



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area  
**NADINE URCIUOLI [BEN KOPF]**

Machine Id  
**VOLVO PENTA 7008494609**

Component  
**Starboard Diesel Engine**

Fluid  
**VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (8 GAL)**

**RECOMMENDATION**

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VPA062260	VPA055951	---
Sample Date		Client Info		13 Jun 2024	15 Nov 2023	---
Machine Age	hrs	Client Info		489	457	---
Oil Age	hrs	Client Info		489	457	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Not Chngd	Changed	---
Filter Changed		Client Info		Not Chngd	Changed	---
Sample Status				NORMAL	ABNORMAL	---

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	10	25	---
Chromium	ppm	ASTM D5185m	>6	<1	1	---
Nickel	ppm	ASTM D5185m	>2	<1	1	---
Titanium	ppm	ASTM D5185m	>2	0	0	---
Silver	ppm	ASTM D5185m	>2	<1	0	---
Aluminum	ppm	ASTM D5185m	>20	2	▲ 49	---
Lead	ppm	ASTM D5185m	>95	0	<1	---
Copper	ppm	ASTM D5185m	>85	5	10	---
Tin	ppm	ASTM D5185m	>9	<1	0	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

**CONTAMINATION**

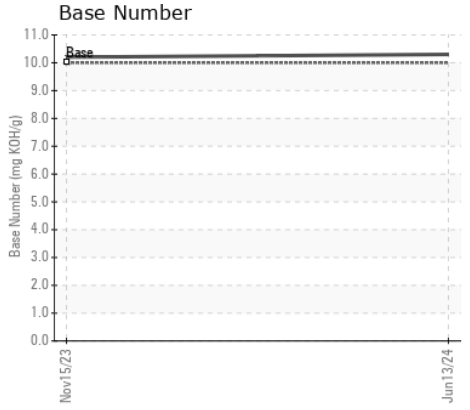
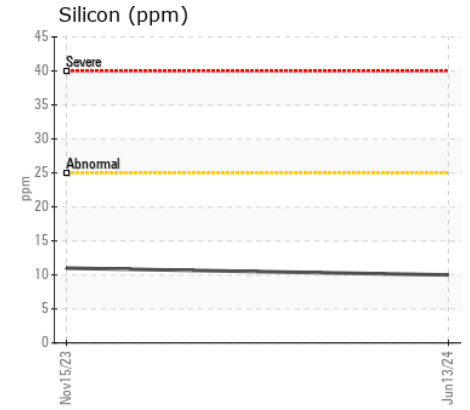
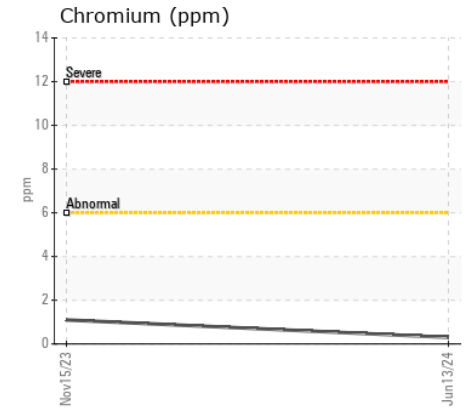
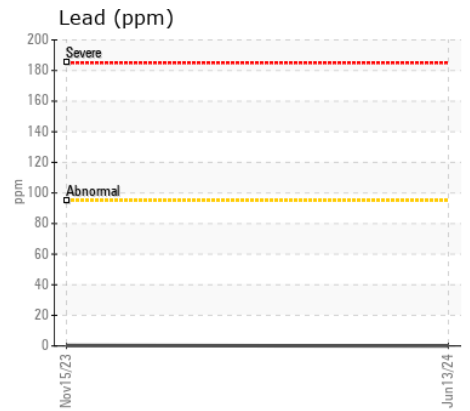
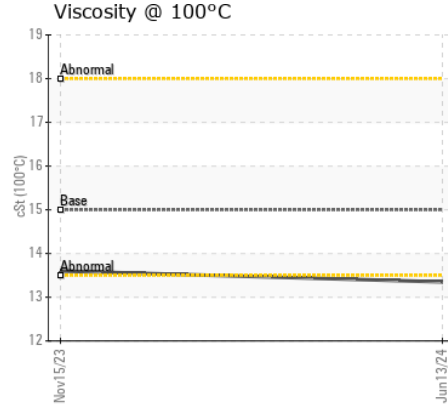
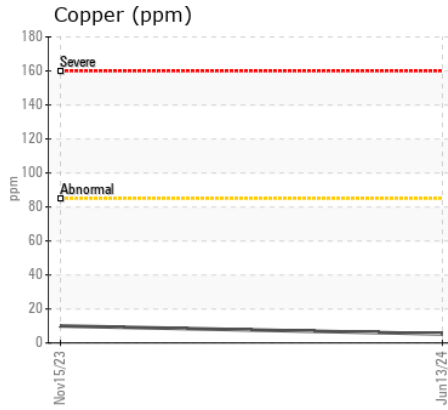
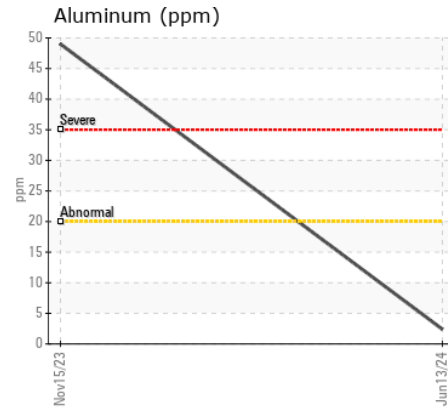
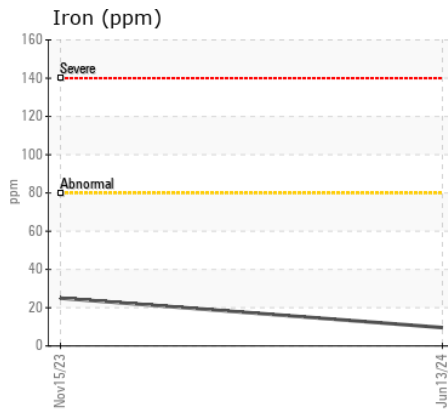
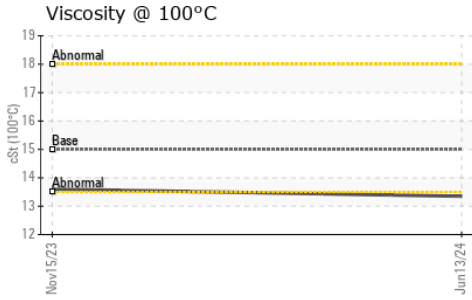
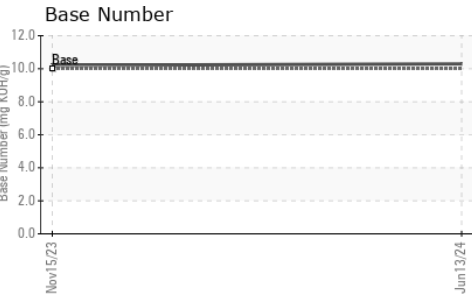
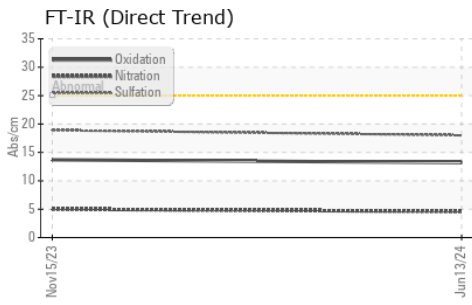
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	10	11	---
Potassium	ppm	ASTM D5185m	>20	3	1	---
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	0.2	---
Nitration	Abs/cm	*ASTM D7624	>20	4.6	5.0	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.0	18.9	---
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 condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		2	5	---
Boron	ppm	ASTM D5185m	2.5	4	<1	---
Barium	ppm	ASTM D5185m	0.0	0	0	---
Molybdenum	ppm	ASTM D5185m	0.7	59	62	---
Manganese	ppm	ASTM D5185m	0.0	<1	<1	---
Magnesium	ppm	ASTM D5185m	256	983	1019	---
Calcium	ppm	ASTM D5185m	2057	1054	1075	---
Phosphorus	ppm	ASTM D5185m	935	1130	1002	---
Zinc	ppm	ASTM D5185m	1223	1274	1354	---
Sulfur	ppm	ASTM D5185m	4079	4101	3436	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.2	13.7	---
Base Number (BN)	mg KOH/g	ASTM D2896	10	10.3	10.2	---
Visc @ 100°C	cSt	ASTM D445	15.0	13.35	13.6	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VPA062260 **Received** : 19 Jun 2024  
**Lab Number** : 06215245 **Tested** : 19 Jun 2024  
**Unique Number** : 11088109 **Diagnosed** : 19 Jun 2024 - Doug Bogart  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**Helmuts Marine Service**  
 619 Canal Street  
 SAN RAFAEL, CA  
 US 94901-3545

Contact: NADINE URUIOLI  
 SERVICE@HELMUTSMARINE.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: x:  
 F: x: