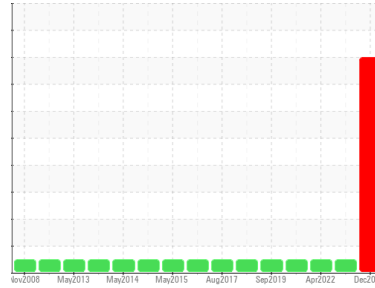




PROBLEM SUMMARY

Area
Miranda Davit
 Machine Id
VOLVO VDS-3 G5-01111 (S/N SSEDC 01111)
 Component
Diesel Engine
 Fluid
VOLVO VDS-4.5 Premium Motor Oil 15W40 (10 LTR)

Sample Rating Trend



VISUAL METAL



COMPONENT CONDITION SUMMARY

No relevant graphs to display

RECOMMENDATION

We advise that you check for visible metal particles in the oil. We recommend that you drain the oil from the component if this has not already been done. An inspection for the source(s) of wear may be warranted at this time. We recommend an early resample to monitor this condition. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF). Advise you send the oil filter for a more detailed analysis of the wear situation that is occurring in this component.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	NORMAL
White Metal	scalar	Visual*	NONE	MODER	---	---

Customer Id: GRIFFON
Sample No.: WC0855479
Lab Number: 02603061
Test Package: MAR 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Kevin Marson +1 (289)291-4644 x4644
Kevin.Marson@wearcheck.com

To change component or sample information:
 Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Inspect Wear Source	---	---	?	An inspection for the source(s) of wear may be warranted at this time.
Change Fluid	---	---	?	We recommend that you drain the oil from the component if this has not already been done.
Resample	---	---	?	We recommend an early resample to monitor this condition. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF). Advise you send the oil filter for a more detailed analysis of the wear situation that is occurring in this component.
Alert	---	---	?	Advise you send the oil filter for a more detailed analysis of the wear situation that is occurring in this component.
Check For Visual Metal	---	---	?	We advise that you check for visible metal particles in the oil.

HISTORICAL DIAGNOSIS

02 Dec 2022 Diag: Kevin Marson

NORMAL



Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. Metal levels are typical for a new component breaking in. There is no indication of any contamination in the oil. Additive levels indicate the addition of a different brand, or type of oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report



22 Apr 2022 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. Metal levels are typical for a new component breaking in. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report



13 Mar 2020 Diag: Kevin Marson

NORMAL



Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. Metal levels are typical for a new component breaking in. There is no indication of any contamination in the oil. Additive levels indicate the addition of a different brand, or type of oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report



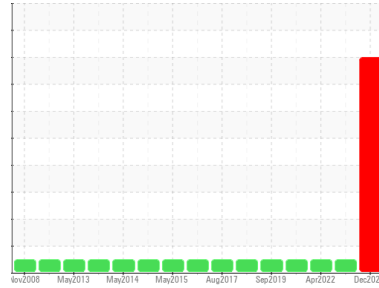


OIL ANALYSIS REPORT

Sample Rating Trend

VISUAL METAL

Area
Miranda Davit
 Machine Id
VOLVO VDS-3 G5-01111 (S/N SSEDC 01111)
 Component
Diesel Engine
 Fluid
VOLVO VDS-4.5 Premium Motor Oil 15W40 (10 LTR)



DIAGNOSIS

Recommendation

We advise that you check for visible metal particles in the oil. We recommend that you drain the oil from the component if this has not already been done. An inspection for the source(s) of wear may be warranted at this time. We recommend an early resample to monitor this condition. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF). Advise you send the oil filter for a more detailed analysis of the wear situation that is occurring in this component.

Wear

Moderate concentration of visible metal present. Bearing and/or bushing, and cylinder and/or crankshaft wear is indicated. Cutting wear particles are caused by either hard protuberances (mis-aligned components, etc.), or abrasives entering the system and embedding themselves in softer materials (sand, etc.), and gouging out mating surfaces. Black oxides are produced when metal particles are completely oxidized. This can be caused by insufficient or spent lubricant, or extreme heat at the wear surface.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0855479	WC0700680	WC0603744
Sample Date	Client Info		10 Dec 2023	02 Dec 2022	22 Apr 2022
Machine Age	hrs	Client Info	582	263	241
Oil Age	hrs	Client Info	5	0	0
Oil Changed	Client Info		Not Chngd	Not Chngd	N/A
Sample Status			SEVERE	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
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

