



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
VOLVO PENTA A1214949
Component
Starboard Diesel Engine
Fluid
VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (3 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VPA047531	---	---
Sample Date		Client Info		04 Apr 2024	---	---
Machine Age	hrs	Client Info		0	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				NORMAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	7	---	---
Chromium	ppm	ASTM D5185m	>6	0	---	---
Nickel	ppm	ASTM D5185m	>2	<1	---	---
Titanium	ppm	ASTM D5185m	>2	0	---	---
Silver	ppm	ASTM D5185m	>2	0	---	---
Aluminum	ppm	ASTM D5185m	>20	<1	---	---
Lead	ppm	ASTM D5185m	>95	2	---	---
Copper	ppm	ASTM D5185m	>85	6	---	---
Tin	ppm	ASTM D5185m	>9	0	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

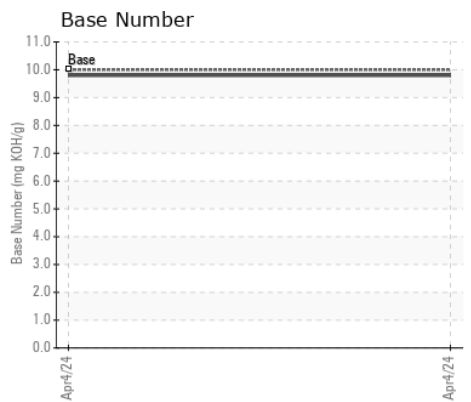
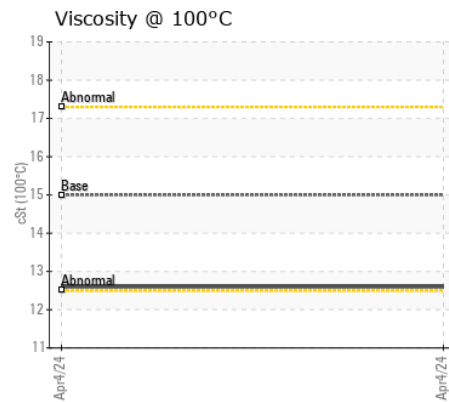
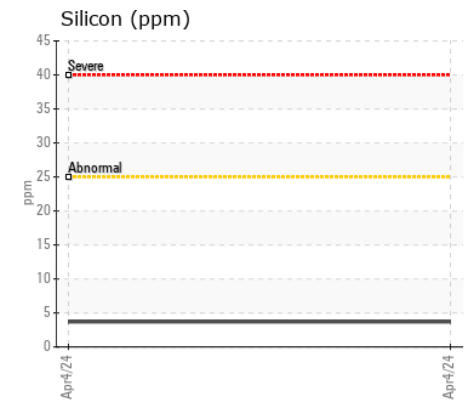
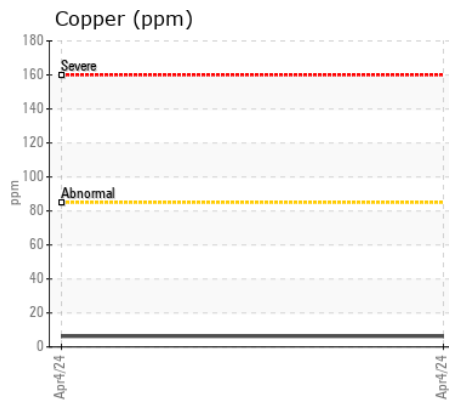
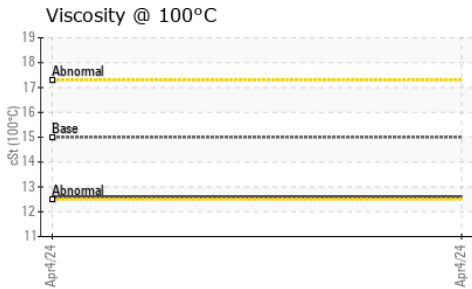
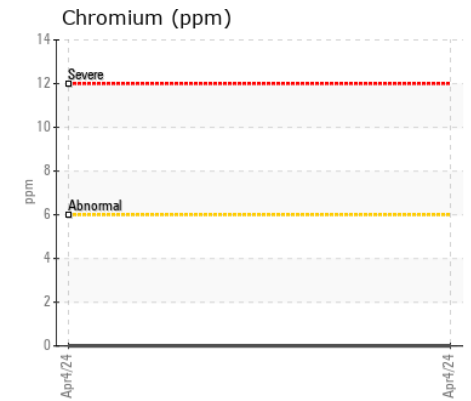
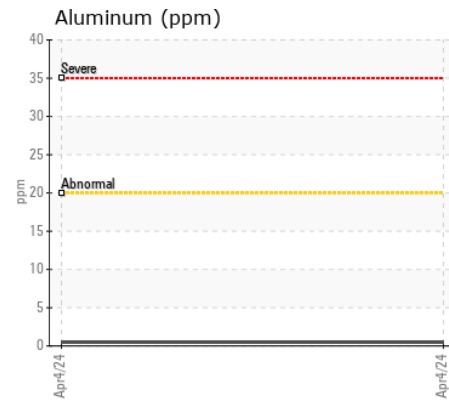
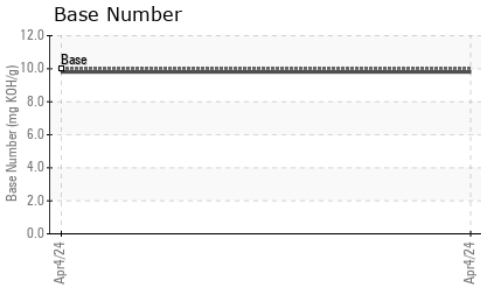
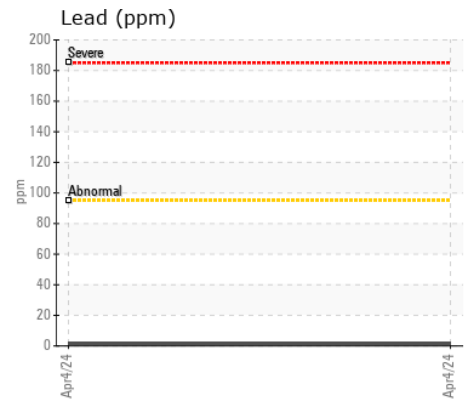
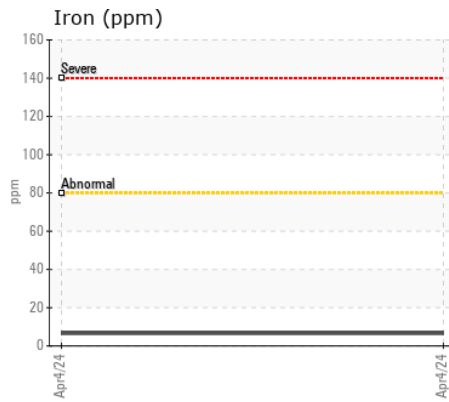
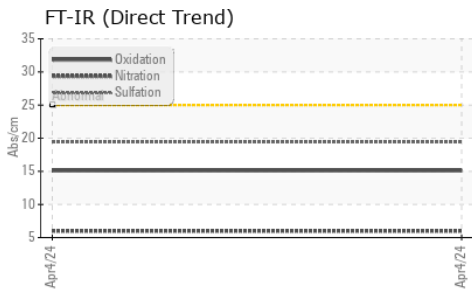
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	4	---	---
Potassium	ppm	ASTM D5185m	>20	0	---	---
Fuel		WC Method	>4.0	<1.0	---	---
Water		WC Method	>0.1	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844		0.1	---	---
Nitration	Abs/cm	*ASTM D7624	>20	6.0	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.4	---	---
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	---	---

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		1	---	---
Boron	ppm	ASTM D5185m	2.5	<1	---	---
Barium	ppm	ASTM D5185m	0.0	0	---	---
Molybdenum	ppm	ASTM D5185m	0.7	60	---	---
Manganese	ppm	ASTM D5185m	0.0	0	---	---
Magnesium	ppm	ASTM D5185m	256	931	---	---
Calcium	ppm	ASTM D5185m	2057	1022	---	---
Phosphorus	ppm	ASTM D5185m	935	1016	---	---
Zinc	ppm	ASTM D5185m	1223	1171	---	---
Sulfur	ppm	ASTM D5185m	4079	3542	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.1	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	10	9.8	---	---
Visc @ 100°C	cSt	ASTM D445	15.0	12.6	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VPA047531 **Received** : 17 Apr 2024
Lab Number : 06151561 **Tested** : 19 Apr 2024
Unique Number : 10981639 **Diagnosed** : 19 Apr 2024 - Jonathan Hester
Test Package : MOB 1 (Additional Tests: TBN)

Bay Marine Boatworks Inc.
 310 West Cutting Blvd.
 RICHMOND, CA
 US 94804

Contact: David Vandervoort
 max@baymarineboatworks.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)

T:
F: