



# VOLVO

## OIL ANALYSIS REPORT

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



Area  
**[W07014112]**  
Machine Id  
**VOLVO L220H 3091**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>VCP409436</b>	VCP222093	VCP263205
Sample Date		Client Info		<b>10 Jan 2024</b>	08 Jun 2020	01 Apr 2020
Machine Age	hrs	Client Info		<b>11633</b>	3208	3160
Oil Age	hrs	Client Info		<b>0</b>	100	226
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Changed</b>	Not Changd	N/A
Sample Status				<b>NORMAL</b>	NORMAL	SEVERE

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	<b>4</b>	52	48
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	<1	2
Titanium	ppm	ASTM D5185m		<b>62</b>	24	86
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>1</b>	2	▲ 29
Lead	ppm	ASTM D5185m	>40	<b>0</b>	<1	11
Copper	ppm	ASTM D5185m	>20	<b>&lt;1</b>	6	19
Tin	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	0
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

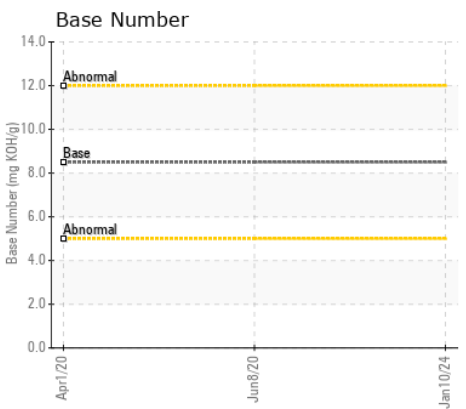
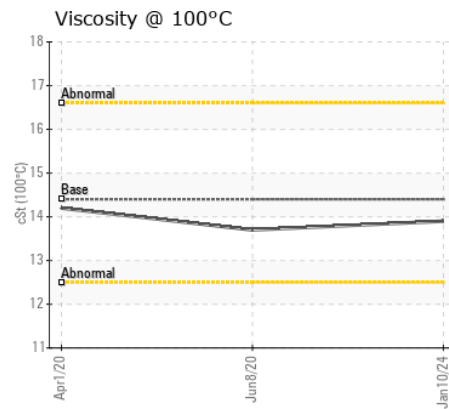
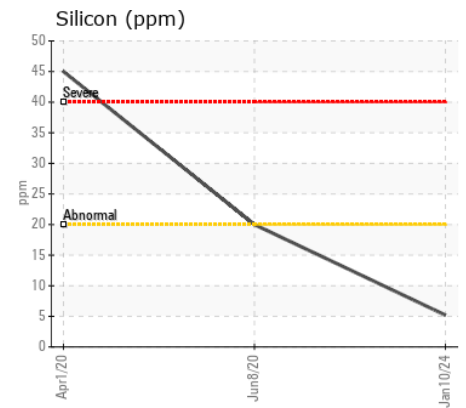
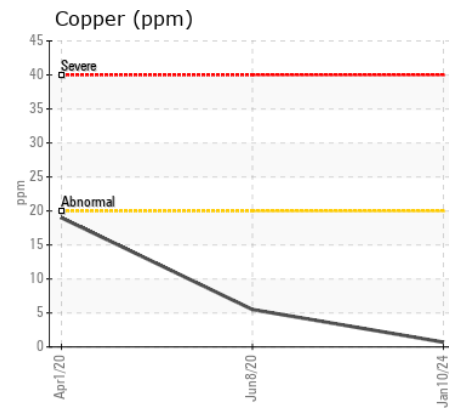
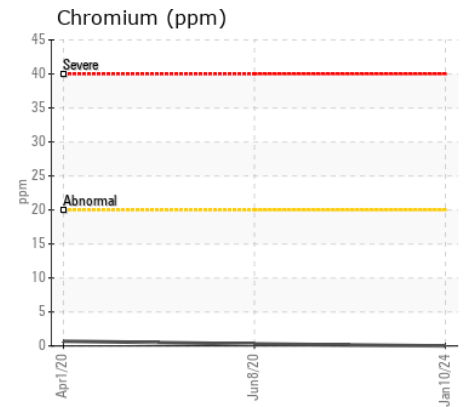
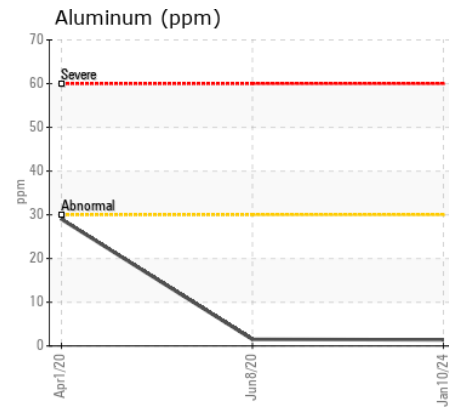
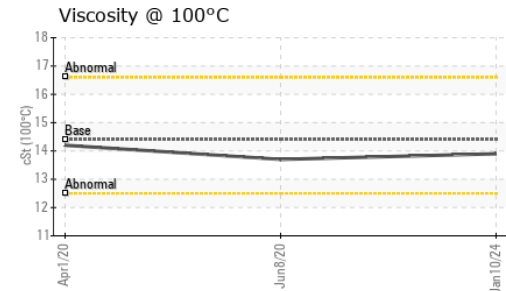
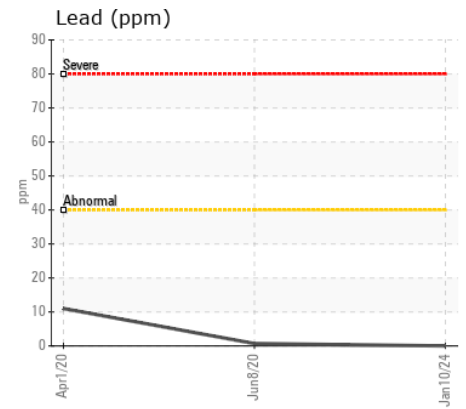
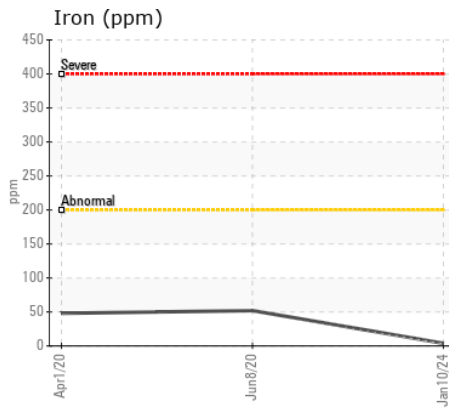
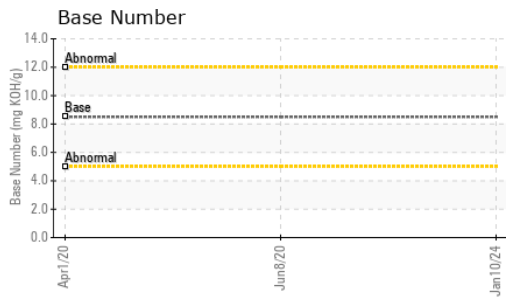
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>5</b>	20	◆ 45
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	3	11
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>8.3</b>	4.9	6.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.8</b>	19.9	19.9
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	>158	<b>3</b>	2	7
Boron	ppm	ASTM D5185m	250	<b>109</b>	55	110
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>17</b>	34	4
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	3	2
Magnesium	ppm	ASTM D5185m	450	<b>418</b>	361	455
Calcium	ppm	ASTM D5185m	3000	<b>1797</b>	1551	1936
Phosphorus	ppm	ASTM D5185m	1150	<b>1029</b>	938	1022
Zinc	ppm	ASTM D5185m	1350	<b>1217</b>	986	1169
Sulfur	ppm	ASTM D5185m	4250	<b>3687</b>	2668	3466
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.0</b>	15.1	14.8
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>7.7</b>	---	---
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.9</b>	13.7	14.2



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VCP409436 **Received** : 17 Jan 2024  
**Lab Number** : 06062309 **Diagnosed** : 18 Jan 2024  
**Unique Number** : 10833691 **Diagnostician** : Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**MORGAN LUMBER**  
 628 JEB STUART HWY  
 RED OAK, VA  
 US 23964  
 Contact: Service Manager

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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F: