

OIL ANALYSIS REPORT

Sample Rating Trend

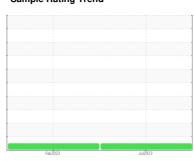




ABB MLU2 Component **Outboard Pump**

NOT GIVEN (--- GAL)

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

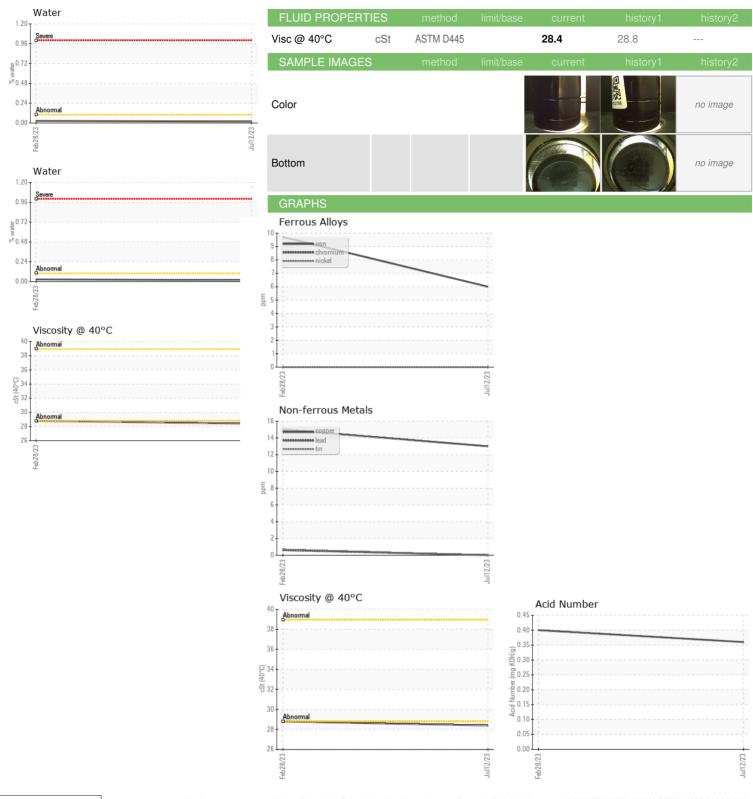
Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION				Feb 2023	Jul2023		
Sample Date	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 Oil Age hrs Client Info 0 0 Oil Changed Client Info N/A N/A Sample Status Client Info N/A N/A WEARM Status Limit blass current history1 history2 WEARM Status NORMAL WEARM Status history2 Iron ppm ASTM D5185m >9 6 10 Nickel ppm ASTM D5185m >3 0 0 Nickel ppm ASTM D5185m >3 0 -1 Niker ppm ASTM D5185m >3 0 -1 Lead ppm ASTM D5185m >12 0 -1 Copper ppm ASTM D5185m >9 0 -1 Vanadium	Sample Number		Client Info		RP0032480	RP0032798	
Machine Age hrs Client Info 0 0 Oil Age hrs Client Info 0 0 Oil Changed Client Info N/A N/A Sample Status Client Info N/A N/A WEARM Status Limit blass current history1 history2 WEARM Status NORMAL WEARM Status history2 Iron ppm ASTM D5185m >9 6 10 Nickel ppm ASTM D5185m >3 0 0 Nickel ppm ASTM D5185m >3 0 -1 Niker ppm ASTM D5185m >3 0 -1 Lead ppm ASTM D5185m >12 0 -1 Copper ppm ASTM D5185m >9 0 -1 Vanadium	Sample Date		Client Info		12 Jul 2023	28 Feb 2023	
Oil Age hrs Client Info N/A N/A N/A	•	hrs	Client Info		0	0	
Oil Changed Status Client Info N/A NORMAL NORMAL NORMAL	•	hrs	Client Info		0	0	
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >90 6 10 Chromium ppm ASTM D5185m >5 0 0 Nickel ppm ASTM D5185m >3 0 0 Titanium ppm ASTM D5185m >3 0 <1 Aluminum ppm ASTM D5185m >3 0 <1 Lead ppm ASTM D5185m >12 0 <1 Lead ppm ASTM D5185m >9 0 <1 Lead ppm ASTM D5185m >9 0 <1 Lead ppm ASTM D5185m >9 0 <1 Copper ppm ASTM D5185m >9 0 <1 Vanadium ppm ASTM D5185m 0 0 0	-		Client Info		N/A	N/A	
Iron	Sample Status				NORMAL	NORMAL	
Chromium ppm ASTM D5185m >5 0 0	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>90	6	10	
Titanium	Chromium	ppm	ASTM D5185m	>5	0	0	
Silver	Nickel	ppm	ASTM D5185m	>5	0	0	
Aluminum	Titanium	ppm	ASTM D5185m	>3	0	0	
Lead	Silver	ppm	ASTM D5185m	>3	0	<1	
Copper ppm ASTM D5185m >30 13 15	Aluminum	ppm	ASTM D5185m	>7	<1	1	
Tin ppm ASTM D5185m >9 0 <1 Vanadium ppm ASTM D5185m <1 0 Cadmium ppm ASTM D5185m 0 0 0 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m 77 75 Magnesium ppm ASTM D5185m 0 2 Magnesium ppm ASTM D5185m 0 2 Phosphorus ppm ASTM D5185m 0 2 Zinc ppm ASTM D5185m 0 2 Zinc ppm ASTM D5185m >60 <1 <1 Solium ppm ASTM D5185m >20	Lead	ppm	ASTM D5185m	>12	0	<1	
Tin ppm ASTM D5185m >9 0 <1 Vanadium ppm ASTM D5185m <1 0 Cadmium ppm ASTM D5185m 0 0 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m 0 0 Manganesium ppm ASTM D5185m 77 75 Calcium ppm ASTM D5185m 0 2 Phosphorus ppm ASTM D5185m 0 2 Zinc ppm ASTM D5185m 0 2 Zinc ppm ASTM D5185m 0 2 Zinc ppm ASTM D5185m 0 0	Copper	ppm	ASTM D5185m	>30	13	15	
Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m 77 75 Magnesium ppm ASTM D5185m 0 2 Plosphorus ppm ASTM D5185m 0 2 Zinc ppm ASTM D5185m 0 1 <1	Tin	ppm	ASTM D5185m	>9	0	<1	
Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Magnese ppm ASTM D5185m 77 75 Magnesium ppm ASTM D5185m 0 2 Phosphorus ppm ASTM D5185m 0 2 Zinc ppm ASTM D5185m 0 1 <1	Vanadium	ppm	ASTM D5185m		<1	0	
Boron	Cadmium	ppm	ASTM D5185m		0	0	
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m <1 <1 Magnesium ppm ASTM D5185m 77 75 Calcium ppm ASTM D5185m 0 2 Phosphorus ppm ASTM D5185m 0 2 Zinc ppm ASTM D5185m 0 0 0 Sodium ppm ASTM D5185m >20 <1 <1 Sodium ppm ASTM D5185m >20 <1 <1 Water % ASTM D5185m >20 <1 <1 Water % ASTM D5185m >20 <1	Boron	ppm	ASTM D5185m		0	0	
Manganese ppm ASTM D5185m <1 <1 Magnesium ppm ASTM D5185m 77 75 Calcium ppm ASTM D5185m 0 2 Phosphorus ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m		0	0	
Magnesium ppm ASTM D5185m 77 75 Calcium ppm ASTM D5185m 0 2 Phosphorus ppm ASTM D5185m <1	Molybdenum	ppm	ASTM D5185m		0	0	
Calcium ppm ASTM D5185m 0 2 Phosphorus ppm ASTM D5185m <1	Manganese	ppm	ASTM D5185m		<1	<1	
Phosphorus ppm ASTM D5185m <1 5 Zinc ppm ASTM D5185m 0 2 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 <1 <1 Sodium ppm ASTM D5185m 0 0 0 Potassium ppm ASTM D5185m >20 <1 <1 Water % ASTM D6304 0.018 0.026 ppm Water ppm ASTM D6304 >.1 188.0 260.1 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOHg ASTM D8045 0.36 0.40 FLUID DEGRADATION method limit/base current history1 history2 VISUAL method limit/base current history1 history2	Magnesium	ppm	ASTM D5185m		77	75	
Zinc ppm ASTM D5185m 0 2 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 <1	Calcium	ppm	ASTM D5185m		0	2	
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >60 <1	Phosphorus	ppm	ASTM D5185m		<1	5	
Silicon ppm ASTM D5185m >60 <1 <1 Sodium ppm ASTM D5185m 0 0 Potassium ppm ASTM D5185m >20 <1	Zinc	ppm	ASTM D5185m		0	2	
Sodium ppm ASTM D5185m 0 0 Potassium ppm ASTM D5185m >20 <1 <1 Water % ASTM D6304 0.018 0.026 ppm Water ppm ASTM D6304 >.1 188.0 260.1 FLUID DEGRADATION method limit/base current history1 history2 VISUAL method limit/base current history1 history2 VISUAL method limit/base current history1 history2 VISUAL NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE Silt scalar *Visual NONE NONE NONE Deb	CONTAMINANTS	3	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 <1 Water % ASTM D6304 0.018 0.026 ppm Water ppm ASTM D6304 >.1 188.0 260.1 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.36 0.40 VISUAL method limit/base current history1 history2 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 NORML NORML NORML <td< td=""><td>Silicon</td><td>ppm</td><td>ASTM D5185m</td><td>>60</td><th><1</th><td><1</td><td></td></td<>	Silicon	ppm	ASTM D5185m	>60	<1	<1	
Water % ASTM D6304 ppm 0.018 0.026 ppm Water ppm ASTM D6304 ppm >.1 188.0 260.1 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.36 0.40 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE Yellow 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 NORML NORML NORML NORML Appearance scalar *Visual NORML <t< td=""><td>Sodium</td><td>ppm</td><td>ASTM D5185m</td><td></td><th>0</th><td>0</td><td></td></t<>	Sodium	ppm	ASTM D5185m		0	0	
ppm Water ppm ASTM D6304 >.1 188.0 260.1 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.36 0.40 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE Silt scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Codor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual NORML NORML NORML NEG NEG	Potassium	ppm	ASTM D5185m	>20	<1	<1	
FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.36 0.40 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE LIGHT Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Appearance scalar *Visual NORML NORML NORML Bemulsified Water scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual NORML NORML NORML	Water	%	ASTM D6304		0.018	0.026	
Acid Number (AN) mg KOH/g ASTM D8045 0.36 0.40 VISUAL method limit/base current history1 history2 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 LIGHT Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Appearance scalar *Visual NORML NORML NORML Codor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual NORML NEG NEG	ppm Water	ppm	ASTM D6304	>.1	188.0	260.1	
VISUAL method limit/base current history1 history2 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 LIGHT Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Appearance scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual NORML NORML NORML	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
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 LIGHT Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual NORML NEG NEG	Acid Number (AN)	mg KOH/g	ASTM D8045		0.36	0.40	
Yellow Metalscalar*VisualNONENONENONEPrecipitatescalar*VisualNONENONENONESiltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONELIGHTSand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*VisualNEGNEG	VISUAL		method	limit/base	current	history1	history2
Precipitate scalar *Visual NONE NONE NONE Silt scalar *Visual NONE NONE NONE Debris scalar *Visual NONE NONE LIGHT Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual NEG NEG	White Metal	scalar	*Visual	NONE		NONE	
Silt scalar *Visual NONE NONE NONE Debris scalar *Visual NONE NONE LIGHT Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual NEG NEG	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Debris scalar *Visual NONE NONE LIGHT Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual NEG NEG	Precipitate	scalar	*Visual	NONE		NONE	
Sand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*VisualNEGNEG	Silt	scalar	*Visual	NONE	NONE	NONE	
Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual NEG NEG	Debris	scalar	*Visual	NONE		LIGHT	
Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual NEG NEG	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Emulsified Water scalar *Visual NEG NEG	Appearance	scalar	*Visual	NORML	NORML	NORML	
	Odor	scalar	*Visual	NORML	NORML	NORML	
Free Water scalar *Visual NEG on: See ManagerENEOXI	Emulsified Water	scalar	*Visual		NEG	NEG	
	Free Water	scalar	*Visual		NEG	on: Stell (Inches Man	agerENEOXF



OIL ANALYSIS REPORT





Certificate L2367

Laboratory Sample No. Lab Number **Unique Number**

: RP0032480 : 05900002 : 10561358 Test Package : IND 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 17 Jul 2023 Diagnosed : 18 Jul 2023

Diagnostician : Don Baldridge

ENERGY TRANSFER - OXFORD OFFICE - ABBEVILLE STATION 1001 COLLEGE HILL RD

OXFORD, MS US 38655

Contact: Service Manager

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)

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