



# ASCENDUM

## OIL ANALYSIS REPORT

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



Area  
**Ascendum Machinery**  
Machine Id  
**VOLVO EC220E EX-6 (S/N 314304)**  
Component  
**Diesel Engine**  
Fluid  
**VOLVO VDS-4.5 Premium Motor Oil 15W40 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>ASC0007780</b>	ASC0001065	VCP0006368
Sample Date		Client Info		<b>19 Mar 2024</b>	15 Aug 2023	28 Mar 2023
Machine Age	hrs	Client Info		<b>4992</b>	4492	4024
Oil Age	hrs	Client Info		<b>500</b>	468	472
Filter Age	hrs	Client Info		<b>0</b>	0	472
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>19</b>	19	17
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>10	<b>3</b>	4	3
Lead	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m	>15	<b>1</b>	2	1
Tin	ppm	ASTM D5185m	>10	<b>1</b>	1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

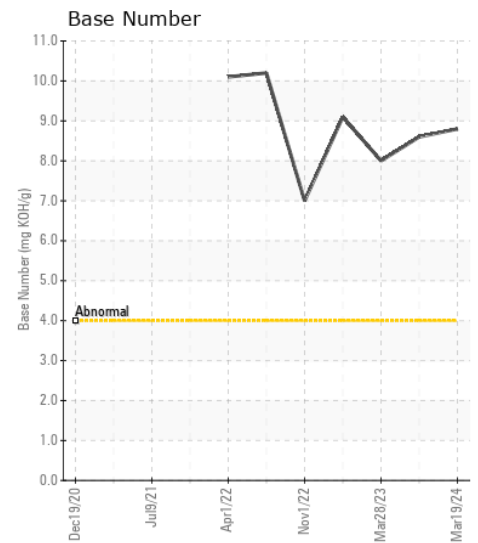
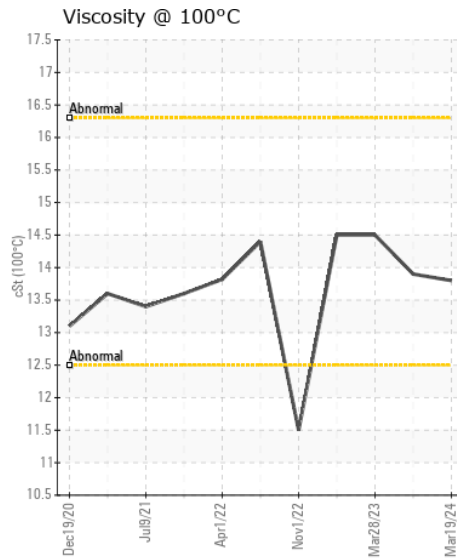
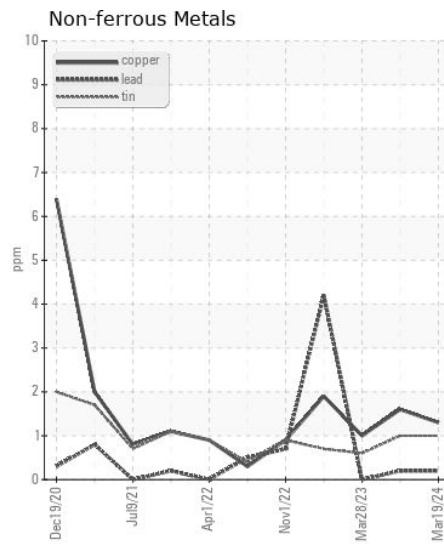
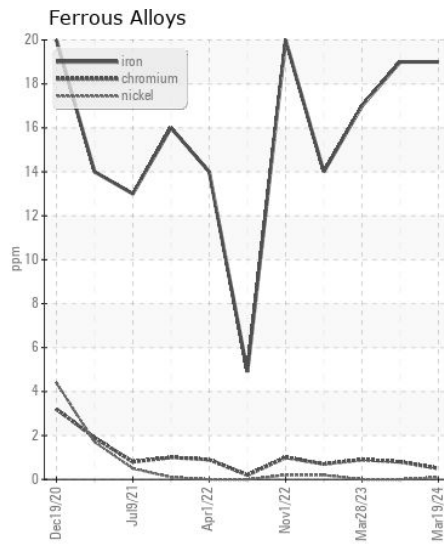
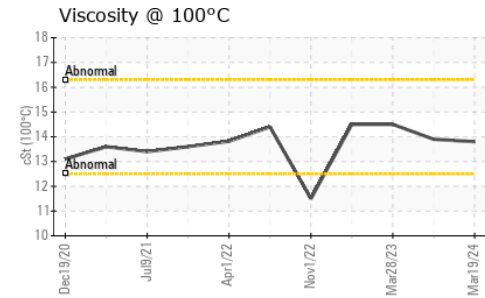
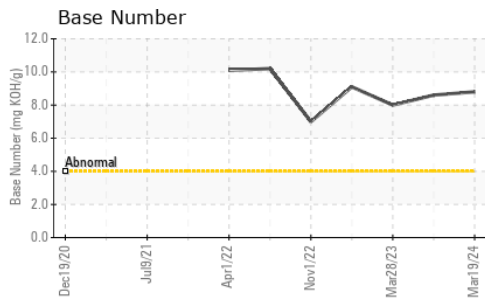
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>8</b>	10	10
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	1	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>0.2</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.2</b>	11.4	10.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>24.2</b>	23.6	21.1
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>0</b>	3	1
Boron	ppm	ASTM D5185m		<b>38</b>	30	15
Barium	ppm	ASTM D5185m		<b>5</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>46</b>	52	65
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	1
Magnesium	ppm	ASTM D5185m		<b>528</b>	686	899
Calcium	ppm	ASTM D5185m		<b>1928</b>	1733	1270
Phosphorus	ppm	ASTM D5185m		<b>1044</b>	1029	1001
Zinc	ppm	ASTM D5185m		<b>1222</b>	1289	1149
Sulfur	ppm	ASTM D5185m		<b>3346</b>	3744	3042
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>26.1</b>	24.3	19.7
Base Number (BN)	mg KOH/g	ASTM D2896		<b>8.8</b>	8.6	8.0
Visc @ 100°C	cSt	ASTM D445		<b>13.8</b>	13.9	14.5



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : ASC0007780  
**Lab Number** : 06124742  
**Unique Number** : 10938893  
**Test Package** : CONST ( Additional Tests: TBN )

**Received** : 21 Mar 2024  
**Tested** : 22 Mar 2024  
**Diagnosed** : 24 Mar 2024 - Don Baldrige

**CAROLINA EXCAVATING**  
 1036 BRANCHVIEW DR, SUITE 106  
 CONCORD, NC  
 US 28025  
 Contact: KEVIN LADGERWOOD  
 kevin@carlinaexcavation.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)

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F: