WEAR CONTAMINATION FLUID CONDITION **NORMAL NORMAL NORMAL**

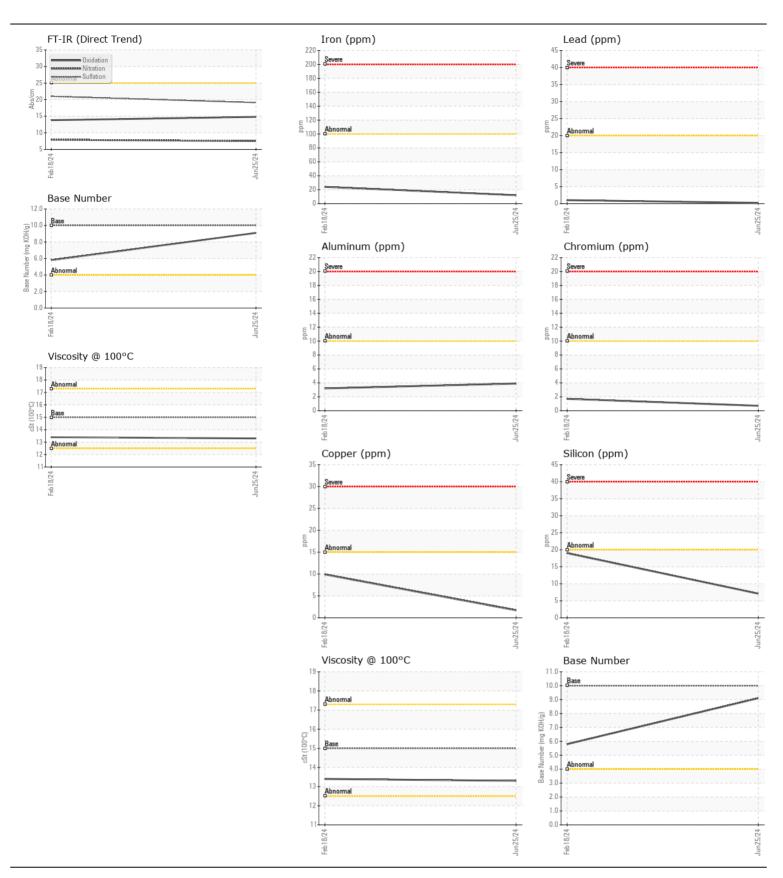


[589948-20]

VOLVO EC220 315909
Component
Diesel Engine

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

				<u>'</u>			
RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor.	Sample Number		Client Info		VCP410050		
	Sample Date		Client Info		25 Jun 2024	18 Feb 2024	
	Machine Age	hrs	Client Info		1238	810	
	Oil Age	hrs	Client Info		400	0	
	Filter Age	hrs	Client Info		0	0	
	Oil Changed		Client Info		Changed	Changed	
	Filter Changed		Client Info		Changed	Changed	
	Sample Status				NORMAL	NORMAL	
WEAR	Iron	ppm	ASTM D5185m	>100	12	24	
All component wear rates are normal.	Chromium	ppm	ASTM D5185m	>10	<1	2	
	Nickel	ppm	ASTM D5185m	>10	1	6	
	Titanium	ppm	ASTM D5185m		<1	<1	
	Silver	ppm	ASTM D5185m	>2	0	0	
	Aluminum	ppm	ASTM D5185m	>10	4	3	
	Lead	ppm	ASTM D5185m		<1	1	
	Copper	ppm	ASTM D5185m	>15	2	10	
	Tin	ppm	ASTM D5185m	>10	<1	3	
	Vanadium	ppm	ASTM D5185m		<1	<1	
	White Metal	scalar	*Visual	NONE	NONE	NONE	
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
CONTAMINATION	Silicon	ppm	ASTM D5185m	>20	7	19	
There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185m		2	4	
	Fuel		WC Method		<1.0	<1.0	
	Water		WC Method	>0.1	NEG	NEG	
	Glycol	21	WC Method	0	NEG	NEG	
	Soot %	%	*ASTM D7844		0.1	0.1	
	Nitration	Abs/cm	*ASTM D7624	>20	7.5	7.9	
	Sulfation	Abs/.1mm	*ASTM D7415		19.1	21.0	
	Silt	scalar	*Visual	NONE	NONE	NONE	
	Debris	scalar	*Visual	NONE	NONE	NONE	
	Sand/Dirt	scalar	*Visual	NONE	NONE NORML	NONE NORML	
	Appearance Odor	scalar scalar	*Visual *Visual	NORML NORML	NORML	NORML	
	Emulsified Water		*Visual	>0.1	NEG	NEG	
<u></u>			Visuai	20.1		INLG	
FLUID CONDITION	Sodium	ppm	ASTM D5185m		5	2	
	Boron	ppm	ASTM D5185m	2.5	6	84	
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.	Barium	ppm	ASTM D5185m	0.0	<1	2	
	Molybdenum	ppm	ASTM D5185m	0.7	61	36	
	Manganese	ppm	ASTM D5185m	0.0	<1	4	
	Magnesium	ppm	ASTM D5185m	256	1009	144	
	Calcium	ppm	ASTM D5185m	2057	1271	1945	
	Phosphorus	ppm	ASTM D5185m	935	1063	885	
	Zinc	ppm	ASTM D5185m	1223	1362	1092	
	Sulfur	ppm	ASTM D5185m	4079	3503	3692	
	Oxidation	Abs/.1mm	*ASTM D7414	>25	14.8	13.8	
	Base Number (BN)	mg KOH/g	ASTM D2896	10	9.1	5.8	
	Visc @ 100°C	cSt	ASTM D445	15.0	13.3	13.4	







Certificate L2367

Laboratory Sample No.

: VCP410050 Lab Number : 06221980 Unique Number : 11100177

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

Tested Diagnosed Test Package : MOB 1 (Additional Tests: TBN)

: 27 Jun 2024 : 28 Jun 2024 - Don Baldridge

: 27 Jun 2024

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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