



McCLUNG-LOGAN
EQUIPMENT COMPANY, INC.

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Area

HOLCIM

Machine Id

VOLVO A45G 353639

Component

Diesel Engine

Fluid

VOLVO VDS-4.5 Premium Motor Oil 15W40 (--- GAL)

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		ML0000619	VCP410499	---
Sample Date		Client Info		17 Apr 2024	08 Nov 2023	---
Machine Age	hrs	Client Info		1090	533	---
Oil Age	hrs	Client Info		557	533	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				ABNORMAL	ATTENTION	---

WEAR

Exhaust valve wear is indicated.

Iron	ppm	ASTM D5185m	>100	22	22	---
Chromium	ppm	ASTM D5185m	>20	<1	<1	---
Nickel	ppm	ASTM D5185m	>2	▲ 5	3	---
Titanium	ppm	ASTM D5185m		<1	0	---
Silver	ppm	ASTM D5185m	>2	0	0	---
Aluminum	ppm	ASTM D5185m	>25	3	2	---
Lead	ppm	ASTM D5185m	>40	4	0	---
Copper	ppm	ASTM D5185m	>330	339	336	---
Tin	ppm	ASTM D5185m	>15	2	4	---
Vanadium	ppm	ASTM D5185m		<1	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

There is no indication of any contamination in the oil.

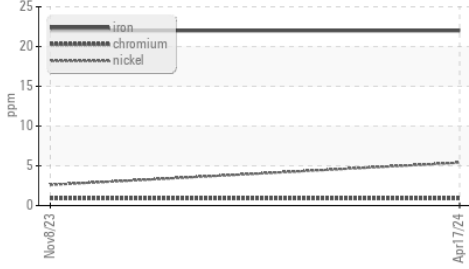
Silicon	ppm	ASTM D5185m	>25	10	25	---
Potassium	ppm	ASTM D5185m	>20	0	<1	---
Fuel	%	ASTM D3524	>6.0	<1.0	0.5	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.4	0.3	---
Nitration	Abs/cm	*ASTM D7624	>20	9.4	9.2	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.3	18.9	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	---

FLUID CONDITION

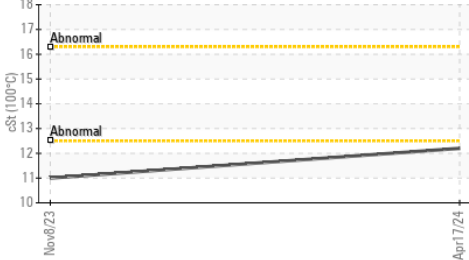
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		2	3	---
Boron	ppm	ASTM D5185m		37	46	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		80	79	---
Manganese	ppm	ASTM D5185m		1	2	---
Magnesium	ppm	ASTM D5185m		39	41	---
Calcium	ppm	ASTM D5185m		2141	2073	---
Phosphorus	ppm	ASTM D5185m		876	922	---
Zinc	ppm	ASTM D5185m		1040	1131	---
Sulfur	ppm	ASTM D5185m		3764	3618	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.2	14.1	---
Base Number (BN)	mg KOH/g	ASTM D2896		5.5	6.2	---
Visc @ 100°C	cSt	ASTM D445		● 12.2	● 11.0	---

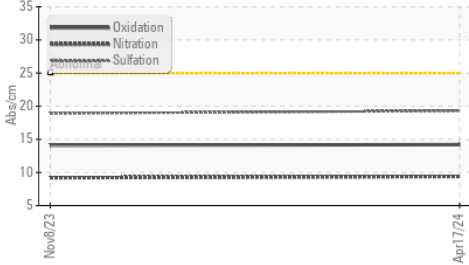
▲ Ferrous Alloys



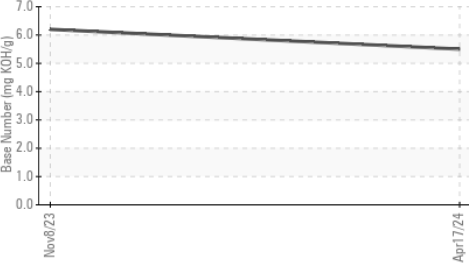
● Viscosity @ 100°C



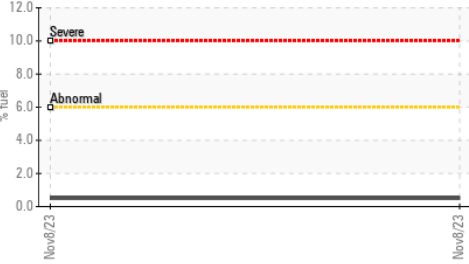
FT-IR (Direct Trend)



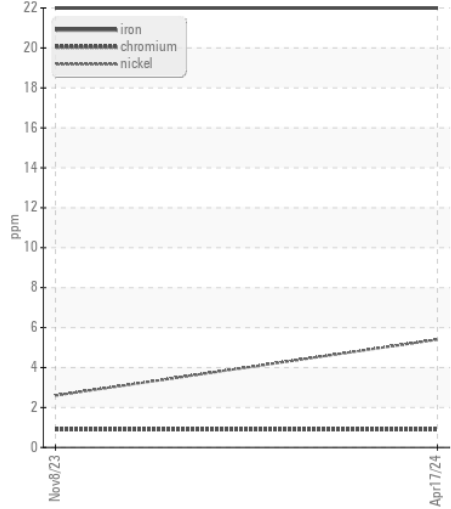
Base Number



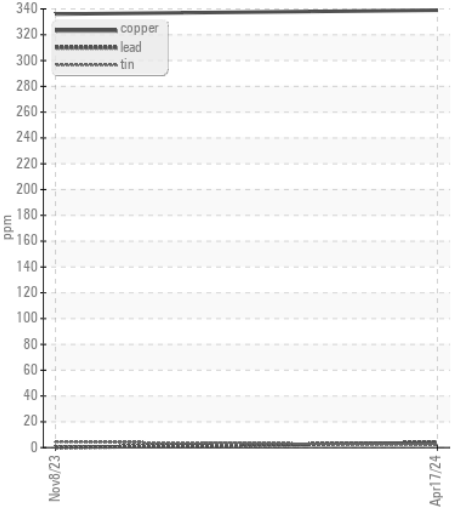
Fuel Dilution



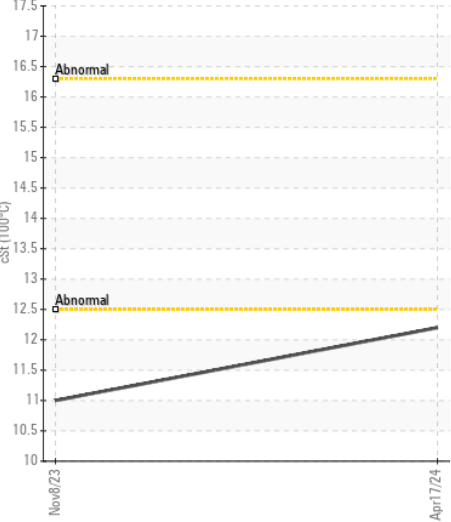
▲ Ferrous Alloys



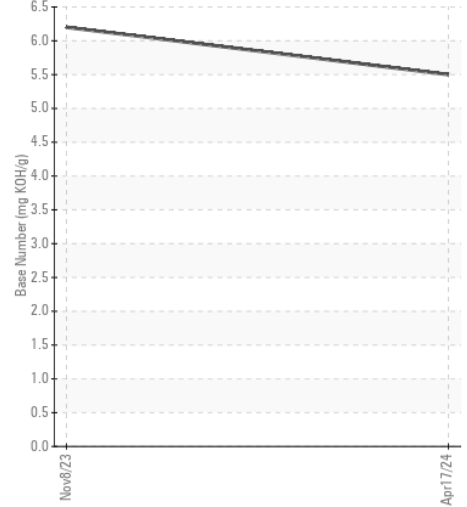
Non-ferrous Metals



● Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : ML0000619
 Lab Number : 06155556
 Unique Number : 10990979
 Test Package : CONST (Additional Tests: FuelDilution, TBN)

MCCLUNG-LOGAN EQUIPMENT CO - RICHMOND
 1345 MOUNTAIN ROAD
 GLEN ALLEN, VA
 US 23060
 Contact: KATHRYN MULCAHEY
 kmulcahey@mcclung-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)

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