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>100	1	2	4
Chromium	ppm	ASTM D5185(m)	>20	0	0	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	0	<1
Titanium	ppm	ASTM D5185(m)		0	<1	0
Silver	ppm	ASTM D5185(m)	>2	<1	0	0
Aluminum	ppm	ASTM D5185(m)	>25	<1	1	1
Lead	ppm	ASTM D5185(m)	>40	<1	<1	<1
Copper	ppm	ASTM D5185(m)	>330	2	<1	2
Tin	ppm	ASTM D5185(m)	>15	0	<1	<1
Antimony	ppm	ASTM D5185(m)		0	<1	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)		2	2	5
Barium	ppm	ASTM D5185(m)		<1	0	0
Molybdenum	ppm	ASTM D5185(m)		60	59	60
Manganese	ppm	ASTM D5185(m)		0	<1	<1
Magnesium	ppm	ASTM D5185(m)		940	974	965
Calcium	ppm	ASTM D5185(m)		1002	1073	1027
Phosphorus	ppm	ASTM D5185(m)		956	1091	1047
Zinc	ppm	ASTM D5185(m)		1152	1201	1159
Sulfur	ppm	ASTM D5185(m)		2685	2819	2742
Lithium	ppm	ASTM D5185(m)		<1	<1	0

CONTAMINANTS

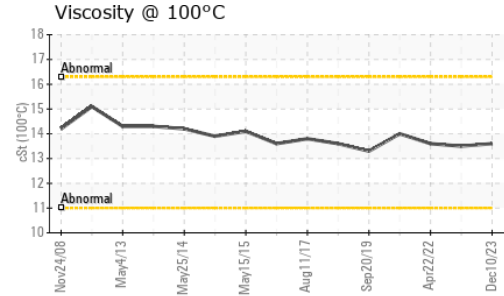
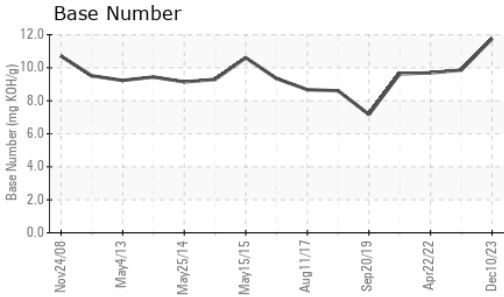
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	4	6	5
Sodium	ppm	ASTM D5185(m)		3	3	3
Potassium	ppm	ASTM D5185(m)	>20	0	0	<1

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	4.7	5.2	5.7
Sulfation	Abs./1mm	ASTM D7415*	>30	17.7	20.3	20.7



OIL ANALYSIS REPORT

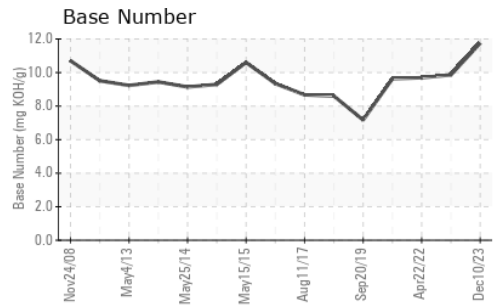
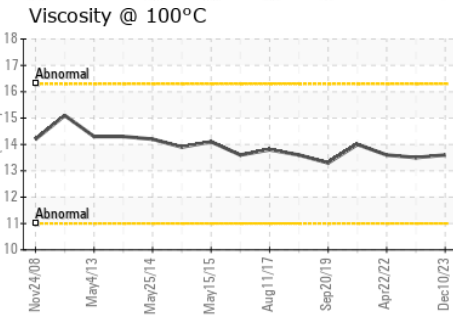
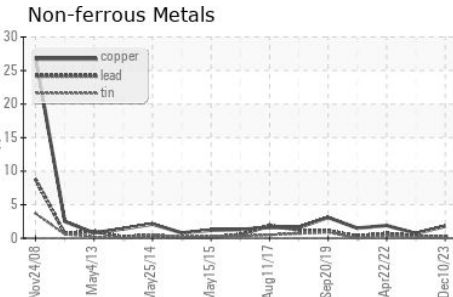
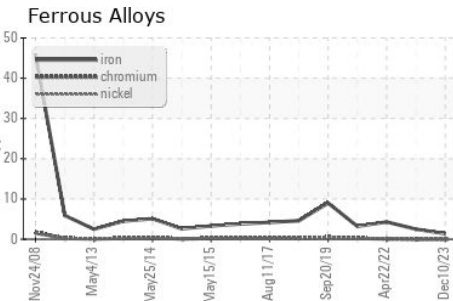


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	12.5	14.4	14.3
Base Number (BN)	mg KOH/g	ASTM D2896*		11.75	9.86	9.69

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	MODER	---	---
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	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)		13.6	13.5	13.6

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0855479
Lab Number : **02603061**
Unique Number : 5696146
Test Package : MAR 2 (Additional Tests: BottomAnalysis, FILTERPATCH, Visual)

CANADIAN COAST GUARD
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 Prescott, ON
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 Laurie.Bosley@dfo-mpo.gc.ca
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To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.