



ASCENDUM

OIL ANALYSIS REPORT



Area
Ascendum Machinery
Machine Id
VOLVO EC380E 315145
Component
Diesel Engine
Fluid
VOLVO VDS-4.5 Premium Motor Oil 15W40 (--- GAL)

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		ASC0007607	VCP420566	VCP0004601
Sample Date		Client Info		27 Feb 2024	02 Oct 2023	20 Sep 2022
Machine Age	hrs	Client Info		1421	1140	485
Oil Age	hrs	Client Info		281	0	485
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ATTENTION	ABNORMAL

WEAR

The copper level has decreased, but is still abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	2	8	12
Chromium	ppm	ASTM D5185m	>10	<1	0	<1
Nickel	ppm	ASTM D5185m	>10	<1	0	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>10	2	2	3
Lead	ppm	ASTM D5185m	>20	<1	2	5
Copper	ppm	ASTM D5185m	>15	▲ 30	▲ 68	▲ 275
Tin	ppm	ASTM D5185m	>10	<1	2	3
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

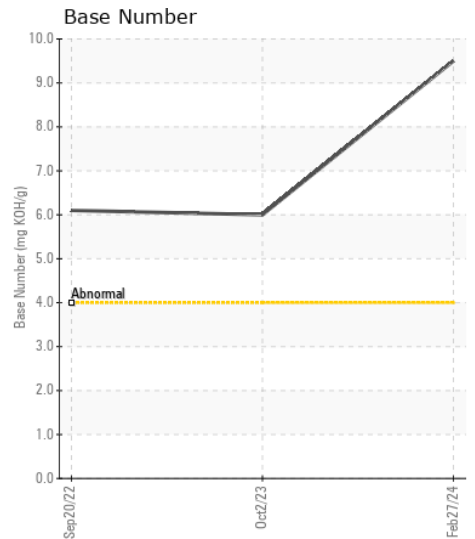
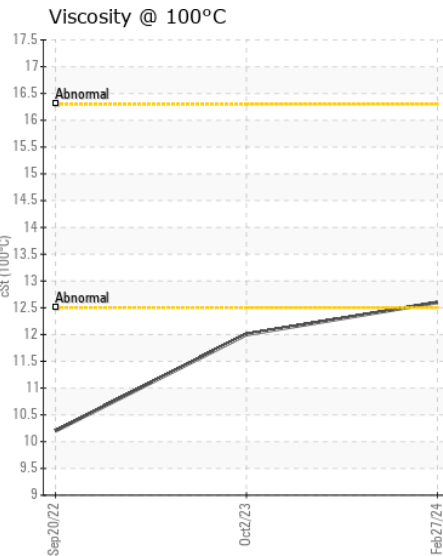
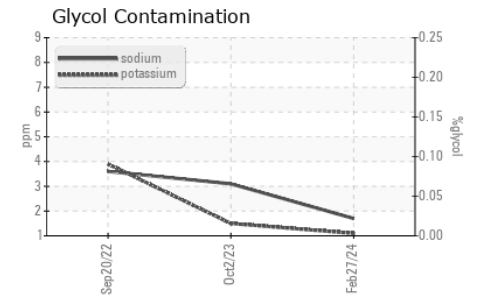
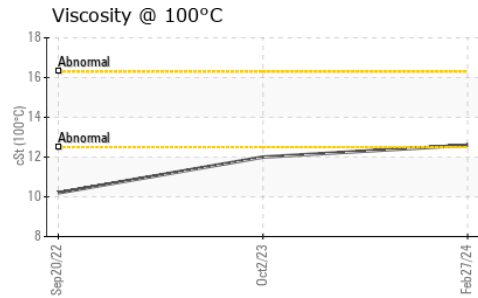
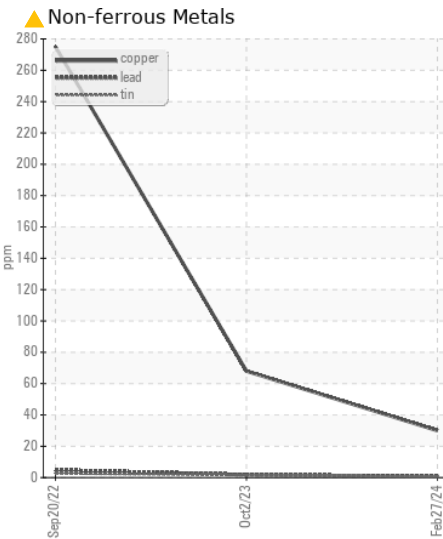
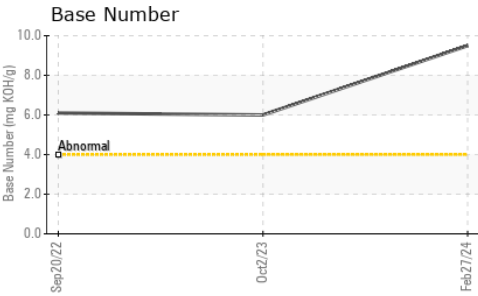
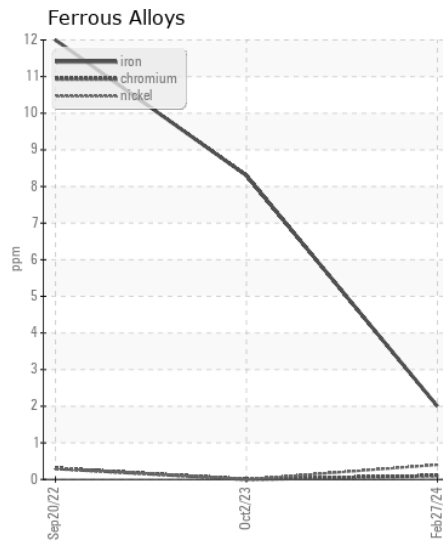
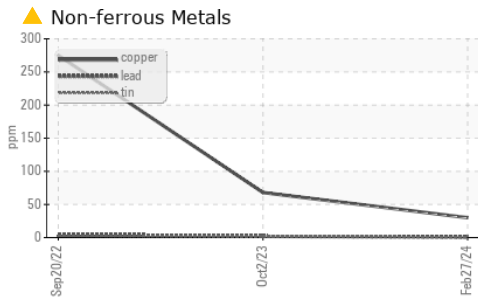
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	5	11	30
