



OIL ANALYSIS REPORT

WEAR	<b>SEVERE</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Area  
**NADINE UCIUOLI [LUKAS SIMMONS]**  
 Machine Id  
**VOLVO PENTA 3101028500 - INBOARD**  
 Component  
**Center Gearbox**  
 Fluid  
**VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (2 GAL)**

**RECOMMENDATION**

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VPA051580	---	---
Sample Date		Client Info		05 Feb 2024	---	---
Machine Age	hrs	Client Info		917	---	---
Oil Age	hrs	Client Info		917	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				SEVERE	---	---

**WEAR**

The copper level is severe. Gear wear is indicated. Clutch disc wear or oil cooler leaching indicated.

PQ		ASTM D8184		242	---	---
Iron	ppm	ASTM D5185m	>150	▲ 222	---	---
Chromium	ppm	ASTM D5185m	>10	<1	---	---
Nickel	ppm	ASTM D5185m	>10	0	---	---
Titanium	ppm	ASTM D5185m		1	---	---
Silver	ppm	ASTM D5185m		<1	---	---
Aluminum	ppm	ASTM D5185m	>5	● 96	---	---
Lead	ppm	ASTM D5185m	>65	11	---	---
Copper	ppm	ASTM D5185m	>80	● 1022	---	---
Tin	ppm	ASTM D5185m	>8	2	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

