



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
NICK DENISSEN [501840]
 Machine Id
VOLVO PENTA 7008458664 (S/N 70084588664)
 Component
Starboard Diesel Engine
 Fluid
VOLVO VDS-4.5 Premium Motor Oil 15W40 (8 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VPA055422	VPA037084	VPA029312
Sample Date		Client Info		06 Apr 2023	07 Sep 2021	05 Aug 2020
Machine Age	hrs	Client Info		0	266	168
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Changed	Changed
Filter Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	9	12	22
Chromium	ppm	ASTM D5185m	>6	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	<1	2	2
Aluminum	ppm	ASTM D5185m	>20	0	1	3
Lead	ppm	ASTM D5185m	>95	0	<1	0
Copper	ppm	ASTM D5185m	>85	30	44	66
Tin	ppm	ASTM D5185m	>9	0	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

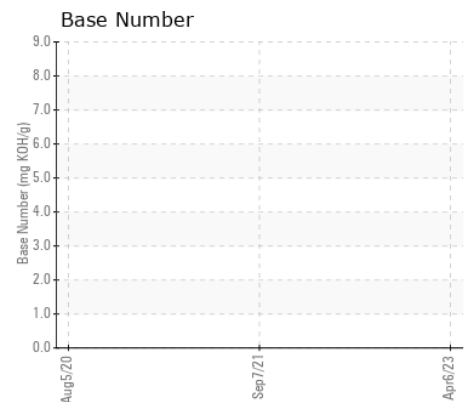
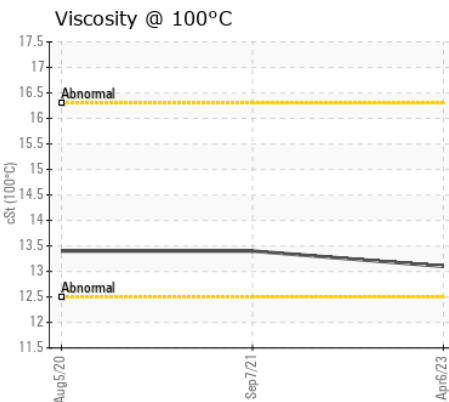
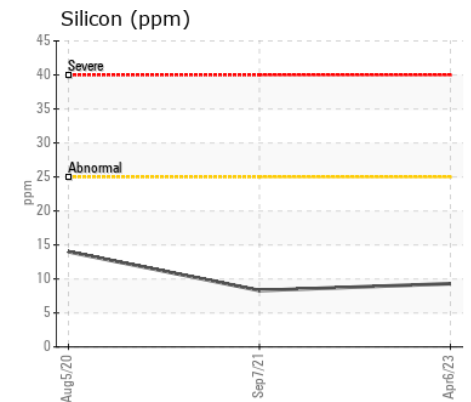
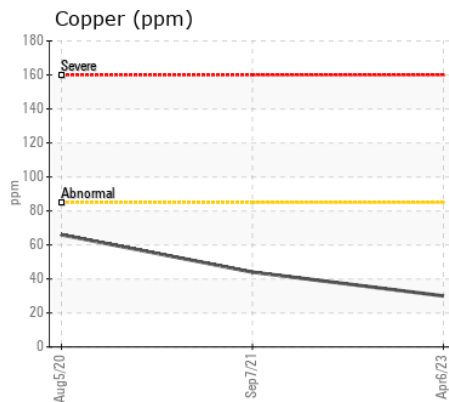
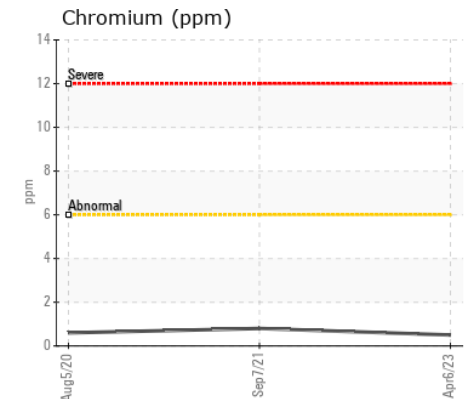
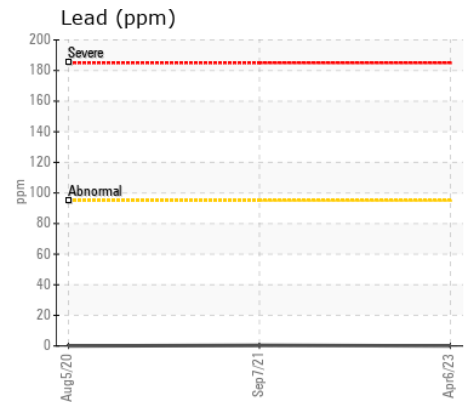
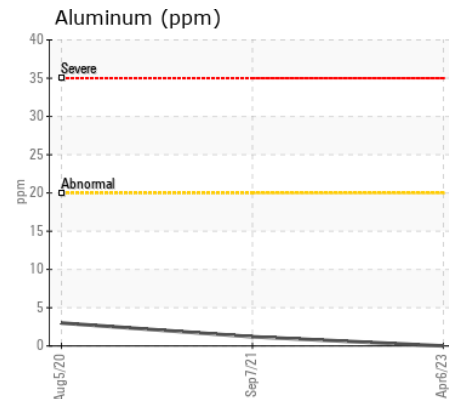
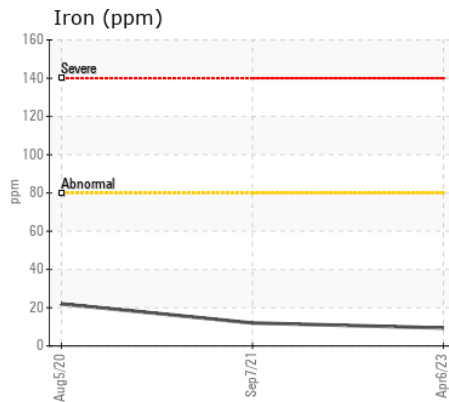
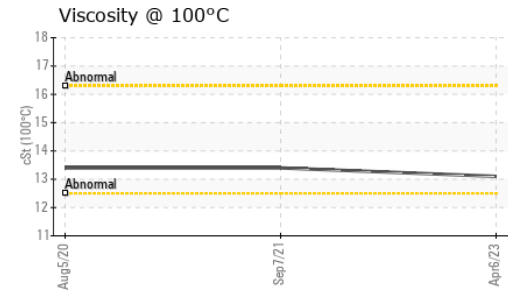
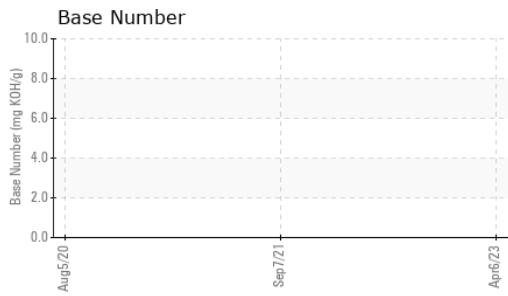
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	9	8	14
Potassium	ppm	ASTM D5185m	>20	1	<1	0
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.2	0.3	0.5
Nitration	Abs/cm	*ASTM D7624	>20	5.6	6.3	6.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.8	20.2	20.8
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	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		2	6	59
Boron	ppm	ASTM D5185m		0	6	11
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		55	58	61
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		848	995	900
Calcium	ppm	ASTM D5185m		983	1130	1198
Phosphorus	ppm	ASTM D5185m		942	1073	1080
Zinc	ppm	ASTM D5185m		1103	1295	1345
Sulfur	ppm	ASTM D5185m		2645	2959	2888
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.7	14.9	15.4
Base Number (BN)	mg KOH/g	ASTM D2896		8.9	---	---
Visc @ 100°C	cSt	ASTM D445		13.1	13.4	13.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VPA055422 **Received** : 12 Apr 2023
Lab Number : 05818020 **Diagnosed** : 14 Apr 2023
Unique Number : 10426103 **Diagnostician** : 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)