Potassium	ppm	ASTM D5185m	>20	1	2	4
Fuel		WC Method	>6.0	<1.0	<1.0	0.8
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	6.4	9.0	10.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.0	20.5	22.0
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	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		2	3	4
Boron	ppm	ASTM D5185m		46	0	21
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		40	68	85
Manganese	ppm	ASTM D5185m		<1	1	3
Magnesium	ppm	ASTM D5185m		545	910	16
Calcium	ppm	ASTM D5185m		1548	1362	2219
Phosphorus	ppm	ASTM D5185m		921	897	922
Zinc	ppm	ASTM D5185m		1141	1269	1141
Sulfur	ppm	ASTM D5185m		1818	2633	3878
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.8	16.5	18.1
Base Number (BN)	mg KOH/g	ASTM D2896		9.5	6.0	6.1
Visc @ 100°C	cSt	ASTM D445		12.6	● 12.0	● 10.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ASC0007607 **Received** : 29 Feb 2024
Lab Number : 06104958 **Tested** : 04 Mar 2024
Unique Number : 10903188 **Diagnosed** : 04 Mar 2024 - Sean Felton
Test Package : CONST (Additional Tests: Glycol, TBN)

CD PHILEMON GRADING AND TRUCKING INC
 3512 TARLTON MILL RD
 MARSHVILLE, NC
 US 28174
 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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