



# VOLVO

## OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>ATTENTION</b>



Area  
**[RYAN GOLF]**  
Machine Id  
**VOLVO EC480EL 314822**  
Component  
**Diesel Engine**  
Fluid  
**VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (--- GAL)**

### RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>VCP430171</b>	VCP424527	VCP409288
Sample Date		Client Info		<b>15 Nov 2023</b>	17 Jul 2023	11 Feb 2023
Machine Age	hrs	Client Info		<b>3115</b>	2382	1668
Oil Age	hrs	Client Info		<b>0</b>	500	500
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ATTENTION</b>	ABNORMAL	ABNORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>9</b>	8	7
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>10	<b>1</b>	2	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>10	<b>1</b>	1	<1
Lead	ppm	ASTM D5185m	>20	<b>1</b>	0	2
Copper	ppm	ASTM D5185m	>15	<b>8</b>	▲ 22	▲ 40
Tin	ppm	ASTM D5185m	>10	<b>1</b>	<1	1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

There is no indication of any contamination in the oil.

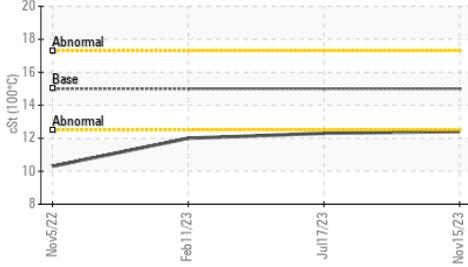
Silicon	ppm	ASTM D5185m	>20	<b>12</b>	13	10
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	0	0
Fuel		WC Method	>6.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.6</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.0</b>	8.3	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.7</b>	21.1	22.3
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

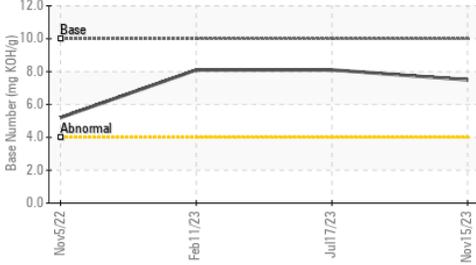
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		<b>0</b>	1	2
Boron	ppm	ASTM D5185m	2.5	<b>6</b>	8	8
Barium	ppm	ASTM D5185m	0.0	<b>&lt;1</b>	<1	0
Molybdenum	ppm	ASTM D5185m	0.7	<b>51</b>	55	51
Manganese	ppm	ASTM D5185m	0.0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	256	<b>491</b>	541	459
Calcium	ppm	ASTM D5185m	2057	<b>1629</b>	1868	1665
Phosphorus	ppm	ASTM D5185m	935	<b>961</b>	1021	890
Zinc	ppm	ASTM D5185m	1223	<b>1130</b>	1276	1136
Sulfur	ppm	ASTM D5185m	4079	<b>3074</b>	3606	3161
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>19.2</b>	18.7	20.0
Base Number (BN)	mg KOH/g	ASTM D2896	10	<b>7.5</b>	8.1	8.1
Visc @ 100°C	cSt	ASTM D445	15.0	▲ <b>12.4</b>	▲ 12.3	▲ 12.0

