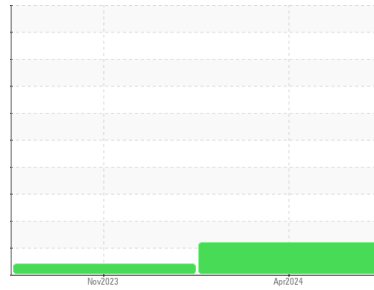




# OIL ANALYSIS REPORT

## Sample Rating Trend



**WEAR**



Area

**HOLCIM**

Machine Id

**VOLVO A45G 353639**

Component

**Diesel Engine**

Fluid

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



## DIAGNOSIS

### ▲ 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.

### ▲ Wear

Exhaust valve wear is indicated.

### ● Contamination

There is no indication of any contamination in the oil.

### ● 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.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>ML0000619</b>	VCP410499	---
Sample Date	Client Info		<b>17 Apr 2024</b>	08 Nov 2023	---
Machine Age	hrs	Client Info	<b>1090</b>	533	---
Oil Age	hrs	Client Info	<b>557</b>	533	---
Oil Changed	Client Info		<b>Changed</b>	Changed	---
Sample Status			<b>ABNORMAL</b>	ATTENTION	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol	WC Method		<b>NEG</b>	NEG	---

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	<b>22</b>	22	---
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	---
Nickel	ppm	ASTM D5185m >2	<b>▲ 5</b>	3	---
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	0	---
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	---
Aluminum	ppm	ASTM D5185m >25	<b>3</b>	2	---
Lead	ppm	ASTM D5185m >40	<b>4</b>	0	---
Copper	ppm	ASTM D5185m >330	<b>339</b>	336	---
Tin	ppm	ASTM D5185m >15	<b>2</b>	4	---
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	---
Cadmium	ppm	ASTM D5185m	<b>0</b>	<1	---

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>37</b>	46	---
Barium	ppm	ASTM D5185m	<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185m	<b>80</b>	79	---
Manganese	ppm	ASTM D5185m	<b>1</b>	2	---
Magnesium	ppm	ASTM D5185m	<b>39</b>	41	---
Calcium	ppm	ASTM D5185m	<b>2141</b>	2073	---
Phosphorus	ppm	ASTM D5185m	<b>876</b>	922	---
Zinc	ppm	ASTM D5185m	<b>1040</b>	1131	---
Sulfur	ppm	ASTM D5185m	<b>3764</b>	3618	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>10</b>	25	---
Sodium	ppm	ASTM D5185m	<b>2</b>	3	---
Potassium	ppm	ASTM D5185m >20	<b>0</b>	<1	---
Fuel	%	ASTM D3524 >6.0	<b>&lt;1.0</b>	0.5	---

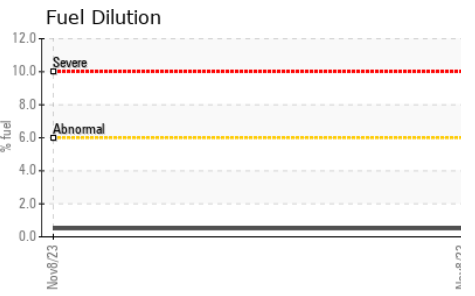
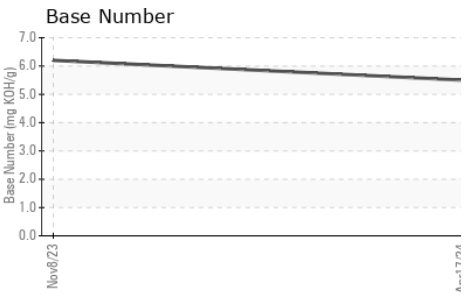
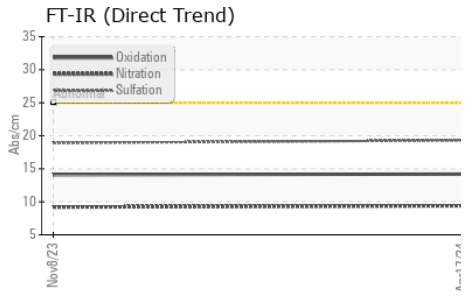
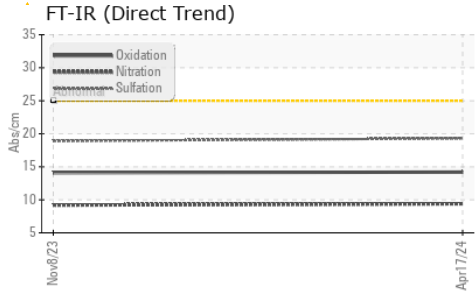
## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.4</b>	0.3	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>9.4</b>	9.2	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>19.3</b>	18.9	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>14.2</b>	14.1	---
Base Number (BN)	mg KOH/g	ASTM D2896	<b>5.5</b>	6.2	---

