

OIL ANALYSIS R

Nitration

Sulfation

Area **ENUIKEM** VOLVO EC250E NOUNITWC0940

Diesel Engine

VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

		Samp	le Rating Tre	end		
SIS REPC)RT				N	IORMAL
00040001						
C0940291						
0 VDS-3 (GAL	_)			Jun2024		
SAMPLE INFORM	MATION		limit/base		history1	history2
Sample Number		Client Info		WC0940291		
Sample Date		Client Info		19 Jun 2024		
Machine Age	hrs	Client Info		6461		
Oil Age	hrs	Client Info		500		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	<1.0		
Water		WC Method	>0.1	NEG		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>80	7		
Chromium	ppm	ASTM D5185(m)	>6	<1		
Nickel	ppm	ASTM D5185(m)	>2	<1		
Titanium	ppm	ASTM D5185(m)	>2	0		
Silver	ppm	ASTM D5185(m)	>2	0		
Aluminum	ppm	ASTM D5185(m)	>20	3		
Lead	ppm	ASTM D5185(m)	>95	<1		
Copper	ppm	ASTM D5185(m)	>85	3		
Tin	ppm	ASTM D5185(m)	>9	<1		
Antimony	ppm	ASTM D5185(m)		0		
Vanadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	2.5	37		
Barium	ppm	ASTM D5185(m)	0.0	<1		
Molybdenum	ppm	ASTM D5185(m)	0.7	40		
Manganese	ppm	ASTM D5185(m)	0.0	<1		
Magnesium	ppm	ASTM D5185(m)	256	519		
Calcium	ppm	ASTM D5185(m)	2057	1733		
Phosphorus	ppm	ASTM D5185(m)	935	931		
Zinc	ppm	ASTM D5185(m)	1223	1130		
Sulfur	ppm	ASTM D5185(m)	4079	2462		
Lithium	ppm	ASTM D5185(m)		<1		

CONTAMINAN	rs	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	5		
Sodium	ppm	ASTM D5185(m)		2		
Potassium	ppm	ASTM D5185(m)	>20	2		
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		0		

>20

>30

Abs/cm ASTM D7624*

Abs/.1mm ASTM D7415*

7.9

23.2

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35

30

25 Abs/cm

70

1

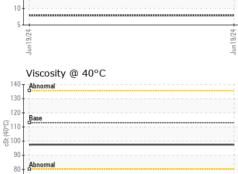
FT-IR (Direct Trend)

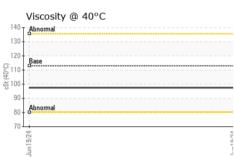
Oxidation

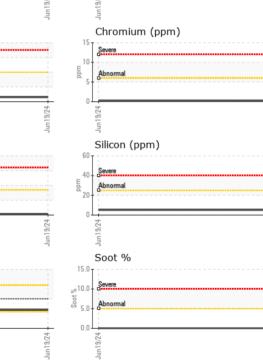
Nitration Sulfation

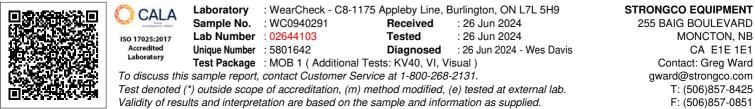
OIL ANALYSIS REPORT

	TION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	21.5		
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	VLITE		
Yellow Metal	scalar	Visual*	NONE	NONE		
Precipitate	scalar	Visual*	NONE	NONE		
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		
Free Water	scalar	Visual*		NEG		
FLUID PROPERTI	ES	method	limit/base	current	history1	history
Visc @ 40°C	cSt	ASTM D7279(m)	113	97.5		
Visc @ 100°C	cSt	ASTM D7279(m)	15.0	13.1		
Viscosity Index (VI)	Scale	ASTM D2270*	138	132		
GRAPHS						
Iron (ppm)			200	Lead (ppm) ⊤Severe		
			150	0		
Abnormal				1		
			톱 100	Abnormal		
£ 50 -			튭 100 50			
50			50			
50			50			
Jun 19/24			50	Jun19/24		
Aluminum (ppm)			Jun 19/24	Chromium (p	pm)	
00 0 40 8 40 1 8 9 8 9 8 9 9 1 8 9 9 9 9 9 9 9 9 9 9			42/61 unl 15	topological test test test test test test test tes	pm)	
Aluminum (ppm)			50 +2261 ung 15	Chromium (p	pm)	
Aluminum (ppm)			42/61 unl 15	Chromium (p)	pm)	
Aluminum (ppm)			10 10 10 10 10 10 10 10 10 10	P261un Chromium (p	pm)	
Aluminum (ppm)			10 10 10 10 10 10 10 10 10 10	P26	pm)	
50 0 40 40 50 40 50 40 50 61 50 61 50 61 61 61 61 61 61 61 61 61 61			50 +2/6 Lun 15 10 42 5 10 5 10 10 5	tzőlun tzőlun tzőlun tzőlun tzőlun tzőlun tzőlun tzőlun tzőlun tzőlun	pm)	
Aluminum (ppm)			10 10 10 10 10 10 10 10 10 10	Chromium (p)	pm)	
Solution Aluminum (ppm) Aluminum (ppm) Abnomal Abnomal Copper (ppm)			500 47061mn 10 10 60	Chromium (p)	pm)	
Aluminum (ppm)			50 +2/61un +2/61un 60 60 60	Chromium (p)	pm)	
Aluminum (ppm) Aluminum (ppm) Aluminum (ppm) Abnomal Abnomal Copper (ppm) Severe			500 47061mn 10 10 60	Chromium (p)	pm)	
Aluminum (ppm) Aluminum (ppm) Aluminum (ppm) Abnomal Copper (ppm) Severe Abnomal Abnomal Abnomal			50 +2/61un +2/61un 60 60 60	Abnormal	pm)	









Viscosity @ 100°C

20

Ba 15

Jun19/24

Abnorm

(100°C)

cst

10

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Contact/Location: Greg Ward - SHE255MON

9/24