



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
VOLVO L70H 623612
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		ML0002639	ML0002803	ML0000913
Sample Date		Client Info		11 Jul 2024	30 May 2024	25 Mar 2024
Machine Age	hrs	Client Info		4544	4094	3566
Oil Age	hrs	Client Info		450	528	3566
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	10	6	12
Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Nickel	ppm	ASTM D5185m	>10	0	0	1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>10	3	4	6
Lead	ppm	ASTM D5185m	>20	0	0	0
Copper	ppm	ASTM D5185m	>15	2	<1	1
Tin	ppm	ASTM D5185m	>10	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	<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.

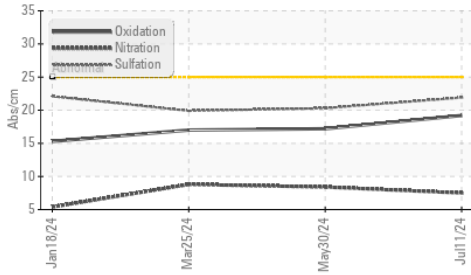
Silicon	ppm	ASTM D5185m	>20	5	4	6
Potassium	ppm	ASTM D5185m	>20	<1	0	2
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	7.5	8.4	8.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.9	20.3	19.9
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

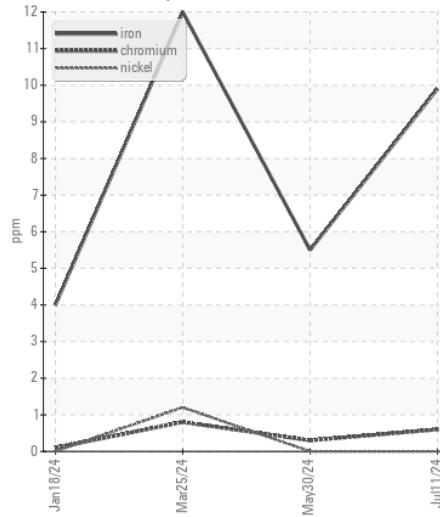
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		1	2	3
Boron	ppm	ASTM D5185m		29	33	64
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		42	45	61
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		586	673	684
Calcium	ppm	ASTM D5185m		1518	1315	1309
Phosphorus	ppm	ASTM D5185m		806	794	728
Zinc	ppm	ASTM D5185m		1122	950	899
Sulfur	ppm	ASTM D5185m		2609	2512	2863
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.2	17.2	17.0
Base Number (BN)	mg KOH/g	ASTM D2896		10.1	8.6	8.0
Visc @ 100°C	cSt	ASTM D445		13.5	13.2	13.8

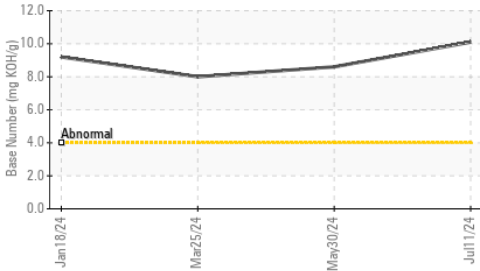
FT-IR (Direct Trend)



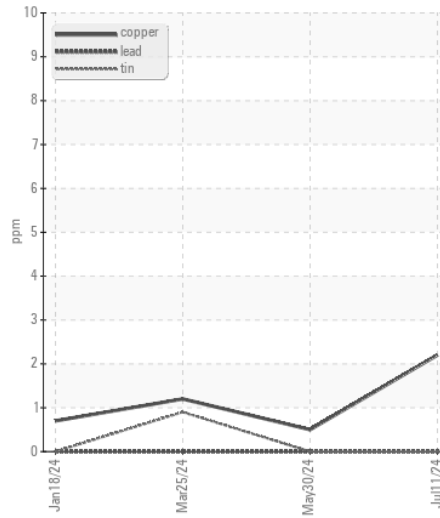
Ferrous Alloys



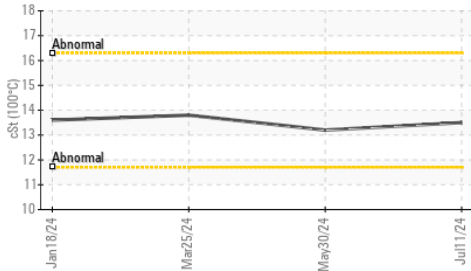
Base Number



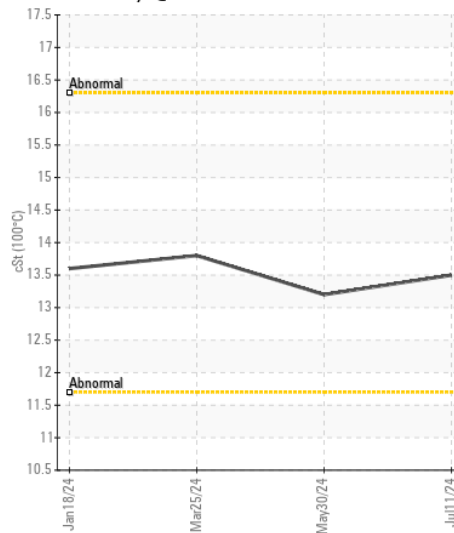
Non-ferrous Metals



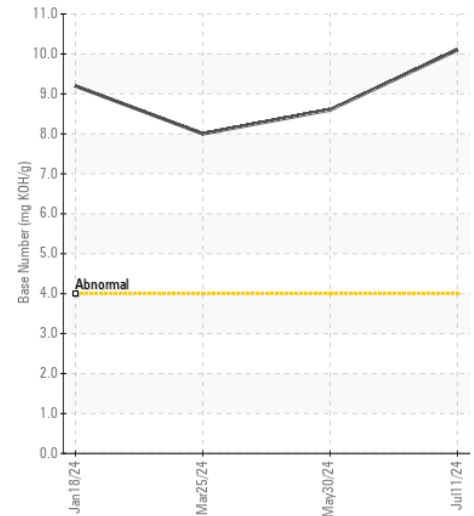
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : ML0002639

Lab Number : 06237621

Unique Number : 11126455

Test Package : CONST (Additional Tests: TBN)

Received : 16 Jul 2024

Tested : 17 Jul 2024

Diagnosed : 18 Jul 2024 - Don Baldrige

MCCLUNG-LOGAN EQUIPMENT CO - RICHMOND

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GLEN ALLEN, VA

US 23060

Contact: KYLE RATLIFFE

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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)