



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
VOLVO L70H 622991
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		ML0001464	VCP339441	VCP322080
Sample Date		Client Info		16 Apr 2024	22 Mar 2023	06 Sep 2022
Machine Age	hrs	Client Info		11074	9484	8488
Oil Age	hrs	Client Info		1590	0	580
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	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	30	▲ 175	9
Chromium	ppm	ASTM D5185m	>20	2	4	<1
Nickel	ppm	ASTM D5185m	>5	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>30	7	4	3
Lead	ppm	ASTM D5185m	>40	2	<1	0
Copper	ppm	ASTM D5185m	>20	6	5	<1
Tin	ppm	ASTM D5185m	>20	1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
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.

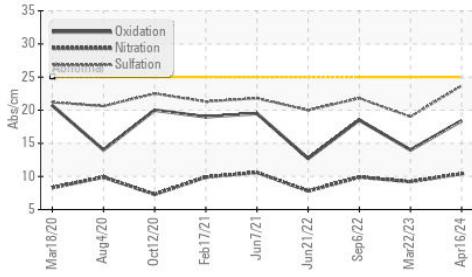
Silicon	ppm	ASTM D5185m	>20	10	14	6
Potassium	ppm	ASTM D5185m	>20	17	3	2
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.5	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	10.4	9.2	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.7	19.0	21.8
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

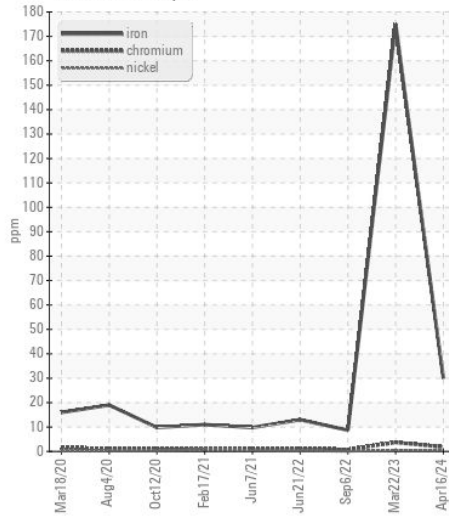
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		25	1	3
Boron	ppm	ASTM D5185m		18	20	25
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		80	60	52
Manganese	ppm	ASTM D5185m		<1	2	<1
Magnesium	ppm	ASTM D5185m		85	577	651
Calcium	ppm	ASTM D5185m		2251	1920	1250
Phosphorus	ppm	ASTM D5185m		965	1039	712
Zinc	ppm	ASTM D5185m		1150	1267	889
Sulfur	ppm	ASTM D5185m		3982	2982	2264
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.4	14.0	18.5
Base Number (BN)	mg KOH/g	ASTM D2896		5.0	6.8	9.5
Visc @ 100°C	cSt	ASTM D445		14.0	14.0	13.7

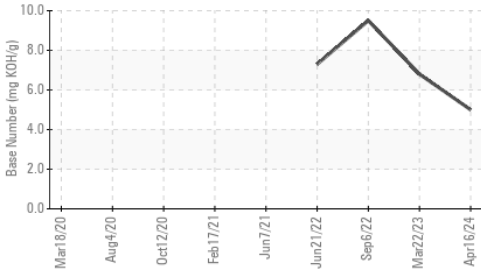
FT-IR (Direct Trend)



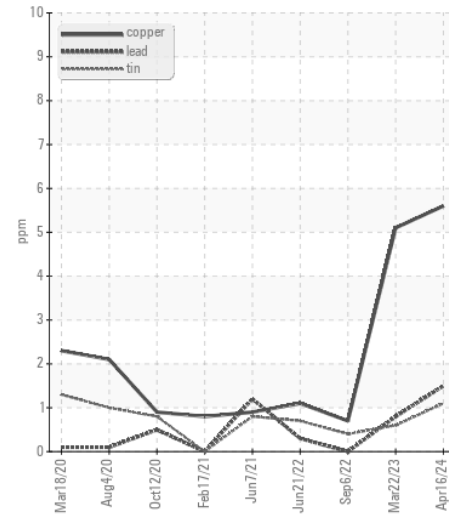
Ferrous Alloys



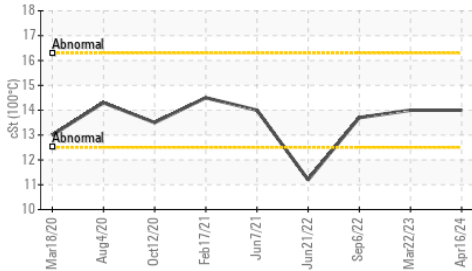
Base Number



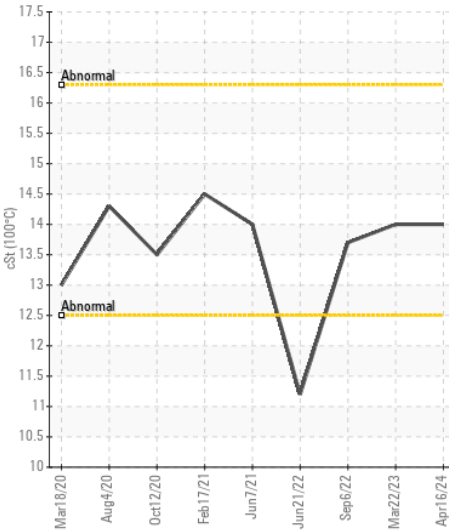
Non-ferrous Metals



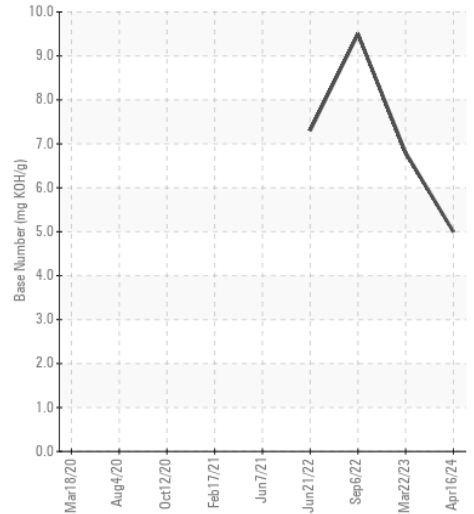
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ML0001464 **Received** : 19 Apr 2024
Lab Number : 06153997 **Tested** : 22 Apr 2024
Unique Number : 10989420 **Diagnosed** : 23 Apr 2024 - Don Baldrige
Test Package : CONST (Additional Tests: TBN)

MCCLEUNG-LOGAN EQUIPMENT CO - RICHMOND
 1345 MOUNTAIN ROAD
 GLEN ALLEN, VA
 US 23060
 Contact: KYLE RATLIFFE
 KRATLIFFE@MCCLEUNG-LOGAN.COM

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)

T: (804)266-1611