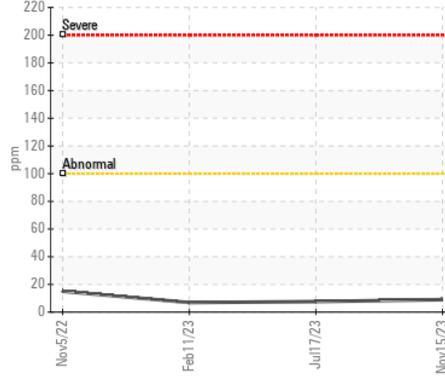
▲ Viscosity @ 100°C



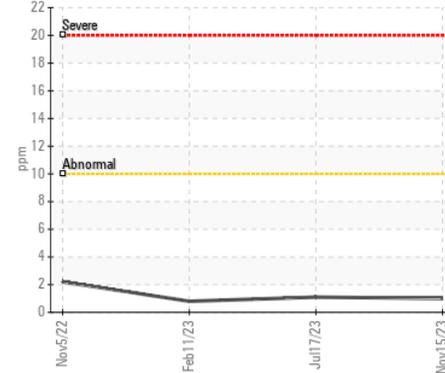
Base Number



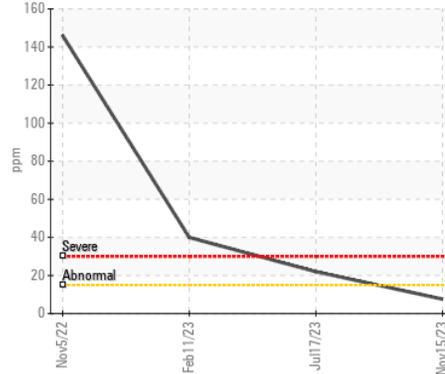
Iron (ppm)



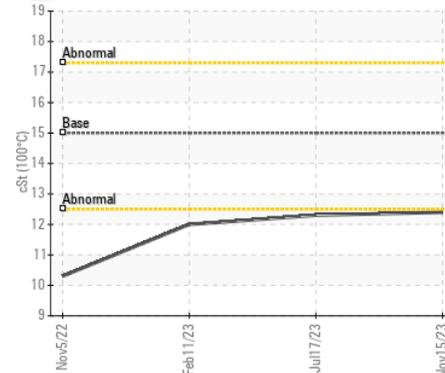
Aluminum (ppm)



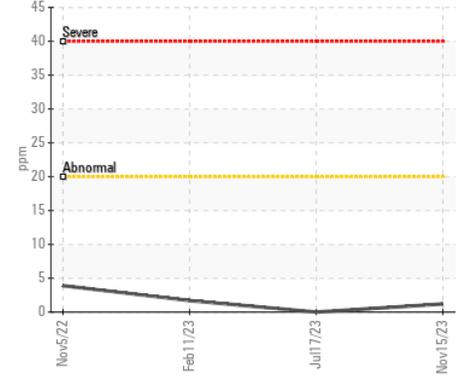
Copper (ppm)



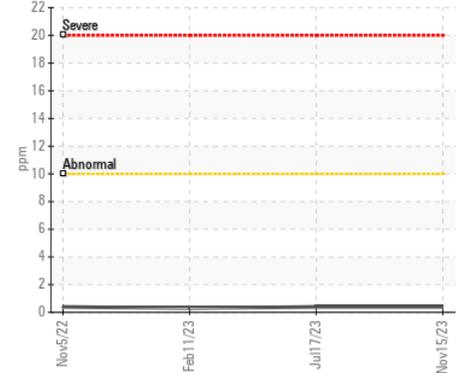
▲ Viscosity @ 100°C



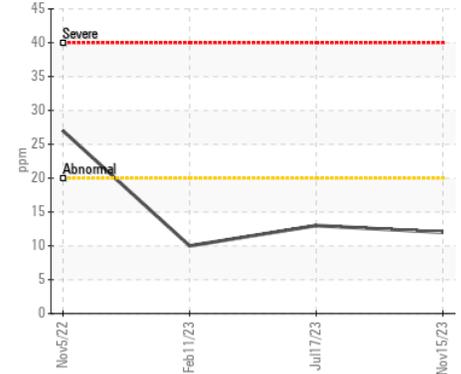
Lead (ppm)



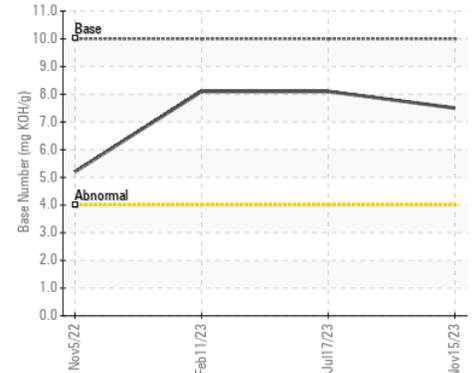
Chromium (ppm)



Silicon (ppm)



Base Number



Certificate L2367

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

Sample No. : VCP430171

Lab Number : 06083330

Unique Number : 10870775

Test Package : MOB 1 ( Additional Tests: TBN )

Received : 08 Feb 2024

Tested : 08 Feb 2024

Diagnosed : 09 Feb 2024 - Don Baldrige

ALTA EQUIPMENT/FLAGLER CONSTRUCTION EQUIPMENT LLC

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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)