



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area
DAVID BOVEE [ANTHONY]

Machine Id
VOLVO PENTA 1012569561

Component
Starboard Diesel Engine

Fluid
VOLVO PENTA SAE 15W40 (--- GAL)

RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VPA059098	VPA044799	---
Sample Date		Client Info		05 Feb 2024	21 Dec 2022	---
Machine Age	hrs	Client Info		1084	991	---
Oil Age	hrs	Client Info		93	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		N/A	N/A	---
Filter Changed		Client Info		N/A	N/A	---
Sample Status				ABNORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	5	3	---
Chromium	ppm	ASTM D5185m	>6	<1	0	---
Nickel	ppm	ASTM D5185m	>2	<1	0	---
Titanium	ppm	ASTM D5185m	>2	<1	<1	---
Silver	ppm	ASTM D5185m	>2	0	0	---
Aluminum	ppm	ASTM D5185m	>20	<1	0	---
Lead	ppm	ASTM D5185m	>95	<1	<1	---
Copper	ppm	ASTM D5185m	>85	2	<1	---
Tin	ppm	ASTM D5185m	>9	<1	<1	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

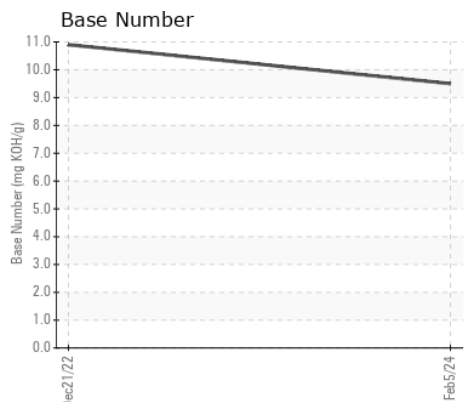
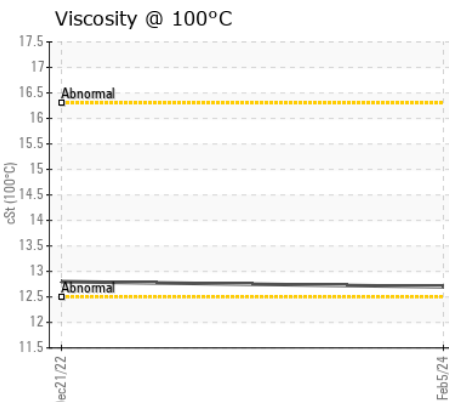
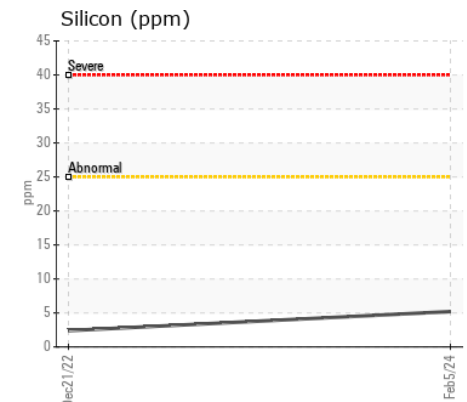
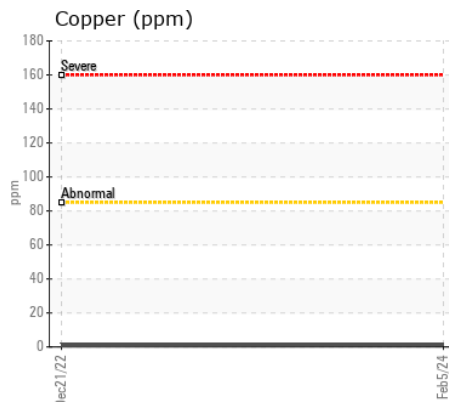
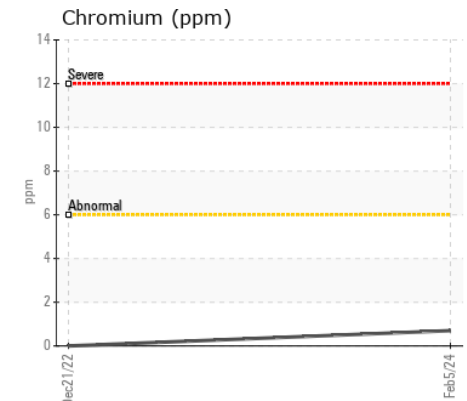
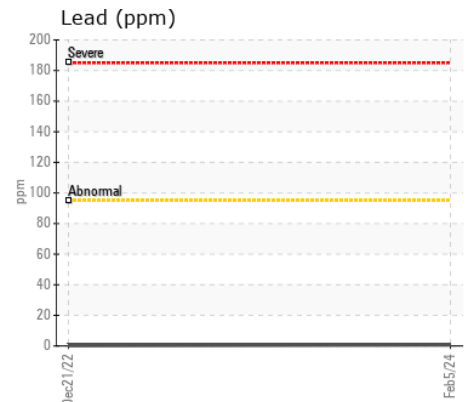
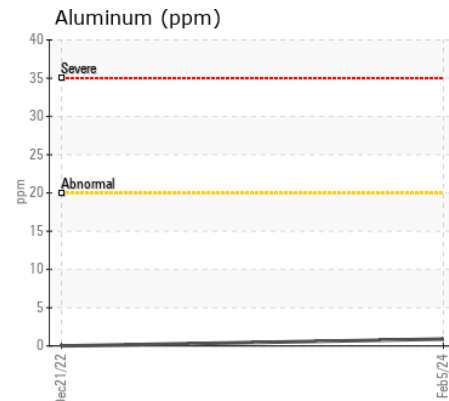
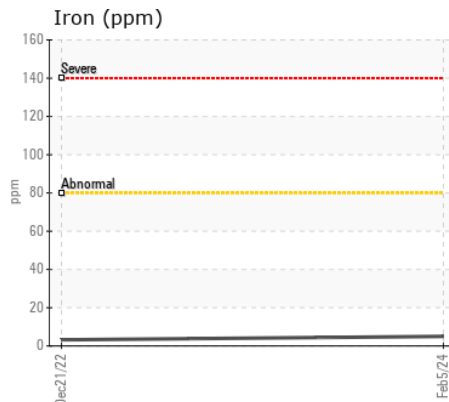
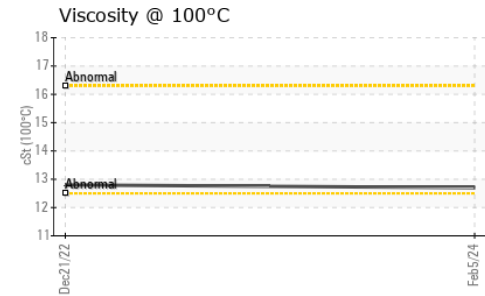
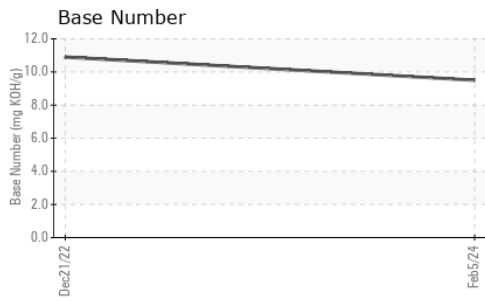
Moderate concentration of visible dirt/debris present in the oil.

