

# OIL ANALYSIS REPORT

# VOLVO PENTA

**NADINE URCIUOLI TOM LARKEY VOLVO PENTA 4110132121 - CENTER GASOLINE ENGINE**

**Sample No:** VPA054895

**Oil Type:** VOLVO 10W40

## SAMPLE INFORMATION

Sample Number	VPA054895	---	---	---
Sample Date	15 Apr 2024	---	---	---
Machine Hours	0	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	ABNORMAL	---	---	---

## OIL CONDITION

Visc @ 100°C	cSt	█ 13.1	---	---	---
Base Number (BN)	mg KOH/g	█ 9.3	---	---	---
Oxidation (PA)	%	28	---	---	---

## CONTAMINATION

Water	%	NEG	---	---	---
Soot %	%	█ 0.1	---	---	---
Nitration (PA)	%	16	---	---	---
Sulfation (PA)	%	23	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	<1.0	---	---	---
Silicon	ppm	▲ 116	---	---	---
Sodium	ppm	█ 44	---	---	---
Potassium	ppm	█ 9	---	---	---

## WEAR METALS

Iron	ppm	▲ 230	---	---	---
Copper	ppm	█ 40	---	---	---
Lead	ppm	█ 26	---	---	---
Tin	ppm	█ 5	---	---	---
Aluminum	ppm	● 22	---	---	---
Chromium	ppm	█ 8	---	---	---
Molybdenum	ppm	52	---	---	---
Nickel	ppm	▲ 7	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	█ 0	---	---	---
Manganese	ppm	8	---	---	---
Vanadium	ppm	0	---	---	---

## ADDITIVES

Calcium	ppm	2295	---	---	---
Magnesium	ppm	170	---	---	---
Zinc	ppm	1417	---	---	---
Phosphorus	ppm	1050	---	---	---
Barium	ppm	0	---	---	---
Boron	ppm	17	---	---	---

### Helmut's Marine Service

619 Canal Street  
SAN RAFAEL, CA  
US 94901-3545  
Contact: NADINE URCIUOLI  
SERVICE@HELMUTSMARINE.COM

T: x:

F: x:

### Diagnosis

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Iron and nickel ppm levels are abnormal. Aluminum ppm levels are noted. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The BN result indicates that there is suitable alkalinity remaining in the oil.

**Depot:** VP152741

**Unique No:** 10994107

**Signed:** Angela Borella

**Report Date:** 25 Apr 2024

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## GRAPHS

