

ED OELTJEN [DANIEL/502899] Machine Id VOLVO PENTA A460783 - STERNDRIVE

Starboard Gearbox

GEAR OIL SAE 75W90 (--- QTS)

RECOMMENDATION

The oil change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

WEAR

The aluminum level is abnormal.

CONTAMINATION

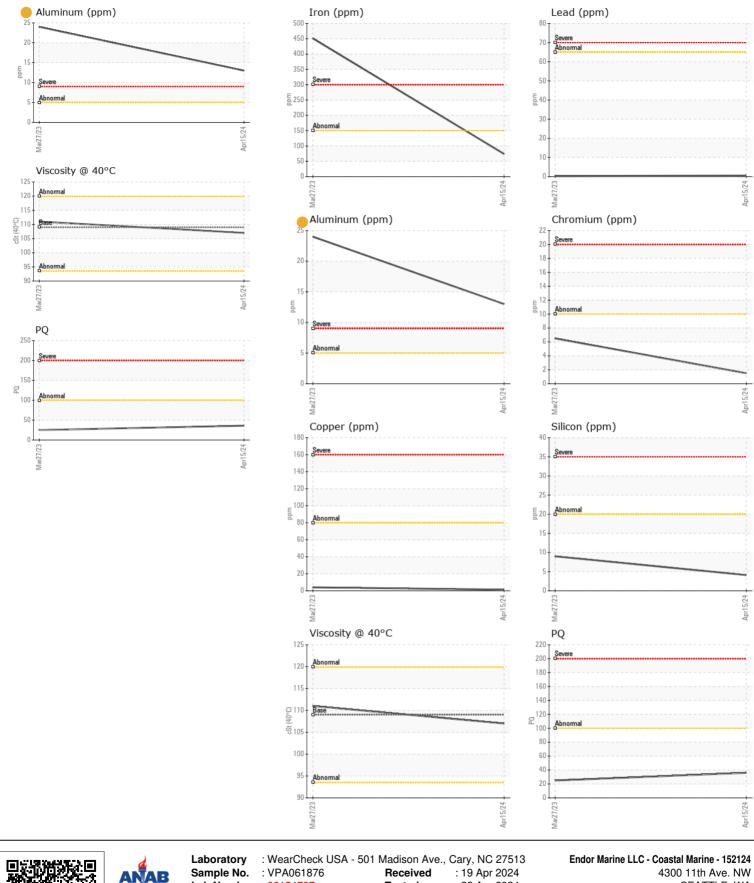
The water content is negligible. There is no indication of any contamination in the oil.

