WEAR CONTAMINATION FLUID CONDITION

NORMAL NORMAL

RIO [540259]

VOLVO PENTA 7011388085

Port Diesel Engine

VOLVO PENTA SAE 15W40 (11 GAL)

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor.	Sample Number		Client Info		VPA046430		
	Sample Date		Client Info		05 May 2024		
	Machine Age	hrs	Client Info		1210		
	Oil Age	hrs	Client Info		0		
	Filter Age	hrs	Client Info		0		
	Oil Changed		Client Info		Not Changd		
	Filter Changed		Client Info		Not Changd		
	Sample Status				NORMAL		
WEAR	Iron	nnm	ASTM D5185m	\ 80	0		
All component wear rates are normal.	Chromium	ppm	ASTM D5185m		0		
	Nickel	ppm	ASTM D5185m		0		
	Titanium	ppm	ASTM D5185m		0		
	Silver	ppm	ASTM D5185m		0		
	Aluminum	ppm	ASTM D5185m		<1		
	Lead	ppm	ASTM D5185m		<1		
	Copper	ppm	ASTM D5185m		1		
	Tin	ppm	ASTM D5185m		- <1		
	Vanadium	ppm	ASTM D5185m		0		
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	5		
There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185m	>20	<1		
	Fuel		WC Method		<1.0		
	Water		WC Method	>0.1	NEG		
	Glycol		WC Method		NEG		
	Soot %	%	*ASTM D7844		0.1		
	Nitration	Abs/cm	*ASTM D7624		4.8		
	Sulfation	Abs/.1mm	*ASTM D7415		18.1		
	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	>0.1	NEG		
FLUID CONDITION	Sodium	ppm	ASTM D5185m		<1		
	Boron	ppm	ASTM D5185m		4		
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.	Barium	ppm	ASTM D5185m		0		
	Molybdenum	ppm	ASTM D5185m		56		
	Manganese	ppm	ASTM D5185m		<1		
	Magnesium	ppm	ASTM D5185m		909		
	Calcium	ppm	ASTM D5185m		1038		
	Phosphorus	ppm	ASTM D5185m		1047		
	Zinc	ppm	ASTM D5185m		1203		
	Sulfur	ppm	ASTM D5185m		3712		
	Oxidation	Abs/.1mm	*ASTM D7414	>25	13.4		
		1/011/	A OTA A DOGGO		10.0		
	Base Number (BN)	mg KOH/g	ASTM D2896		10.0		





Certificate L2367

Laboratory Sample No.

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

: VPA046430 Lab Number : 06175210 Unique Number : 11021263

Received **Tested** Diagnosed

: 13 May 2024 : 13 May 2024 - Don Baldridge

: 10 May 2024

Test Package : MOB 1 (Additional Tests: 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)

Marine International Diesels Inc.

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