



# ASCENDUM

## OIL ANALYSIS REPORT

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

Area

### Ascendum Machinery

Machine Id

### VOLVO EC250E EX-10 (S/N 314019)

Component

### Diesel Engine

Fluid

### VOLVO VDS-4.5 Premium Motor Oil 15W40 (9 GAL)

#### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>ASC0008353</b>	ASC0005205	ASC0001094
Sample Date		Client Info		<b>01 Jul 2024</b>	21 Nov 2023	15 Aug 2023
Machine Age	hrs	Client Info		<b>3493</b>	3000	2539
Oil Age	hrs	Client Info		<b>493</b>	461	488
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>18</b>	8	9
Chromium	ppm	ASTM D5185m	>10	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>10	<b>11</b>	6	10
Lead	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185m	>15	<b>4</b>	2	1
Tin	ppm	ASTM D5185m	>10	<b>2</b>	<1	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.

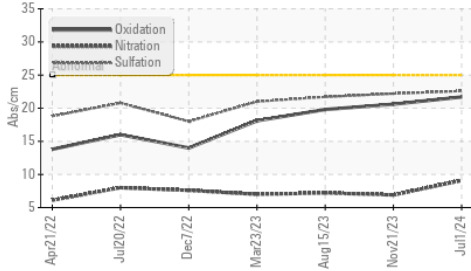
Silicon	ppm	ASTM D5185m	>20	<b>12</b>	9	9
Potassium	ppm	ASTM D5185m	>20	<b>12</b>	7	10
Fuel		WC Method	>6.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.1</b>	6.9	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.6</b>	22.2	21.7
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

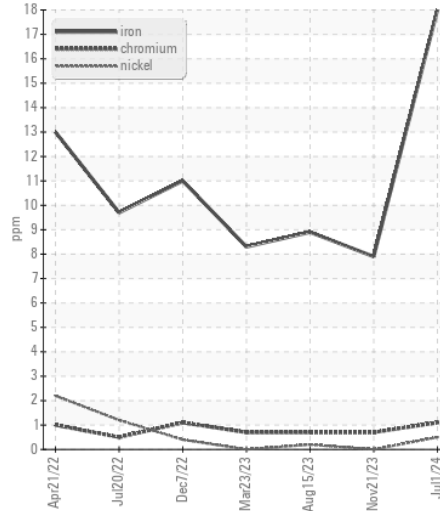
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		<b>0</b>	3	3
Boron	ppm	ASTM D5185m		<b>49</b>	35	31
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>46</b>	38	42
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>506</b>	492	560
Calcium	ppm	ASTM D5185m		<b>1767</b>	1606	1690
Phosphorus	ppm	ASTM D5185m		<b>975</b>	947	956
Zinc	ppm	ASTM D5185m		<b>1199</b>	1100	1176
Sulfur	ppm	ASTM D5185m		<b>2852</b>	2780	3646
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>21.7</b>	20.6	19.8
Base Number (BN)	mg KOH/g	ASTM D2896		<b>9.7</b>	10.4	10.2
Visc @ 100°C	cSt	ASTM D445		<b>13.5</b>	13.1	12.9

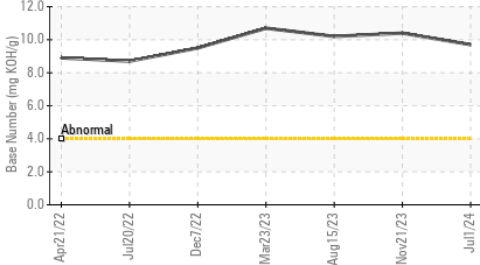
**FT-IR (Direct Trend)**



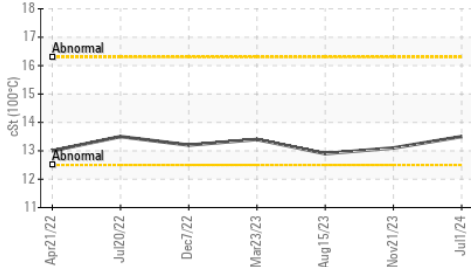
**Ferrous Alloys**



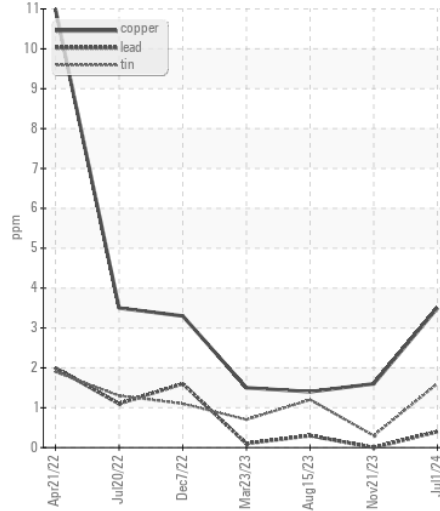
**Base Number**



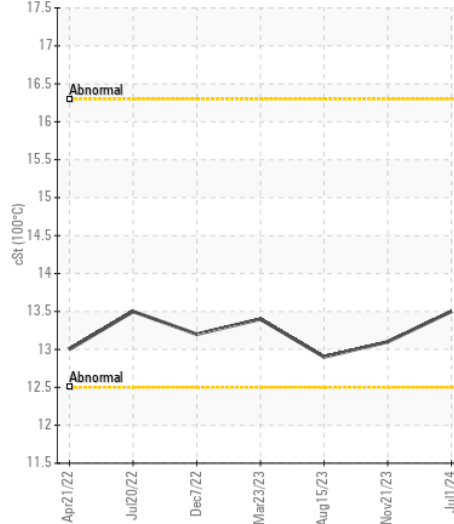
**Viscosity @ 100°C**



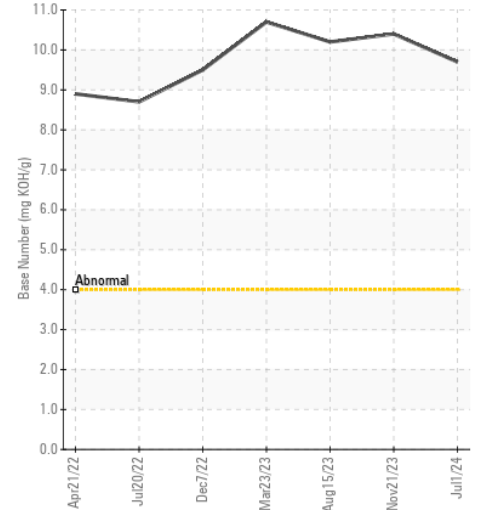
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : ASC0008353 **Received** : 18 Jul 2024  
**Lab Number** : 06239835 **Tested** : 18 Jul 2024  
**Unique Number** : 11128669 **Diagnosed** : 19 Jul 2024 - Sean Felton  
**Test Package** : CONST ( Additional Tests: TBN )

**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: