



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

Area  
**NADINE URCIUOLI [JUSTIN SILVERS]**

Machine Id  
**VOLVO PENTA 3940019916**

Component  
**Starboard IPS**

Fluid  
**VOLVO API GL-5 SAE 75W90 (4 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		VPA057148	---	---
Sample Date		Client Info		24 May 2024	---	---
Machine Age	hrs	Client Info		357	---	---
Oil Age	hrs	Client Info		357	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Not Changd	---	---
Filter Changed		Client Info		Not Changd	---	---
Sample Status				ABNORMAL	---	---

### WEAR

The iron level is abnormal. All other component wear rates are normal.

PQ		ASTM D8184		25	---	---
Iron	ppm	ASTM D5185m	>200	▲ 236	---	---
Chromium	ppm	ASTM D5185m	>10	2	---	---
Nickel	ppm	ASTM D5185m	>10	1	---	---
Titanium	ppm	ASTM D5185m		0	---	---
Silver	ppm	ASTM D5185m		0	---	---
Aluminum	ppm	ASTM D5185m		1	---	---
Lead	ppm	ASTM D5185m		0	---	---
Copper	ppm	ASTM D5185m		19	---	---
Tin	ppm	ASTM D5185m		0	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

### CONTAMINATION

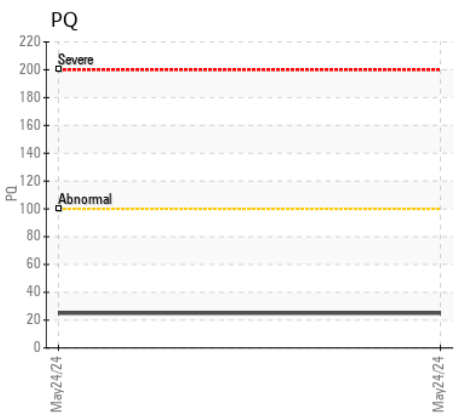
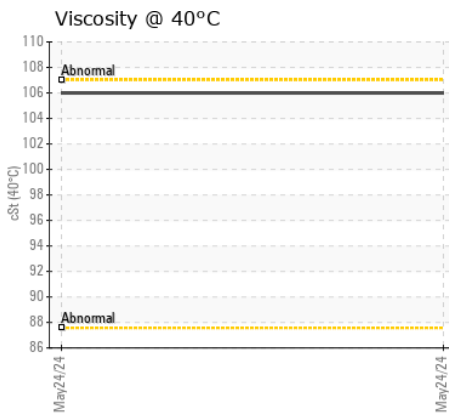
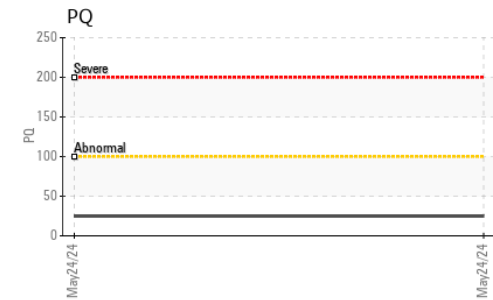
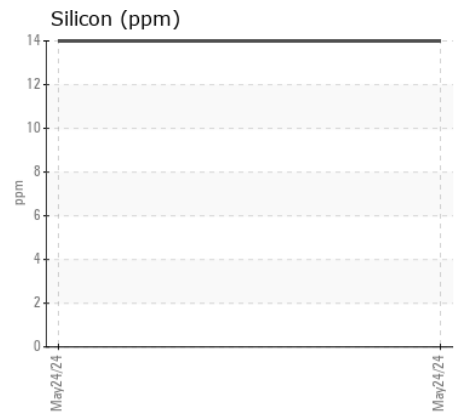
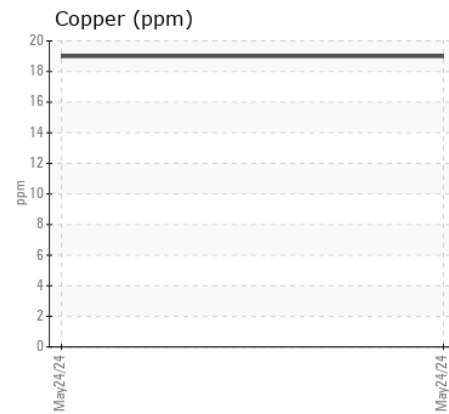
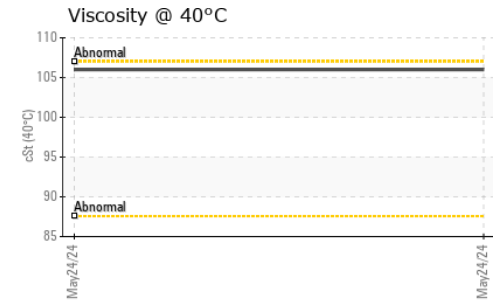