Silicon	ppm	ASTM D5185m	>25	5	2	---
Potassium	ppm	ASTM D5185m	>20	<1	2	---
Fuel		WC Method	>4.0	<1.0	<1.0	---
Water		WC Method	>0.1	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844		0.1	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	6.5	7.0	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.2	20.9	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	MODER	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	---

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.

Sodium	ppm	ASTM D5185m		0	0	---
Boron	ppm	ASTM D5185m		7	5	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		66	59	---
Manganese	ppm	ASTM D5185m		<1	0	---
Magnesium	ppm	ASTM D5185m		1062	901	---
Calcium	ppm	ASTM D5185m		1123	1158	---
Phosphorus	ppm	ASTM D5185m		1064	1055	---
Zinc	ppm	ASTM D5185m		1348	1251	---
Sulfur	ppm	ASTM D5185m		3302	3964	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.1	16.2	---
Base Number (BN)	mg KOH/g	ASTM D2896		9.5	10.9	---
Visc @ 100°C	cSt	ASTM D445		12.7	12.8	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VPA059098 **Received** : 09 Feb 2024
Lab Number : 06085189 **Tested** : 12 Feb 2024
Unique Number : 10872634 **Diagnosed** : 12 Feb 2024 - Don Baldrige
Test Package : MOB 1 (Additional Tests: TBN)

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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)