



# ASCENDUM

## OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area

**Ascendum Machinery**

Machine Id

**VOLVO L180H 5388**

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>ASC0008236</b>	ASC0005408	ASC0000392
Sample Date		Client Info		<b>16 Jul 2024</b>	02 Oct 2023	08 May 2023
Machine Age	hrs	Client Info		<b>5014</b>	4068	3665
Oil Age	hrs	Client Info		<b>946</b>	403	624
Filter Age	hrs	Client Info		<b>0</b>	0	624
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>6</b>	4	5
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
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>4</b>	0	0
Lead	ppm	ASTM D5185m	>20	<b>1</b>	<1	1
Copper	ppm	ASTM D5185m	>15	<b>3</b>	2	4
Tin	ppm	ASTM D5185m	>10	<b>1</b>	<1	1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<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.

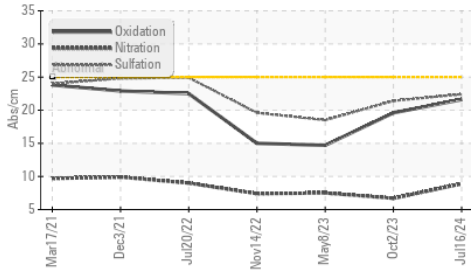
Silicon	ppm	ASTM D5185m	>20	<b>4</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	0	4
Fuel		WC Method	>6.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.2</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.9</b>	6.7	7.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.4</b>	21.4	18.5
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

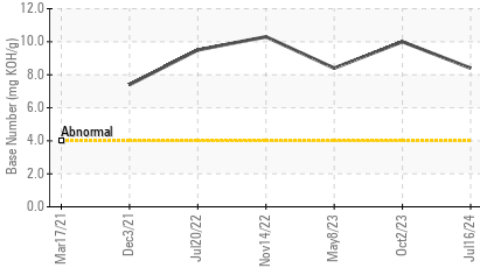
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>0</b>	1	3
Boron	ppm	ASTM D5185m		<b>39</b>	45	5
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>42</b>	45	63
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>488</b>	565	945
Calcium	ppm	ASTM D5185m		<b>1652</b>	1624	1068
Phosphorus	ppm	ASTM D5185m		<b>918</b>	939	1052
Zinc	ppm	ASTM D5185m		<b>1093</b>	1144	1279
Sulfur	ppm	ASTM D5185m		<b>2635</b>	3036	3831
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>21.6</b>	19.6	14.7
Base Number (BN)	mg KOH/g	ASTM D2896		<b>8.4</b>	10.0	8.4
Visc @ 100°C	cSt	ASTM D445		<b>12.7</b>	12.4	13.1

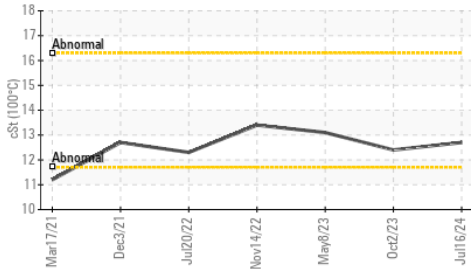
FT-IR (Direct Trend)



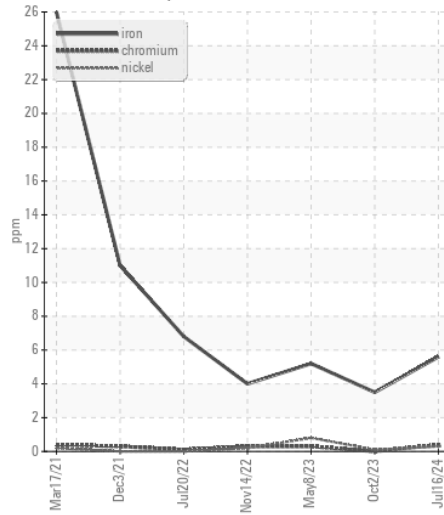
Base Number



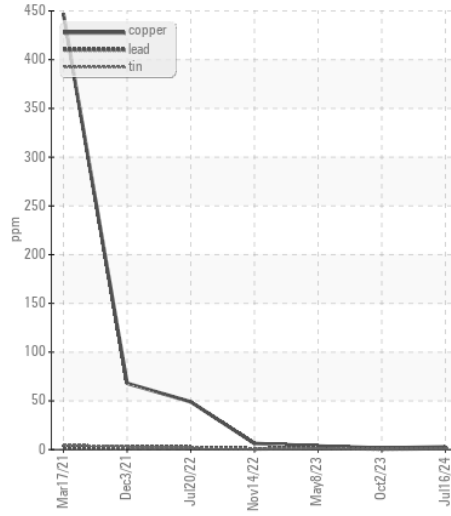
Viscosity @ 100°C



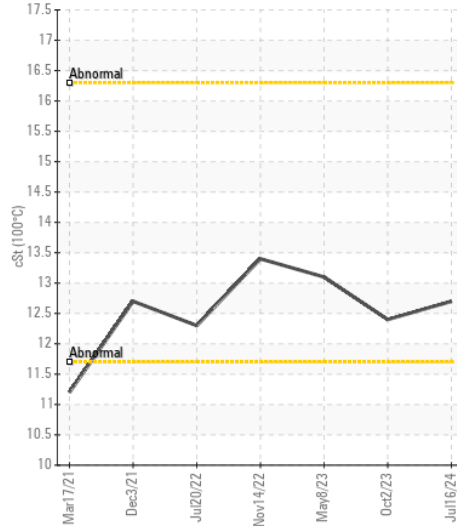
Ferrous Alloys



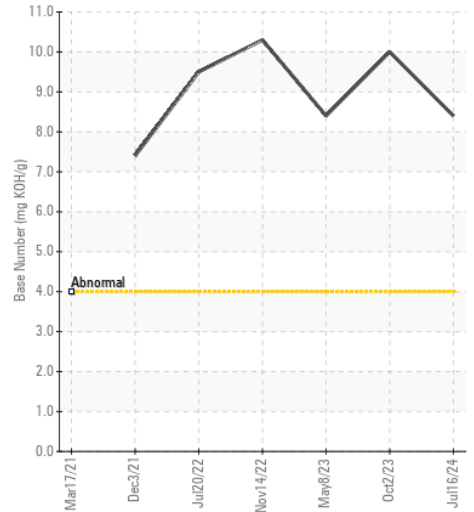
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : ASC0008236 **Received** : 18 Jul 2024  
**Lab Number** : 06239831 **Tested** : 18 Jul 2024  
**Unique Number** : 11128665 **Diagnosed** : 18 Jul 2024 - Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

**IMERYS CARBONATES USA INC**  
 102 CONCEPT DR  
 KINGS MOUNTAIN, NC  
 US 28086  
 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: