

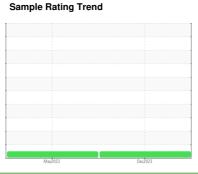
OIL ANALYSIS REPORT

PROPULSION EQUIPMENT BRUNVOLL BOWTHRUSTER (CAL006) (S/N 11395)

Component

Gear Unit

MOBIL MOBILGEAR 600 XP ISO 68 (60 LTR)





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

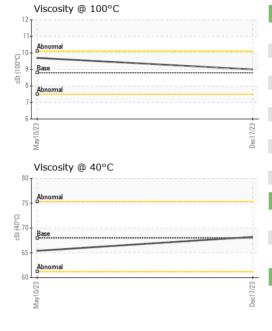
Fluid Condition

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

R)			May2023	Dec2023		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PC0010697	PC0011655	
Sample Date		Client Info		17 Dec 2023	10 May 2023	
Machine Age	hrs	Client Info		0	0	
Oil Age	hrs	Client Info		0	0	
Oil Changed		Client Info		N/A	N/A	
Sample Status				NORMAL	NORMAL	
CONTAMINATI	ON	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>125	12	3	
Chromium	ppm	ASTM D5185(m)	>5	0	0	
Nickel	ppm	ASTM D5185(m)	>10	<1	0	
Titanium	ppm	ASTM D5185(m)		<1	4	
Silver	ppm	ASTM D5185(m)		<1	0	
Aluminum	ppm	ASTM D5185(m)	>30	<1	<1	
Lead	ppm	ASTM D5185(m)	>5	<1	<1	
Copper	ppm	ASTM D5185(m)	>100	2	<1	
Tin	ppm	ASTM D5185(m)	>5	0	0	
Antimony	ppm	ASTM D5185(m)	>5	0	<1	
Vanadium	ppm	ASTM D5185(m)		0	0	
Beryllium	ppm	ASTM D5185(m)		0	0	
Cadmium	ppm	ASTM D5185(m)		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		5	4	
Barium	ppm	ASTM D5185(m)		<1	0	
Molybdenum	ppm	ASTM D5185(m)		0	0	
Manganese	ppm	ASTM D5185(m)		0	0	
Magnesium	ppm	ASTM D5185(m)		0	0	
Calcium	ppm	ASTM D5185(m)		2	0	
Phosphorus	ppm	ASTM D5185(m)		370	587	
Zinc	ppm	ASTM D5185(m)		20	10	
Sulfur	ppm	ASTM D5185(m)		7943	5094	
Lithium	ppm	ASTM D5185(m)		<1	<1	
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>50	<1	3	
Sodium	ppm	ASTM D5185(m)		<1	<1	
Potassium	ppm	ASTM D5185(m)	>20	0	0	



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VISUAL		method	limit/base	current	history1	history	
White Metal	scalar	Visual*	NONE	NONE	NONE		
Yellow Metal	scalar	Visual*	NONE	NONE	NONE		
Precipitate	scalar	Visual*	NONE	NONE	NONE		
Silt	scalar	Visual*	NONE	NONE	NONE		
Debris	scalar	Visual*	NONE	NONE	NONE		
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE		
Appearance	scalar	Visual*	NORML	NORML	NORML		
Odor	scalar	Visual*	NORML	NORML	NORML		
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG		
Free Water	scalar	Visual*	- 0.2	NEG	NEG		
FLUID PROPE	RTIES	method	limit/base	current	history1	history	
Visc @ 40°C	cSt	ASTM D7279(m)	68	68.2	65.4		
/isc @ 100°C	cSt	ASTM D7279(m)	8.8	9	9.7		
Viscosity Index (VI)	Scale	ASTM D2270*	101	106	130		
SAMPLE IMAG	iES	method	limit/base	current	history1	history	
Color						no image	
GRAPHS Iron (ppm)				Lead (ppm)			
Abnormal			<u>§</u> 10	Abnormal			
May10/23			Dec17/23	May10/23			
Aluminum (ppm)			20	Chromium (p	pm)		
Severe Abnormal			<u>E</u> 10	Severe Abnormal			
0,23			- 52/1	0/23			
May10			Decl	May1C			
Copper (ppm)			100	Silicon (ppm)			
Severe O Abnormal			<u>E</u> 50	Abnormal			
			0.	C3			
May10/23			Dec17/23	May10/23			
				Additives			
Viscosity @ 40°C				Additives			



CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number Unique Number : 5696974

: PC0010697

: 02603889

Recieved Diagnosed : 19 Dec 2023 Diagnostician : Wes Davis

: 18 Dec 2023

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Ocean Choice International - MV Calvert 1315 Topsail Rd, P.O. Box 8190 St. John's, NL

CA A1B 3N4

Test Package : MOB 1 (Additional Tests: KV100, VI) To discuss this sample report, contact Customer Service at 1-800-268-2131. Contact: Calvert Engine Control Room calvertengine@oceanchoice.com

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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F: