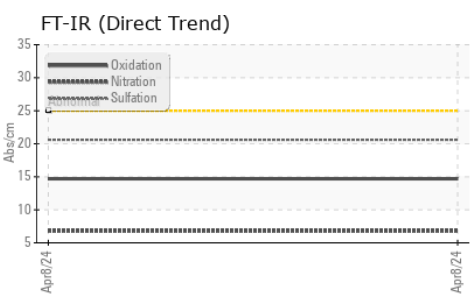
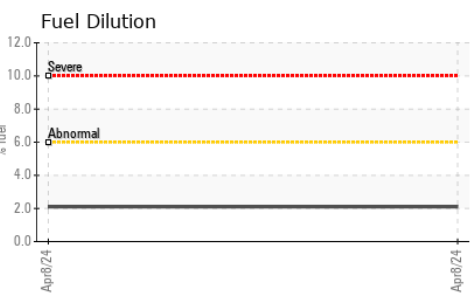
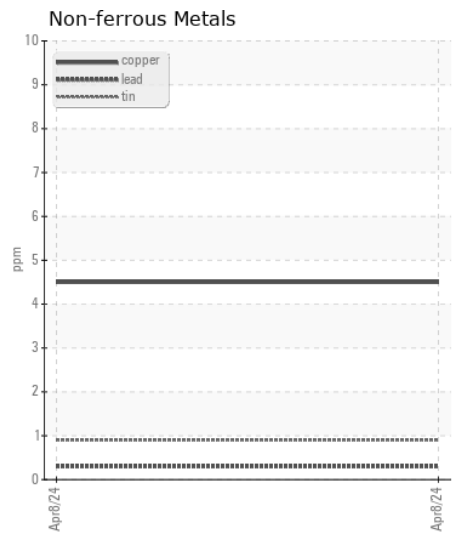
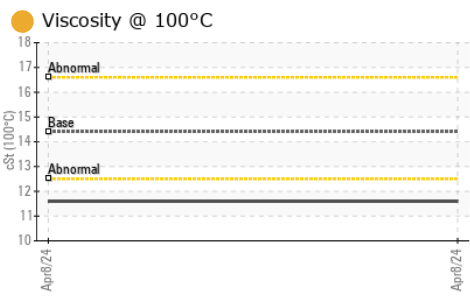
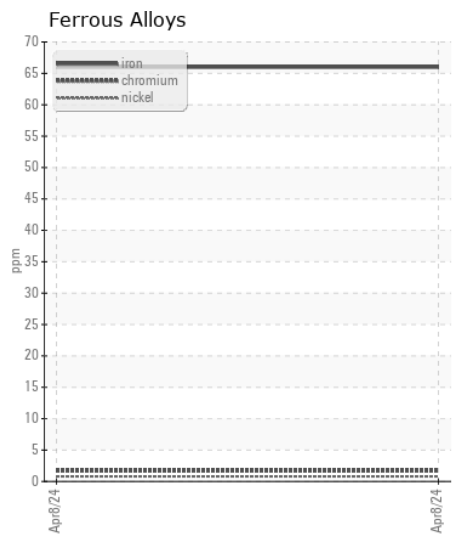
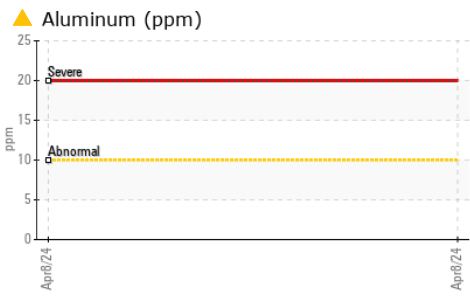
Fuel content negligible. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	11	---	---
Potassium	ppm	ASTM D5185m	>20	2	---	---
Fuel	%	ASTM D3524	>6.0	2.1	---	---
Water		WC Method	>0.1	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.2	---	---
Nitration	Abs/cm	*ASTM D7624	>20	6.8	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.6	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.1	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	>158	<1	---	---
Boron	ppm	ASTM D5185m	250	326	---	---
Barium	ppm	ASTM D5185m	10	2	---	---
Molybdenum	ppm	ASTM D5185m	100	142	---	---
Manganese	ppm	ASTM D5185m		1	---	---
Magnesium	ppm	ASTM D5185m	450	609	---	---
Calcium	ppm	ASTM D5185m	3000	1453	---	---
Phosphorus	ppm	ASTM D5185m	1150	725	---	---
Zinc	ppm	ASTM D5185m	1350	842	---	---
Sulfur	ppm	ASTM D5185m	4250	2711	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.7	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.2	---	---
Visc @ 100°C	cSt	ASTM D445	14.4	● 11.6	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ML0000449 **Received** : 16 Apr 2024
Lab Number : 06149845 **Tested** : 22 Apr 2024
Unique Number : 10979923 **Diagnosed** : 22 Apr 2024 - Jonathan Hester
Test Package : CONST (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)