



# VOLVO

## OIL ANALYSIS REPORT

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



Machine Id  
**VOLVO L220H 3440**  
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>VCP404569</b>	VCP404561	VCP431636
Sample Date		Client Info		<b>27 Dec 2023</b>	08 Dec 2023	22 Nov 2023
Machine Age	hrs	Client Info		<b>6733</b>	6478	6176
Oil Age	hrs	Client Info		<b>255</b>	302	287
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>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>2</b>	3	3
Chromium	ppm	ASTM D5185m	>10	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>10	<b>&lt;1</b>	1	1
Lead	ppm	ASTM D5185m	>20	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>15	<b>0</b>	<1	<1
Tin	ppm	ASTM D5185m	>10	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

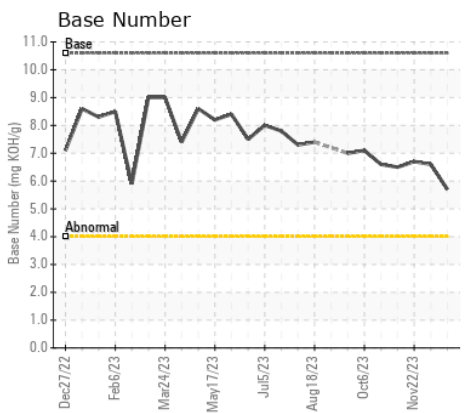
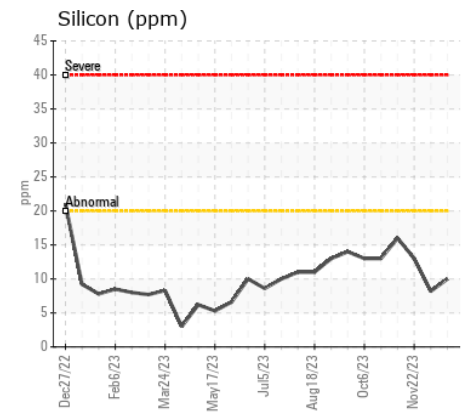
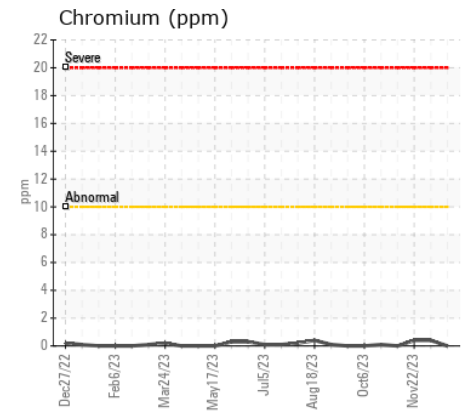
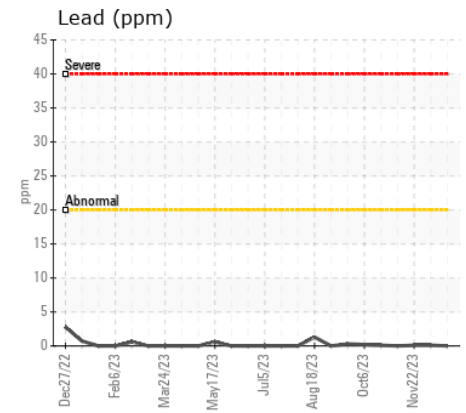
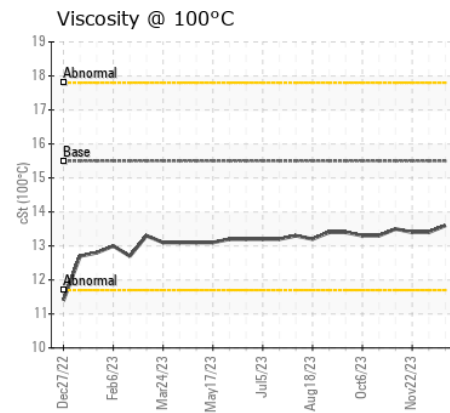
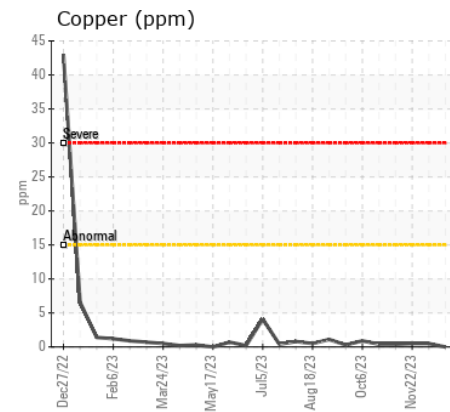
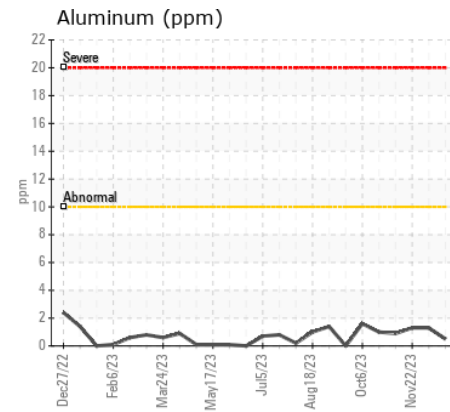
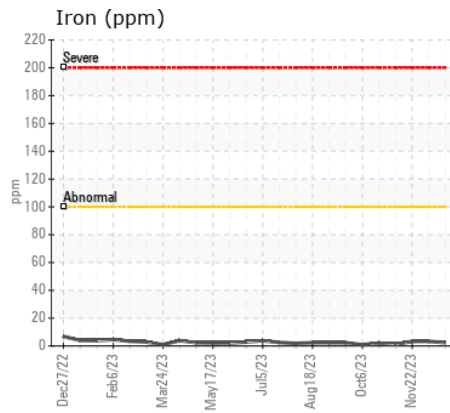
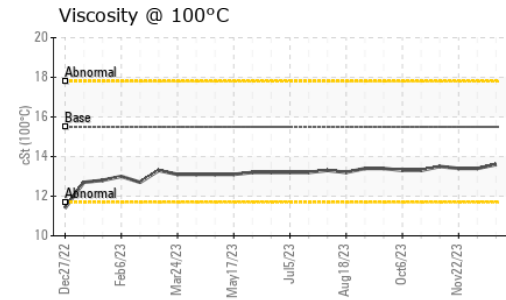
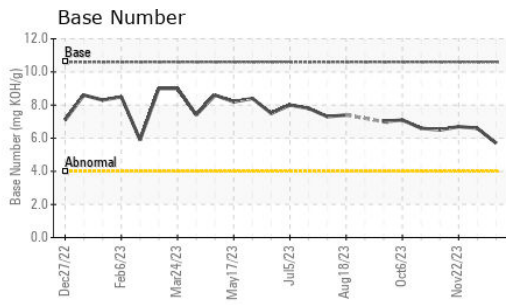
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>10</b>	8	13
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	2	2
