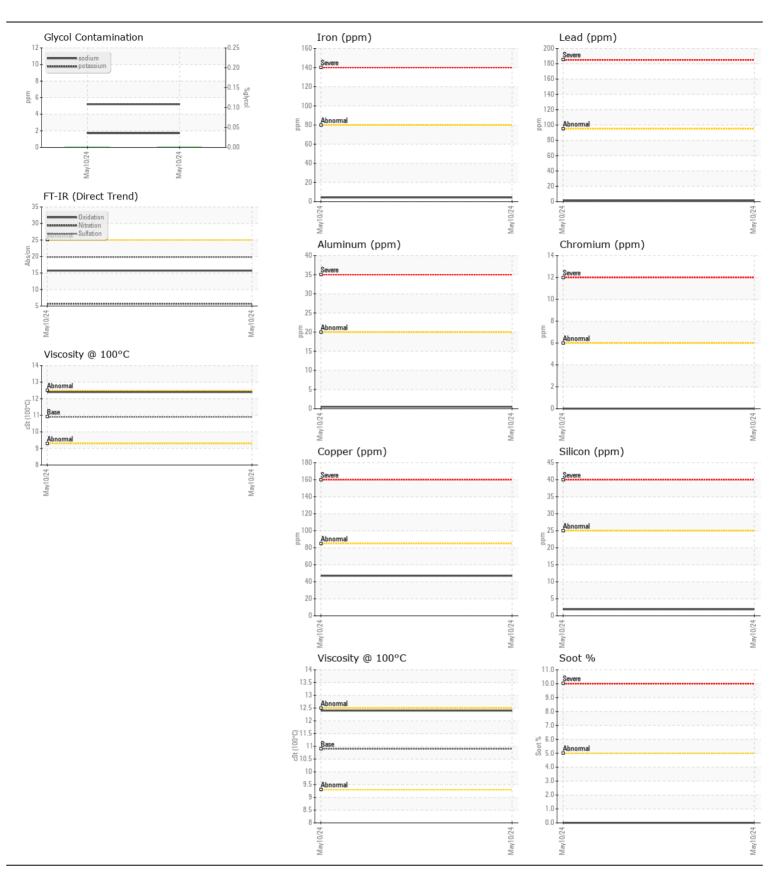
WEAR CONTAMINATION FLUID CONDITION **NORMAL NORMAL NORMAL**

SLEEPING BEAR

YANMAR M60579

Starboard Diesel Engine

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 30. Please confirm.	Sample Number		Client Info		VPA039172		
	Sample Date		Client Info		10 May 2024		
	Machine Age	hrs	Client Info		1142		
	Oil Age	hrs	Client Info		0		
	Filter Age	hrs	Client Info		0		
	Oil Changed		Client Info		N/A		
	Filter Changed		Client Info		N/A		
	Sample Status				NORMAL		
WEAR	Iron	ppm	ASTM D5185(m)		4		
All component wear rates are normal.	Chromium	ppm	ASTM D5185(m)		0		
	Nickel	ppm	ASTM D5185(m)		0		
	Titanium	ppm	ASTM D5185(m)		0		
	Silver	ppm	ASTM D5185(m)		0		
	Aluminum	ppm	ASTM D5185(m)		<1		
	Lead	ppm	ASTM D5185(m)		1		
	Copper	ppm	ASTM D5185(m)		47		
	Tin	ppm	ASTM D5185(m)	>9	0		
	Vanadium	ppm	ASTM D5185(m)		0		
	White Metal	scalar	Visual*	NONE	NONE		
	Yellow Metal	scalar	Visual*	NONE	NONE		
CONTAMINATION	Silicon	ppm	ASTM D5185(m)	>25	2		
CHTAMINATION	Potassium	ppm	ASTM D5185(m)		5		
There is no indication of any contamination in the oil.	Fuel	ррпп		>4.0	<1.0		
	Water		WC Method		NEG		
	Glycol	%	ASTM D7922*	70.1	0.0		
	Soot %	%	ASTM D7844*		0		
	Nitration	Abs/cm	ASTM D7624*	>20	5.7		
	Sulfation	Abs/.1mm			19.8		
	Silt	scalar	Visual*	NONE	NONE		
	Debris	scalar	Visual*	NONE	VLITE		
	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 D5185(m)		2		
The condition of the oil is acceptable for the time in service.	Boron	ppm	ASTM D5185(m)		165		
	Barium	ppm	ASTM D5185(m)		0		
	Molybdenum	ppm	ASTM D5185(m)	100	2		
	Manganese	ppm	ASTM D5185(m)	450	0		
	Magnesium	ppm	ASTM D5185(m)		39		
		ppm	ASTM D5185(m)		1963		
	Calcium						
	Phosphorus	ppm	ASTM D5185(m)		904		
	Phosphorus Zinc	ppm	ASTM D5185(m)	1350	1023		
	Phosphorus			1350 4250			





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No.

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 : VPA039172 Lab Number : 02635508

Unique Number : 5776661

Received **Tested** Diagnosed

: 15 May 2024 - Kevin Marson

: 15 May 2024

: 15 May 2024

Test Package: MOB 1 (Additional Tests: Glycol, Visual) To discuss this sample report, contact Customer Service at 1-800-268-2131.

Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

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