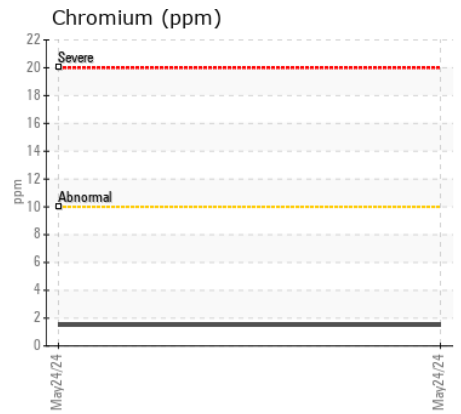
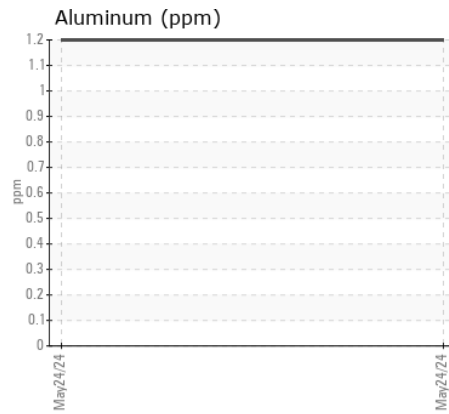
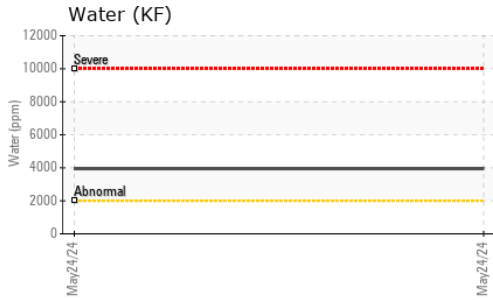
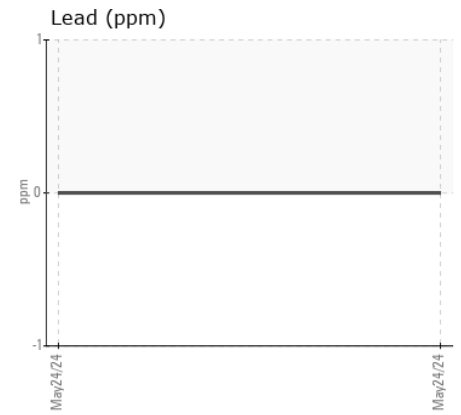
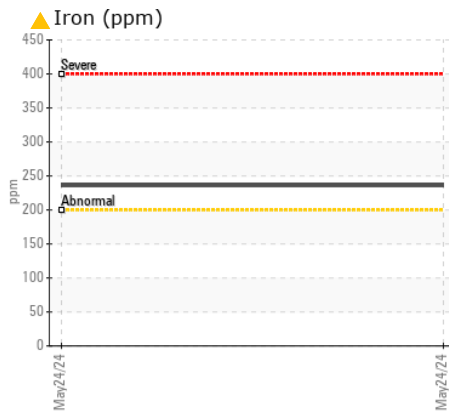
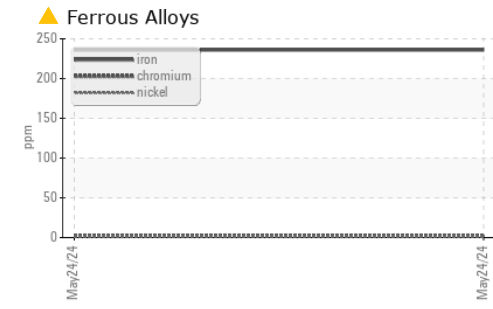
The water content is negligible. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m		14	---	---
Potassium	ppm	ASTM D5185m	>20	<1	---	---
Water	%	ASTM D6304	>0.2	0.395	---	---
ppm Water	ppm	ASTM D6304	>2000	3950	---	---
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	0.2%	---	---

### FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		7	---	---
Boron	ppm	ASTM D5185m		236	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		<1	---	---
Manganese	ppm	ASTM D5185m		6	---	---
Magnesium	ppm	ASTM D5185m		60	---	---
Calcium	ppm	ASTM D5185m		9	---	---
Phosphorus	ppm	ASTM D5185m		1302	---	---
Zinc	ppm	ASTM D5185m		40	---	---
Sulfur	ppm	ASTM D5185m		26250	---	---
Visc @ 40°C	cSt	ASTM D445		106	---	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513

**Sample No.** : VPA057148

**Lab Number** : 06196050

**Unique Number** : 11058173

**Test Package** : MOB 1 ( Additional Tests: KF, PQ )

**Received** : 30 May 2024

**Tested** : 03 Jun 2024

**Diagnosed** : 03 Jun 2024 - Sean Felton

**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: