



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

Area  
**NARDINI**  
Machine Id  
**VOLVO PENTA 2006036757**  
Component  
**Starboard Diesel Engine**  
Fluid  
**{not provided} (--- GAL)**

### RECOMMENDATION

We advise that you check for the source of the coolant leak. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. Please note that there was too much water present in the oil to perform an accurate viscosity test.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>VPA055010</b>	---	---
Sample Date		Client Info		<b>16 Jul 2023</b>	---	---
Machine Age	hrs	Client Info		<b>0</b>	---	---
Oil Age	hrs	Client Info		<b>0</b>	---	---
Filter Age	hrs	Client Info		<b>0</b>	---	---
Oil Changed		Client Info		<b>N/A</b>	---	---
Filter Changed		Client Info		<b>N/A</b>	---	---
Sample Status				<b>SEVERE</b>	---	---

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	<b>21</b>	---	---
Chromium	ppm	ASTM D5185m	>6	<b>&lt;1</b>	---	---
Nickel	ppm	ASTM D5185m	>2	<b>1</b>	---	---
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	---	---
Silver	ppm	ASTM D5185m	>2	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	---	---
Lead	ppm	ASTM D5185m	>95	<b>&lt;1</b>	---	---
Copper	ppm	ASTM D5185m	>85	<b>2</b>	---	---
Tin	ppm	ASTM D5185m	>9	<b>&lt;1</b>	---	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---

### CONTAMINATION

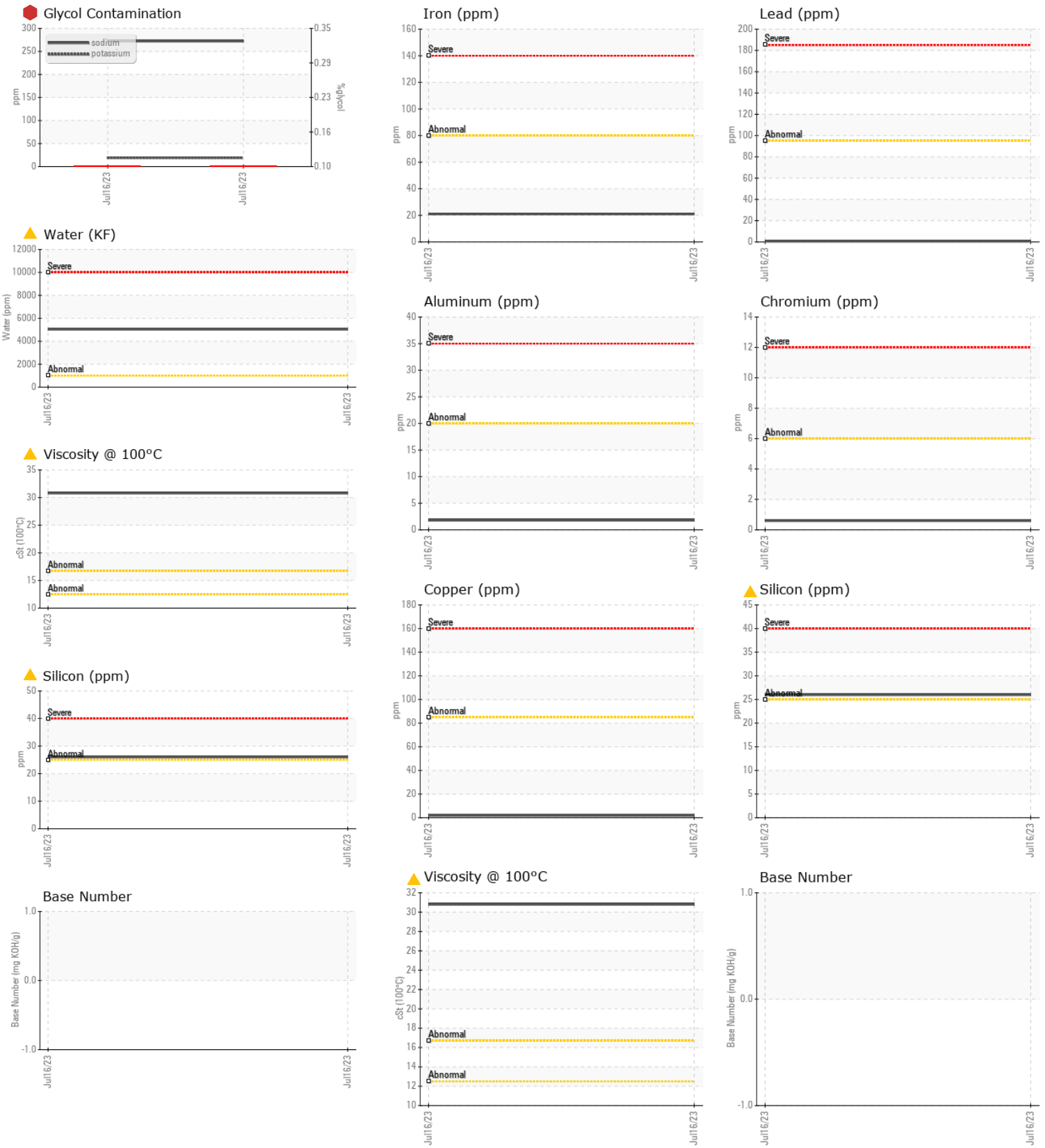
Test for glycol is positive. There is a moderate concentration of water present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material.

Silicon	ppm	ASTM D5185m	>25	<b>▲ 26</b>	---	---
Potassium	ppm	ASTM D5185m	>20	<b>19</b>	---	---
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	---	---
Water	%	ASTM D6304	>0.1	<b>▲ 0.504</b>	---	---
ppm Water	ppm	ASTM D6304	>1000	<b>▲ 5040</b>	---	---
Glycol	%	*ASTM D2982		<b>◆ 0.10</b>	---	---
Soot %	%	*ASTM D7844		<b>0.5</b>	---	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>42.8</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>0.0</b>	---	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Debris	scalar	*Visual	NONE	<b>LIGHT</b>	---	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Appearance	scalar	*Visual	NORML	<b>▲ MILKY</b>	---	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	---	---
Emulsified Water	scalar	*Visual	>0.1	<b>▲ 0.2%</b>	---	---

### FLUID CONDITION

The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		<b>▲ 272</b>	---	---
Boron	ppm	ASTM D5185m		<b>195</b>	---	---
Barium	ppm	ASTM D5185m		<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m		<b>3</b>	---	---
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
Magnesium	ppm	ASTM D5185m		<b>47</b>	---	---
Calcium	ppm	ASTM D5185m		<b>1578</b>	---	---
Phosphorus	ppm	ASTM D5185m		<b>763</b>	---	---
Zinc	ppm	ASTM D5185m		<b>956</b>	---	---
Sulfur	ppm	ASTM D5185m		<b>3051</b>	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>38.4</b>	---	---
Visc @ 100°C	cSt	ASTM D445		<b>▲ 30.8</b>	---	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VPA055010 **Received** : 17 Jul 2023  
**Lab Number** : 05899753 **Diagnosed** : 20 Jul 2023  
**Unique Number** : 10561109 **Diagnostician** : Doug Bogart  
**Test Package** : MOB 1 ( Additional Tests: Glycol, KF, TBN )

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)

**Outstanding Marine**

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