



# ASCENDUM

## OIL ANALYSIS REPORT

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

Area

**Ascendum Machinery**

Machine Id

**VOLVO EC220E 310380**

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>ASC0009928</b>	ASC0000442	VCP360852
Sample Date		Client Info		<b>07 May 2024</b>	14 Jun 2023	12 May 2022
Machine Age	hrs	Client Info		<b>4432</b>	4052	3458
Oil Age	hrs	Client Info		<b>380</b>	594	0
Filter Age	hrs	Client Info		<b>0</b>	594	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>9</b>	4	54
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>10	<b>3</b>	5	10
Lead	ppm	ASTM D5185m	>20	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>15	<b>3</b>	2	1
Tin	ppm	ASTM D5185m	>10	<b>&lt;1</b>	1	<1
Vanadium	ppm	ASTM D5185m		<b>0</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.

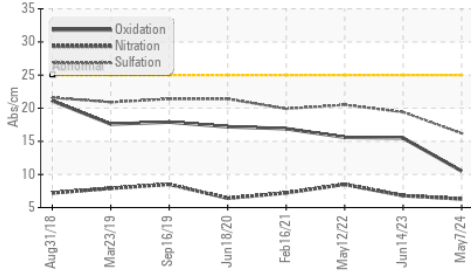
Silicon	ppm	ASTM D5185m	>20	<b>4</b>	5	8
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	2	4
Fuel		WC Method	>6.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.3</b>	6.8	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.2</b>	19.4	20.5
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

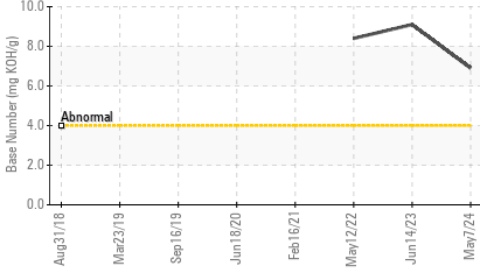
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>1</b>	<1	<1
Boron	ppm	ASTM D5185m		<b>13</b>	11	87
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>19</b>	54	14
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>294</b>	956	202
Calcium	ppm	ASTM D5185m		<b>1842</b>	1295	2252
Phosphorus	ppm	ASTM D5185m		<b>917</b>	1101	1066
Zinc	ppm	ASTM D5185m		<b>1044</b>	1363	1303
Sulfur	ppm	ASTM D5185m		<b>3924</b>	4190	3420
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>10.5</b>	15.5	15.6
Base Number (BN)	mg KOH/g	ASTM D2896		<b>6.9</b>	9.1	8.4
Visc @ 100°C	cSt	ASTM D445		<b>13.6</b>	14.7	14.4

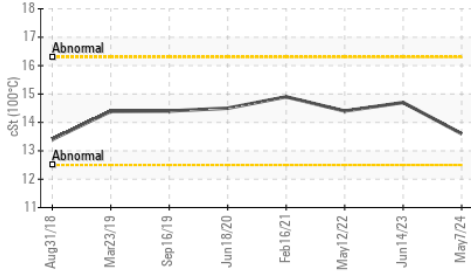
FT-IR (Direct Trend)



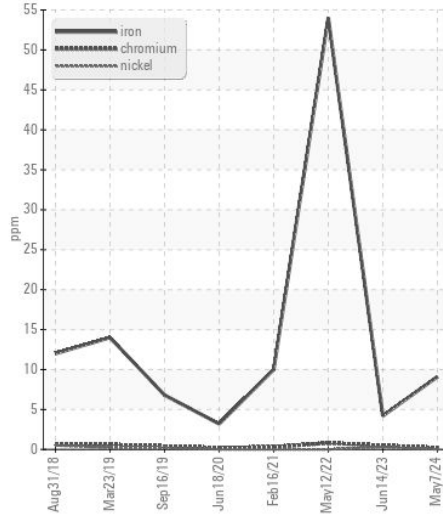
Base Number



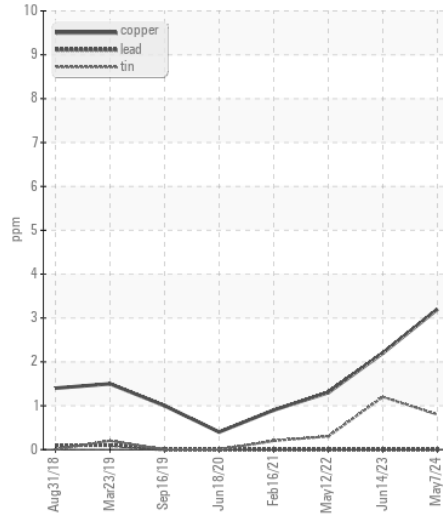
Viscosity @ 100°C



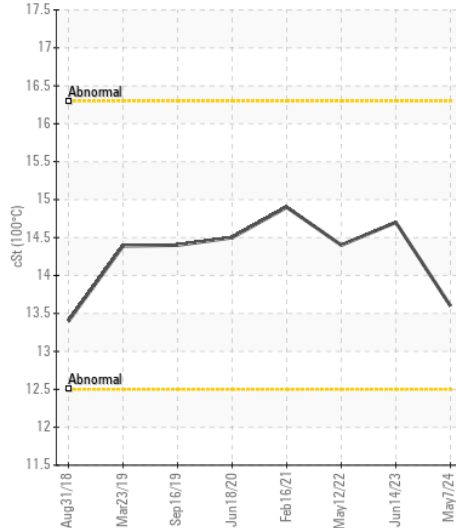
Ferrous Alloys



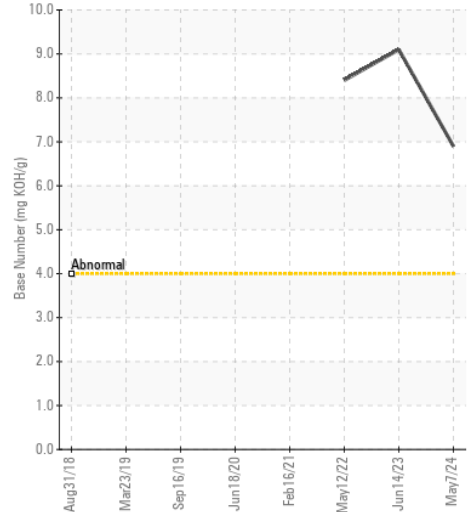
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : ASC0009928 **Received** : 13 May 2024  
**Lab Number** : 06176686 **Tested** : 14 May 2024  
**Unique Number** : 11022739 **Diagnosed** : 14 May 2024 - Sean Felton  
**Test Package** : CONST ( Additional Tests: TBN )

**BRS INC**  
 208 STATE HWY 49  
 RICHFIELD, NC  
 US 28137  
 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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