FLUID CONDITION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VPA061876	VPA055425	
Sample Date		Client Info		15 Apr 2024	27 Mar 2023	
Machine Age	hrs	Client Info		727	677	
Oil Age	hrs	Client Info		0	0	
Filter Age	hrs	Client Info		0	0	
Oil Changed		Client Info		Changed	N/A	
Filter Changed		Client Info		Changed	N/A	
Sample Status				ATTENTION	SEVERE	
PQ		ASTM D8184		36	25	
Iron	ppm	ASTM D5185m	>150	74	451	
Chromium	ppm	ASTM D5185m	>10	2	6	
Nickel	ppm	ASTM D5185m	>10	12	8	
Titanium	ppm	ASTM D5185m		2	1	
Silver	ppm	ASTM D5185m		- <1	0	
Aluminum	ppm	ASTM D5185m	>5	 13 	▲ 24	
Lead	ppm	ASTM D5185m	>65	<1	<1	
Copper	ppm	ASTM D5185m	>80	1	4	
Tin	ppm	ASTM D5185m	>8	<1	0	
Vanadium	ppm	ASTM D5185m		0	<1	
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
	scalar					
Silicon	ppm	ASTM D5185m	>20	4	9	
Silicon Potassium		ASTM D5185m ASTM D5185m	>20 >20	4 3	9 1	
Silicon Potassium Water	ppm ppm	ASTM D5185m ASTM D5185m WC Method	>20 >20 >20 >0.2	4 3 NEG	9 1 NEG	
Silicon Potassium Water Silt	ppm ppm scalar	ASTM D5185m ASTM D5185m WC Method *Visual	>20 >20 >0.2 NONE	4 3 NEG NONE	9 1 NEG NONE	
Silicon Potassium Water Silt Debris	ppm ppm scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual	>20 >20 >0.2 NONE NONE	4 3 NEG NONE NONE	9 1 NEG NONE LIGHT	
Silicon Potassium Water Silt Debris Sand/Dirt	ppm ppm scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual	>20 >20 >0.2 NONE NONE NONE	4 3 NEG NONE NONE NONE	9 1 NEG NONE LIGHT NONE	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance	ppm ppm scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual	>20 >20 >0.2 NONE NONE NONE NORML	4 3 NEG NONE NONE NONE NORML	9 1 NEG NONE LIGHT NONE MILKY	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor	ppm ppm scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual	>20 >20 >0.2 NONE NONE NORE NORML	4 3 NEG NONE NONE NONE NORML NORML	9 1 NEG NONE LIGHT NONE MILKY NORML	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance	ppm ppm scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual	>20 >20 >0.2 NONE NONE NONE NORML	4 3 NEG NONE NONE NONE NORML	9 1 NEG NONE LIGHT NONE MILKY	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor	ppm ppm scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual	>20 >20 >0.2 NONE NONE NORE NORML	4 3 NEG NONE NONE NONE NORML NORML	9 1 NEG NONE LIGHT NONE MILKY NORML	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water	ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual	>20 >20 >0.2 NONE NONE NORE NORML	4 3 NEG NONE NONE NONE NORML NORML NEG	9 1 NEG NONE LIGHT NONE MILKY NORML 0.2%	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	ppm ppm scalar scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>20 >20 >0.2 NONE NONE NORML NORML >0.2	4 3 NEG NONE NONE NORML NORML NEG 3	9 1 NEG NONE LIGHT NONE MILKY NORML ▲ 0.2%	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	ppm ppm scalar scalar scalar scalar scalar scalar gpm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>20 >20 >0.2 NONE NONE NORML >0.2	4 3 NEG NONE NONE NORML NORML NEG 3 346	9 1 NEG NONE LIGHT NONE MILKY NORML ▲ 0.2% 10 300	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>20 >20 >0.2 NONE NONE NORML NORML >0.2	4 3 NEG NONE NONE NORML NORML NEG 3 346 0	9 1 NEG NONE LIGHT NONE MILKY NORML ▲ 0.2% 10 300 0	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum	ppm ppm scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	>20 >20 >0.2 NONE NONE NORML NORML >0.2	4 3 NEG NONE NONE NORML NORML NEG 3 346 0	9 1 NEG NONE LIGHT NONE MILKY NORML 0.2% 10 300 0 <1	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	ppm ppm scalar scalar scalar scalar scalar gpm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >20 >0.2 NONE NORME NORML >0.2	4 3 NEG NONE NONE NORML NORML NEG 3 346 0 0 2	9 1 NEG NONE LIGHT NONE MILKY NORML 0.2% 10 300 0 <1 6	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	ppm ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	 >20 >20 >0.2 NONE NORME NORML >0.2 400 200 12 12 	4 3 NEG NONE NONE NORML NORML NEG 3 346 0 0 2 2 2	9 1 NEG NONE LIGHT NONE MILKY NORML 0.2% 10 300 0 <1 6 16	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	 >20 >20 >0.2 NONE NORME NORML >0.2 400 200 12 12 12 150 	4 3 NEG NONE NONE NORML NORML NEG 3 346 0 0 2 2 2 2	9 1 NEG NONE LIGHT NONE MILKY NORML 0.2% 10 300 0 <16 6 16 31	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	 >20 >20 >0.2 NONE NONE NORML NORML >0.2 400 200 12 12 150 1650 	4 3 NEG NONE NONE NORML NORML NEG 3 346 0 0 2 2 2 2 2 2 1369	9 1 NEG NONE LIGHT NONE MILKY NORML 0.2% 10 300 0 <1 6 16 31 1465	

Contact/Location: WILLOW YANARELLA - VP794951



Lab Number : 06154787 Tested SEATTLE, WA : 22 Apr 2024 Unique Number : 10990210 : 23 Apr 2024 - Don Baldridge US 98107 Diagnosed Test Package : MOB 1 (Additional Tests: PQ) Contact: WILLOW YANARELLA Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. service@coastalmarineengine.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (206)784-3703 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (206)784-8823

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