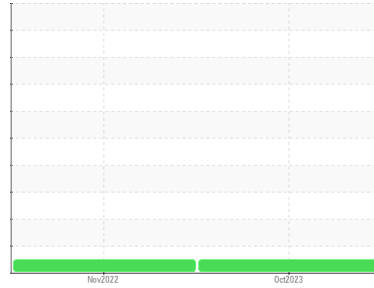


Area
JIM SHAFER [81530617]
 Machine Id
VOLVO PENTA A1143219
 Component
Starboard Diesel Engine
 Fluid
VOLVO PENTA SAE 15W40 (20 LTR)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

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 condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION method limit/base current history1 history2

Sample Number	Client Info	VPA060484	VPA044833	---
Sample Date	Client Info	24 Oct 2023	10 Nov 2022	---
Machine Age	hrs	Client Info	113	70
Oil Age	hrs	Client Info	40	70
Oil Changed	Client Info	Changed	Changed	---
Sample Status		NORMAL	NORMAL	---

CONTAMINATION method limit/base current history1 history2

Fuel	WC Method	>4.0	<1.0	<1.0	---
Glycol	WC Method		NEG	NEG	---

WEAR METALS method limit/base current history1 history2

Iron	ppm	ASTM D5185m	>80	5	10	---
Chromium	ppm	ASTM D5185m	>6	<1	1	---
Nickel	ppm	ASTM D5185m	>2	2	0	---
Titanium	ppm	ASTM D5185m	>2	0	0	---
Silver	ppm	ASTM D5185m	>2	0	1	---
Aluminum	ppm	ASTM D5185m	>20	6	8	---
Lead	ppm	ASTM D5185m	>95	3	7	---
Copper	ppm	ASTM D5185m	>85	8	15	---
Tin	ppm	ASTM D5185m	>9	<1	2	---
Vanadium	ppm	ASTM D5185m		0	0	---
Cadmium	ppm	ASTM D5185m		0	0	---

ADDITIVES method limit/base current history1 history2

Boron	ppm	ASTM D5185m		2	14	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		57	58	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m		969	847	---
Calcium	ppm	ASTM D5185m		1000	1164	---
Phosphorus	ppm	ASTM D5185m		1021	1031	---
Zinc	ppm	ASTM D5185m		1279	1176	---
Sulfur	ppm	ASTM D5185m		3249	3776	---

CONTAMINANTS method limit/base current history1 history2

Silicon	ppm	ASTM D5185m	>25	7	22	---
Sodium	ppm	ASTM D5185m		2	2	---
Potassium	ppm	ASTM D5185m	>20	1	0	---

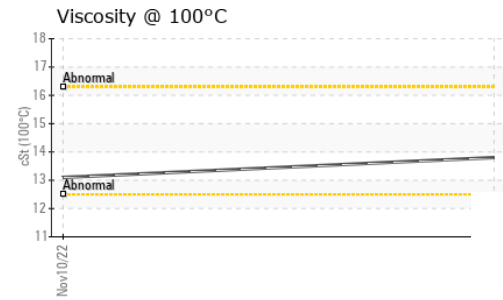
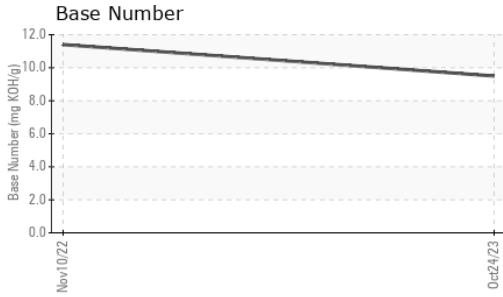
INFRA-RED method limit/base current history1 history2

Soot %	%	*ASTM D7844		0.1	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	4.5	5.6	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.1	20.5	---

FLUID DEGRADATION method limit/base current history1 history2

Oxidation	Abs/.1mm	*ASTM D7414	>25	12.5	15.4	---
Base Number (BN)	mg KOH/g	ASTM D2896		9.5	11.4	---

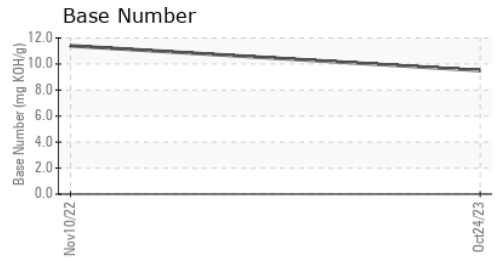
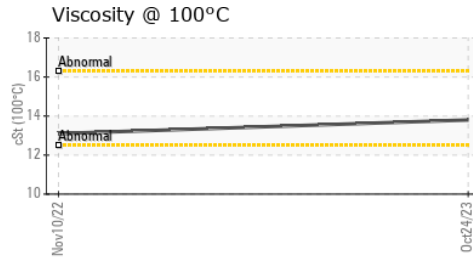
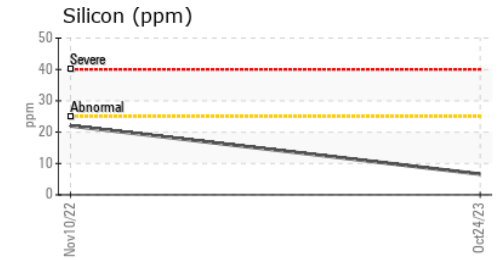
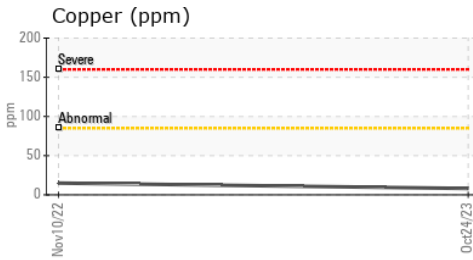
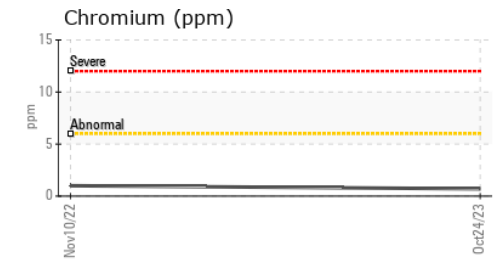
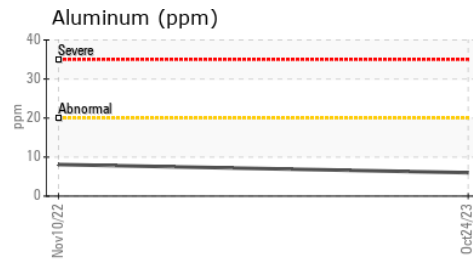
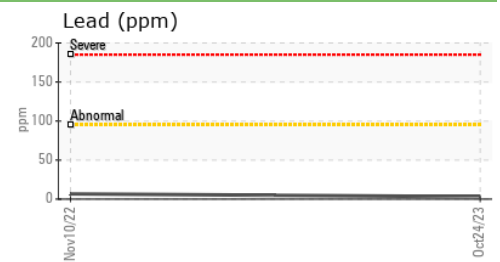
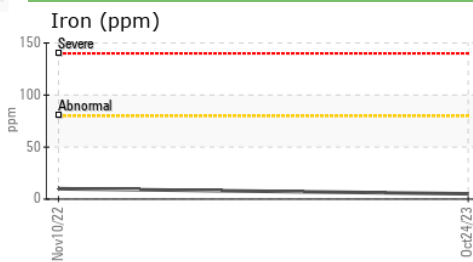
OIL ANALYSIS REPORT



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	>0.1	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.8	13.1	---

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VPA060484 **Received** : 31 Oct 2023
Lab Number : 05994141 **Diagnosed** : 01 Nov 2023
Unique Number : 10722501 **Diagnostician** : Sean Felton
Test Package : MOB 1 (Additional Tests: TBN)

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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