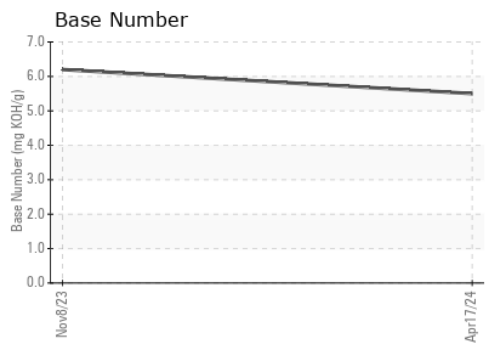
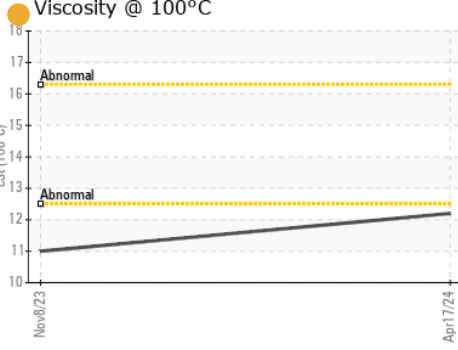
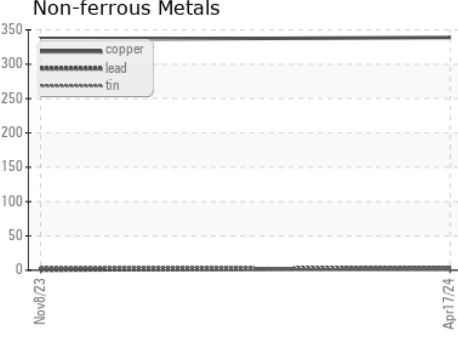
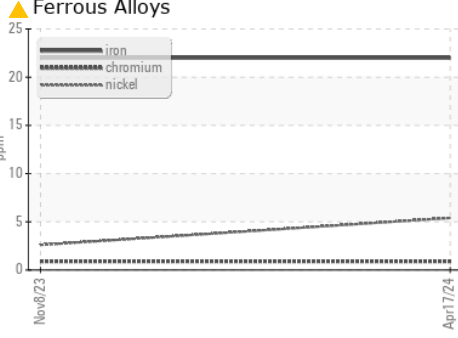
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	<span style="color: orange;">●</span> 12.2	<span style="color: orange;">●</span> 11.0	---

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : ML0000619      **Received** : 22 Apr 2024  
**Lab Number** : 06155556      **Tested** : 23 Apr 2024  
**Unique Number** : 10990979      **Diagnosed** : 24 Apr 2024 - Sean Felton  
**Test Package** : CONST ( Additional Tests: FuelDilution, TBN )

**McCLUNG-LOGAN EQUIPMENT CO - RICHMOND**  
 1345 MOUNTAIN ROAD  
 GLEN ALLEN, VA 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)      F: (804)266-1611