



VOLVO

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
VOLVO A40G 352987
Component
Diesel Engine
Fluid
VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VCP438586	VCP434932	VCP406801
Sample Date		Client Info		15 Apr 2024	29 Sep 2023	27 Jun 2023
Machine Age	hrs	Client Info		3943	3262	2662
Oil Age	hrs	Client Info		0	0	0
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	NORMAL	ATTENTION

WEAR

Valve wear is indicated.

Iron	ppm	ASTM D5185m	>100	9	7	10
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	▲ 5	<1	2
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>25	4	<1	<1
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	19	6	31
Tin	ppm	ASTM D5185m	>15	1	1	1
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.

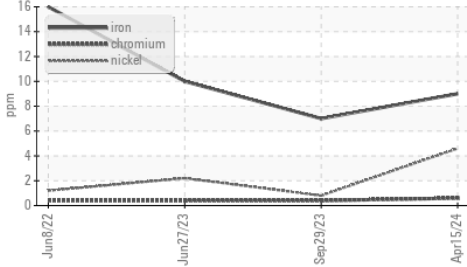
Silicon	ppm	ASTM D5185m	>25	7	6	6
Potassium	ppm	ASTM D5185m	>20	2	<1	1
Fuel	%	ASTM D3524	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	8.1	8.1	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.1	21.8	21.2
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	>0.2	NEG	NEG	NEG

FLUID CONDITION

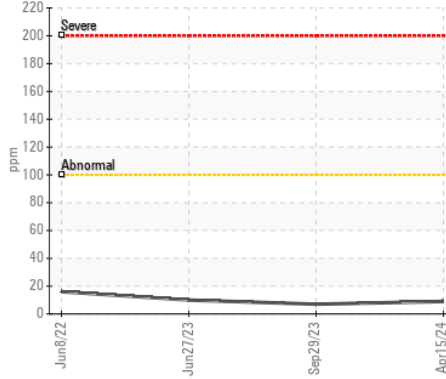
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		2	2	<1
Boron	ppm	ASTM D5185m	2.5	29	27	24
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	0.7	48	49	50
Manganese	ppm	ASTM D5185m	0.0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	256	482	558	635
Calcium	ppm	ASTM D5185m	2057	1600	1711	1568
Phosphorus	ppm	ASTM D5185m	935	924	918	857
Zinc	ppm	ASTM D5185m	1223	1063	1104	1063
Sulfur	ppm	ASTM D5185m	4079	2957	2920	2912
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.4	20.0	17.5
Base Number (BN)	mg KOH/g	ASTM D2896	10	8.7	9.3	8.1
Visc @ 100°C	cSt	ASTM D445	15.0	12.4	12.5	● 11.7

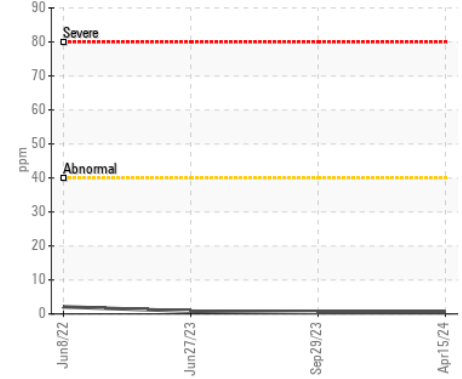
▲ Ferrous Alloys



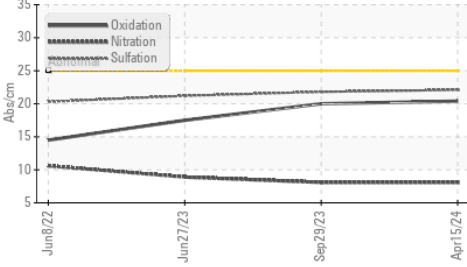
Iron (ppm)



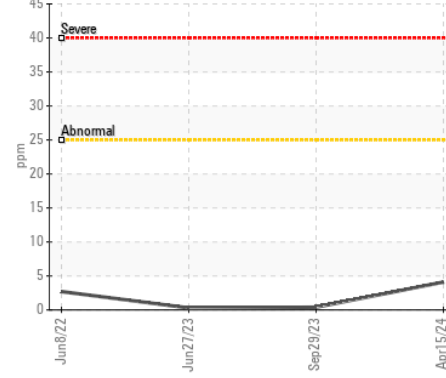
Lead (ppm)



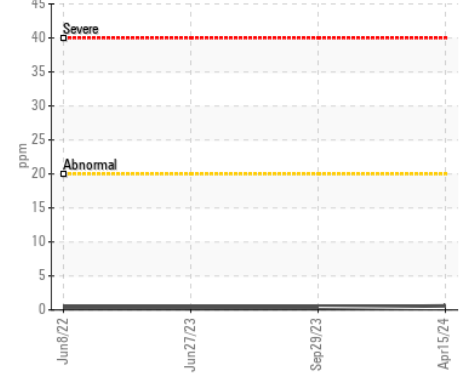
FT-IR (Direct Trend)



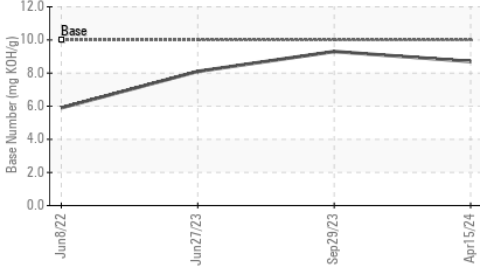
Aluminum (ppm)



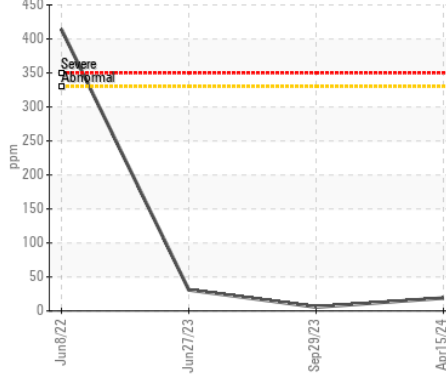
Chromium (ppm)



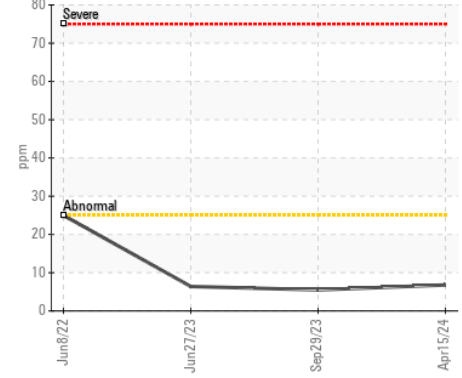
Base Number



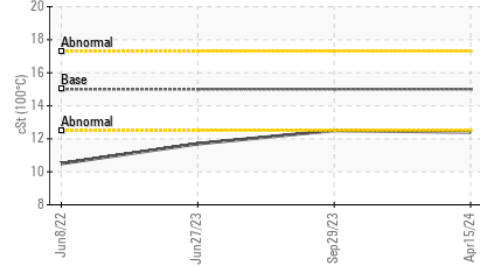
Copper (ppm)



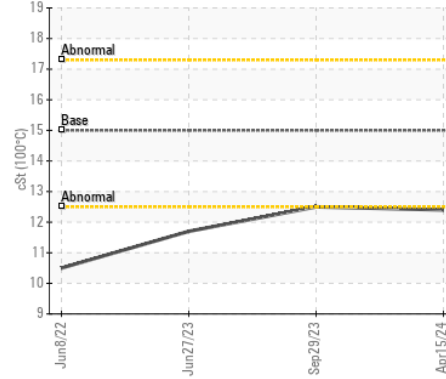
Silicon (ppm)



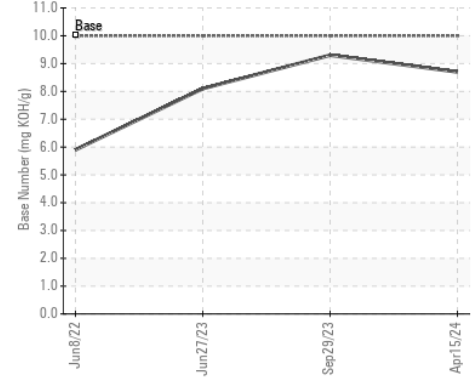
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Fuel Dilution



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VCP438586 **Received** : 19 Apr 2024
Lab Number : 06154043 **Tested** : 23 Apr 2024
Unique Number : 10989466 **Diagnosed** : 23 Apr 2024 - Jonathan Hester
Test Package : MOB 1 (Additional Tests: FUELDILUTION, TBN)

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)

RIPA AND ASSOCIATES

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