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>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.5</b>	6.5	6.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.7</b>	17.4	17.4
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 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>1</b>	1	1
Boron	ppm	ASTM D5185m	10	<b>18</b>	18	22
Barium	ppm	ASTM D5185m	0	<b>0</b>	11	11
Molybdenum	ppm	ASTM D5185m	10	<b>17</b>	18	21
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	10	<b>81</b>	78	94
Calcium	ppm	ASTM D5185m	2600	<b>2102</b>	2264	2259
Phosphorus	ppm	ASTM D5185m	1050	<b>973</b>	908	944
Zinc	ppm	ASTM D5185m	1250	<b>1131</b>	1104	1126
Sulfur	ppm	ASTM D5185m	3900	<b>3663</b>	4334	4155
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>10.1</b>	10.5	10.7
Base Number (BN)	mg KOH/g	ASTM D2896	10.6	<b>5.7</b>	6.6	6.7
Visc @ 100°C	cSt	ASTM D445	15.5	<b>13.6</b>	13.4	13.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VCP404569 **Received** : 16 Jan 2024  
**Lab Number** : 06060660 **Diagnosed** : 16 Jan 2024  
**Unique Number** : 10832042 **Diagnostician** : Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: TBN )

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)

**COVANTA ENERGY**  
 141 CRANBERRY HWY  
 WEST WAREHAM, MA  
 US 02576

Contact: SAWYER  
 ssawyer@woodcomachinery.com

T:  
 F: