



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

AL POLLAN [00100103]

Machine Id

VOLVO PENTA 2006016988

Component

Starboard Diesel Engine

Fluid

VOLVO VDS-4.5 Premium Motor Oil 15W40 (5 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VPA062575	VPA046199	---
Sample Date		Client Info		11 Jun 2024	07 Mar 2023	---
Machine Age	hrs	Client Info		1278	1108	---
Oil Age	hrs	Client Info		172	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Not Changd	Changed	---
Filter Changed		Client Info		Not Changd	Changed	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	9	12	---
Chromium	ppm	ASTM D5185m	>6	<1	<1	---
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	4	6	---
Lead	ppm	ASTM D5185m	>95	1	1	---
Copper	ppm	ASTM D5185m	>85	3	2	---
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

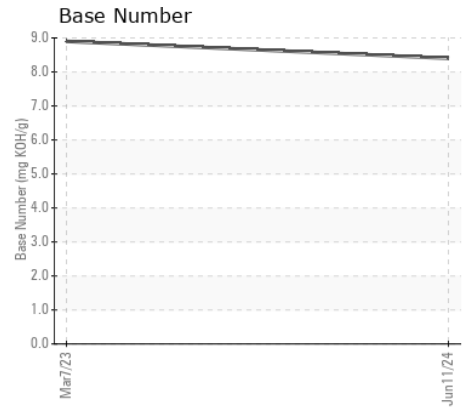
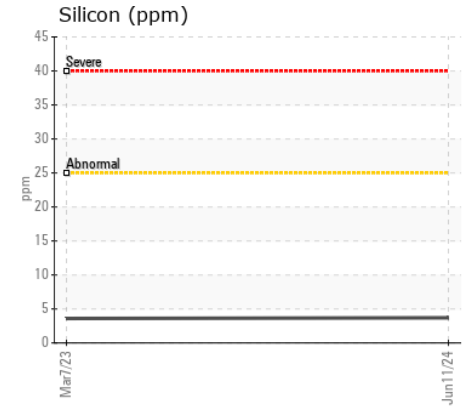
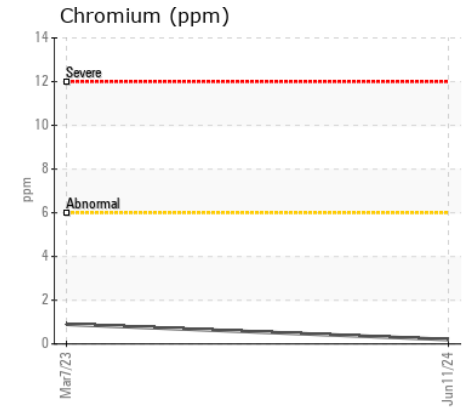
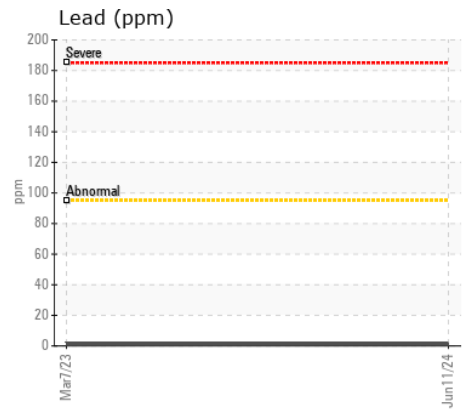
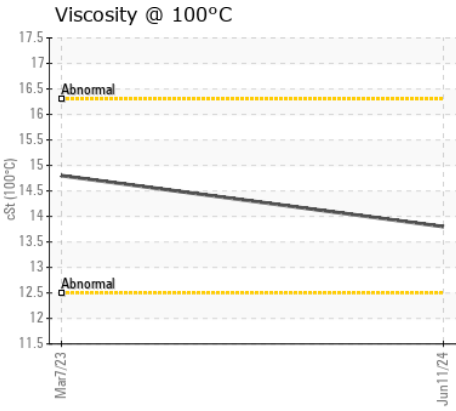
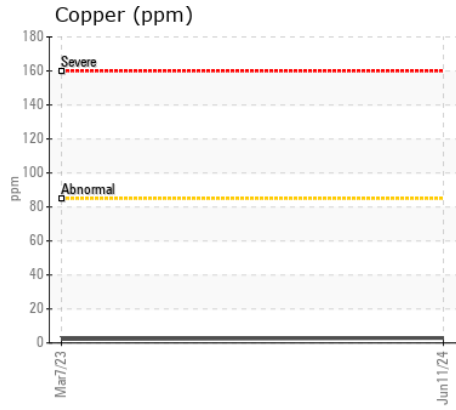
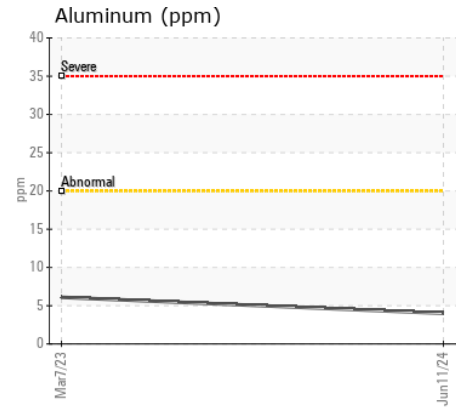
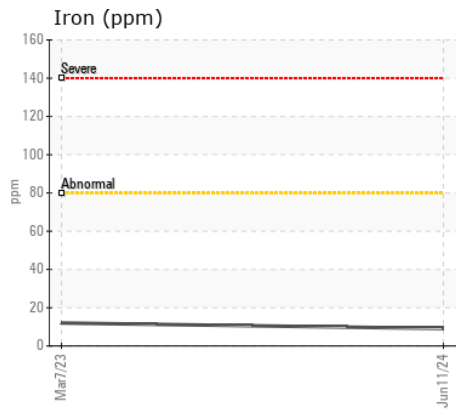
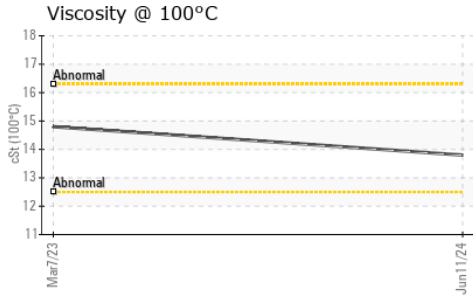
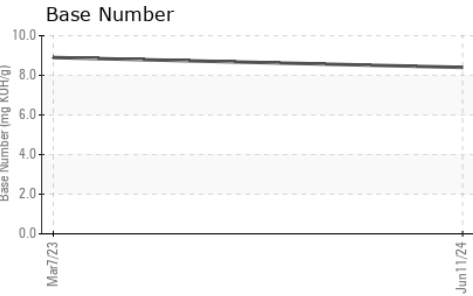
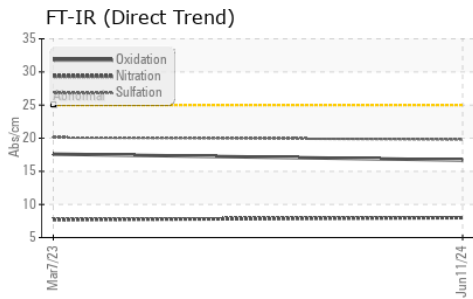
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	4	4	---
Potassium	ppm	ASTM D5185m	>20	6	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		0.2	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	8.0	7.7	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.8	20.1	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	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		5	4	---
Boron	ppm	ASTM D5185m		84	63	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		35	45	---
Manganese	ppm	ASTM D5185m		<1	1	---
Magnesium	ppm	ASTM D5185m		656	904	---
Calcium	ppm	ASTM D5185m		1507	1169	---
Phosphorus	ppm	ASTM D5185m		1068	1023	---
Zinc	ppm	ASTM D5185m		1270	1293	---
Sulfur	ppm	ASTM D5185m		3980	3680	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.7	17.6	---
Base Number (BN)	mg KOH/g	ASTM D2896		8.4	8.9	---
Visc @ 100°C	cSt	ASTM D445		13.8	14.8	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VPA062575 **Received** : 20 Jun 2024
Lab Number : 06215390 **Tested** : 21 Jun 2024
Unique Number : 11088254 **Diagnosed** : 21 Jun 2024 - Don Baldrige
Test Package : MOB 1 (Additional Tests: TBN)

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 Kent, WA
 US 98032
 Contact: PAT RYAN
 pryan@pacificpowergroup.com
 T: (253)520-5163
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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)