**CONTAMINATION**

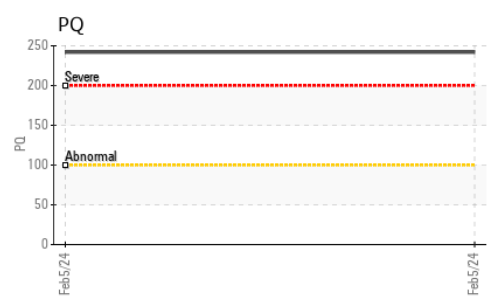
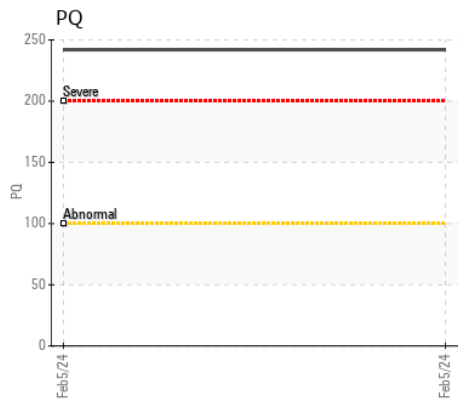
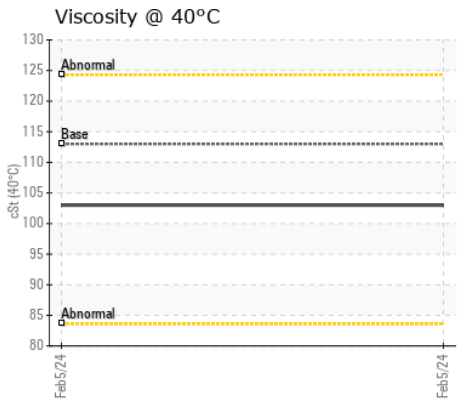
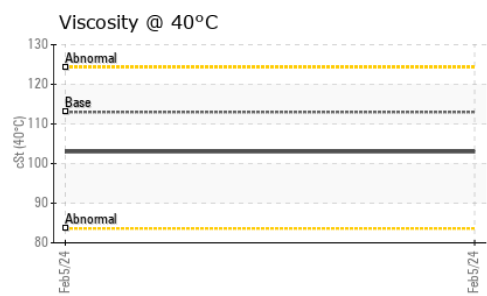
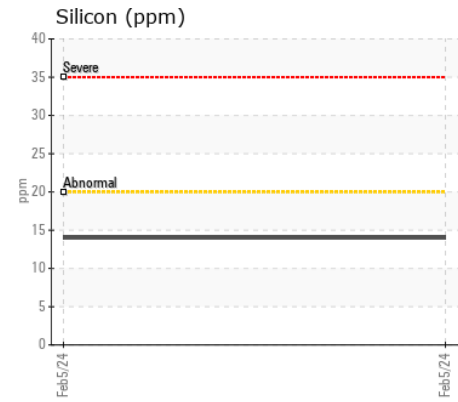
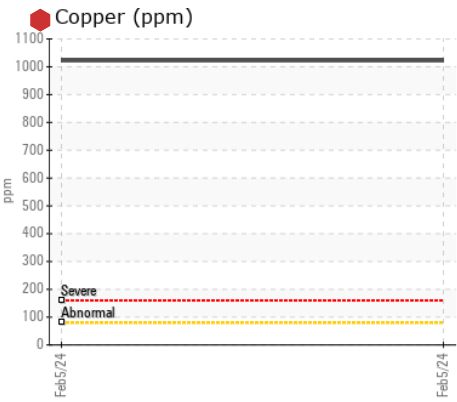
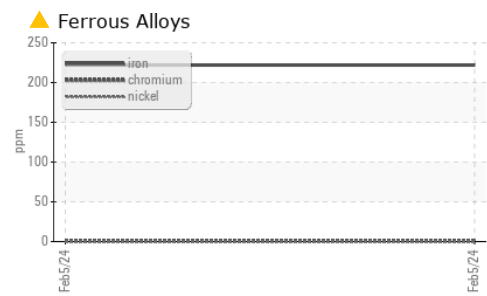
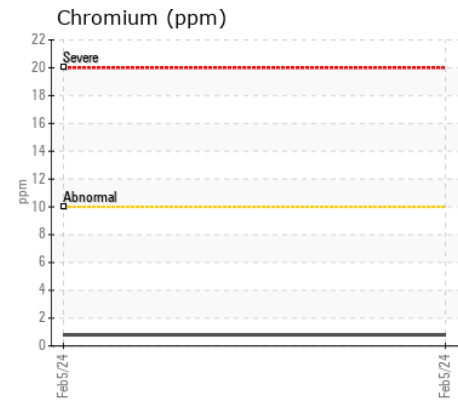
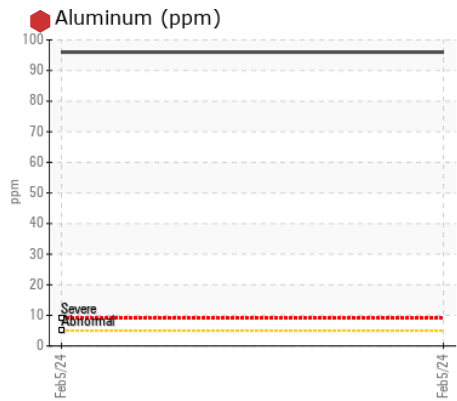
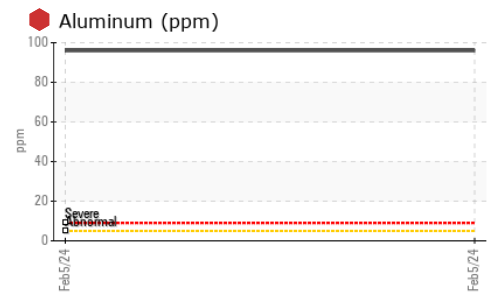
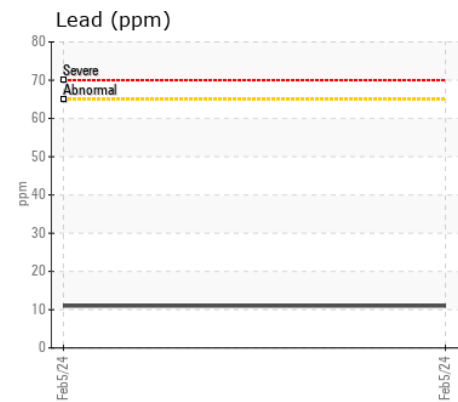
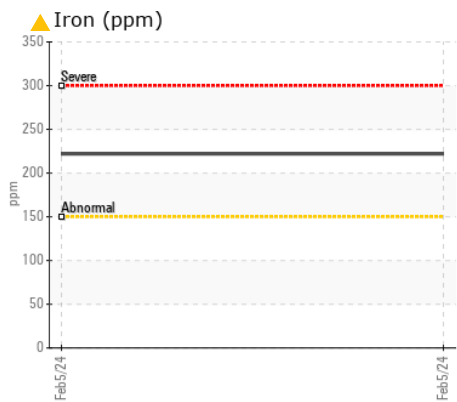
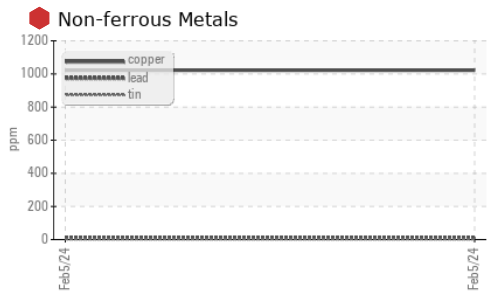
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	14	---	---
Potassium	ppm	ASTM D5185m	>20	7	---	---
Water		WC Method	>0.2	NEG	---	---
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	>0.2	NEG	---	---

**FLUID CONDITION**

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185m		14	---	---
Boron	ppm	ASTM D5185m	2.5	53	---	---
Barium	ppm	ASTM D5185m	0.0	9	---	---
Molybdenum	ppm	ASTM D5185m	0.7	2	---	---
Manganese	ppm	ASTM D5185m	0.0	8	---	---
Magnesium	ppm	ASTM D5185m	256	10	---	---
Calcium	ppm	ASTM D5185m	2057	2288	---	---
Phosphorus	ppm	ASTM D5185m	935	1068	---	---
Zinc	ppm	ASTM D5185m	1223	971	---	---
Sulfur	ppm	ASTM D5185m	4079	8833	---	---
Visc @ 40°C	cSt	ASTM D445	113	103	---	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VPA051580 **Received** : 13 Feb 2024  
**Lab Number** : 06087729 **Tested** : 14 Feb 2024  
**Unique Number** : 10875174 **Diagnosed** : 15 Feb 2024 - Jonathan Hester  
**Test Package** : MOB 1 ( Additional Tests: PQ )

**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