



# VOLVO

## OIL ANALYSIS REPORT

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



Machine Id  
**VOLVO L220H 2211**  
Component  
**Diesel Engine**  
Fluid  
**SHELL ROTELLA T3 15W40 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>VCP432418</b>	VCP404566	VCP429286
Sample Date		Client Info		<b>17 Jan 2024</b>	15 Dec 2023	15 Nov 2023
Machine Age	hrs	Client Info		<b>41843</b>	41530	41238
Oil Age	hrs	Client Info		<b>313</b>	292	293
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	N/A	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	<b>3</b>	1	7
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	1
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	1	4
Titanium	ppm	ASTM D5185m		<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>2</b>	1	2
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>20	<b>&lt;1</b>	3	<1
Tin	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

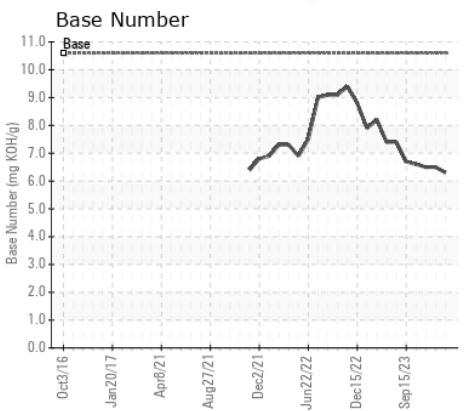
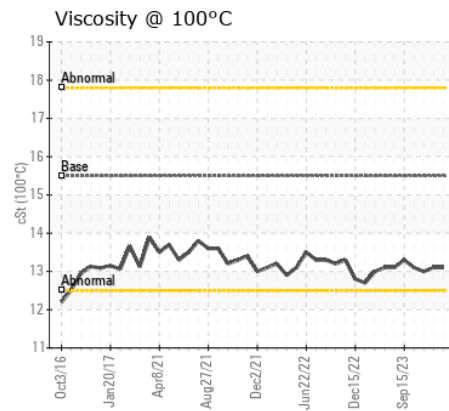
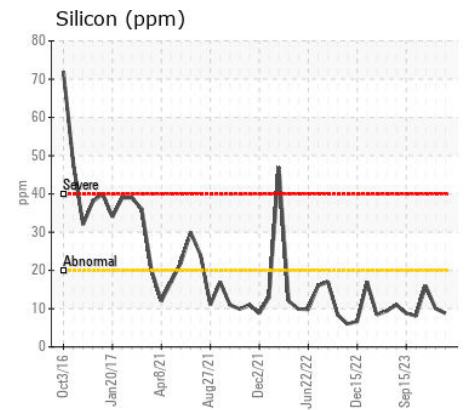
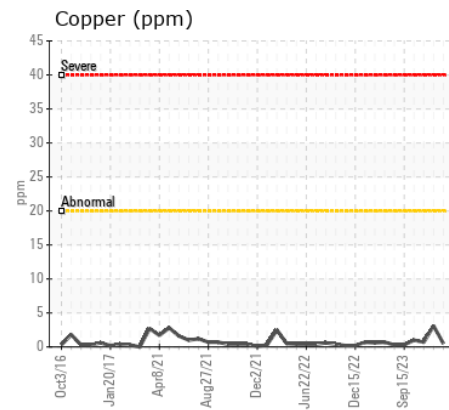
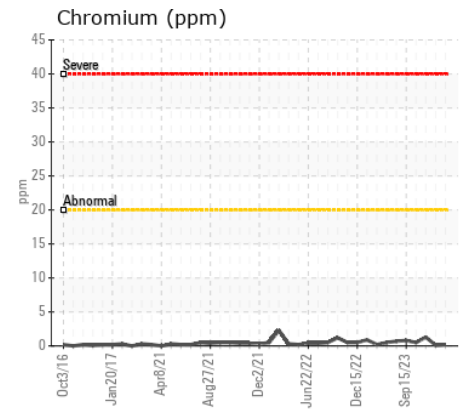
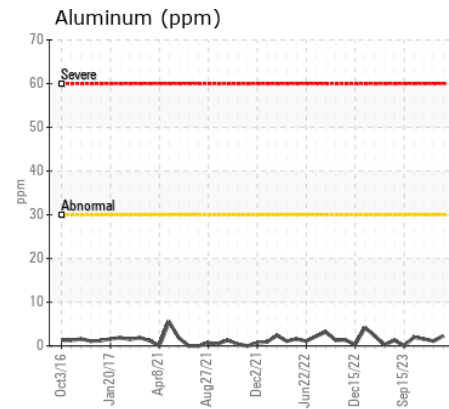
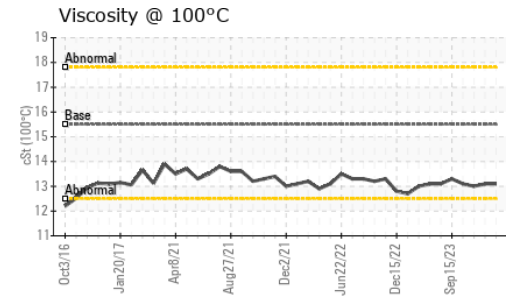
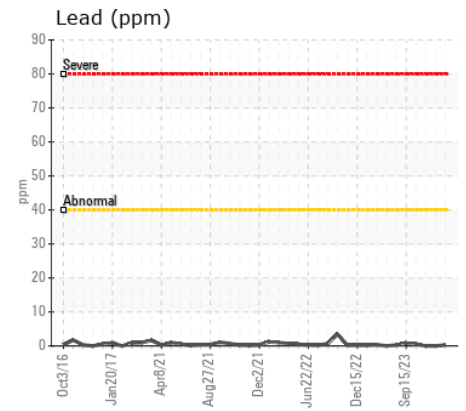
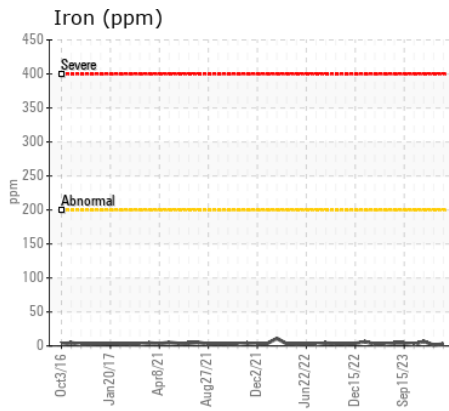
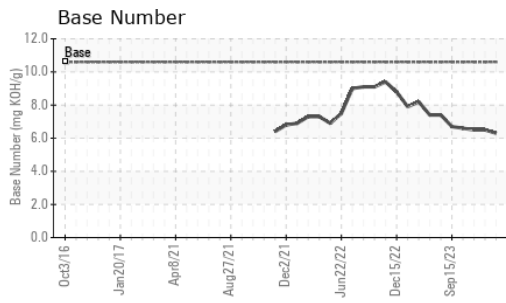
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>9</b>	10	16
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	20	2
Fuel		WC Method	>6.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.6</b>	6.6	6.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.5</b>	17.5	17.9
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	>0.2	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>2</b>	3	0
Boron	ppm	ASTM D5185m	10	<b>17</b>	21	28
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	10	<b>18</b>	24	27
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m	10	<b>92</b>	105	146
Calcium	ppm	ASTM D5185m	2600	<b>2116</b>	2053	2118
Phosphorus	ppm	ASTM D5185m	1050	<b>994</b>	961	902
Zinc	ppm	ASTM D5185m	1250	<b>1141</b>	1092	1077
Sulfur	ppm	ASTM D5185m	3900	<b>3741</b>	3537	3710
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>10.6</b>	10.9	11.3
Base Number (BN)	mg KOH/g	ASTM D2896	10.6	<b>6.3</b>	6.5	6.5
Visc @ 100°C	cSt	ASTM D445	15.5	<b>13.1</b>	13.1	13.0



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VCP432418 **Received** : 19 Jan 2024  
**Lab Number** : 06065284 **Diagnosed** : 20 Jan 2024  
**Unique Number** : 10836666 **Diagnostician** : Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**COVANTA ENERGY**  
 141 CRANBERRY HWY  
 WEST WAREHAM, MA  
 US 02576  
 Contact: SAWYER  
 ssawyer@woodcomachinery.com

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)

T:  
F: