



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	ATTENTION

Area
GUAY SON [CONHER]
Machine Id
MADE IN MEXICO IBACO BM NAUTICO 4
Component
Bottom Diesel Engine
Fluid
XTRA REV 15W40 (160 LTR)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0013475	KL0013339	KL0012835
Sample Date		Client Info		20 Jan 2024	25 Oct 2023	20 Sep 2023
Machine Age	hrs	Client Info		18256	17040	16363
Oil Age	hrs	Client Info		412	271	10
Filter Age	hrs	Client Info		412	271	10
Oil Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Filter Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status				ATTENTION	ATTENTION	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	14	4	11
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	<1	3
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	5	1	3
Tin	ppm	ASTM D5185m	>15	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

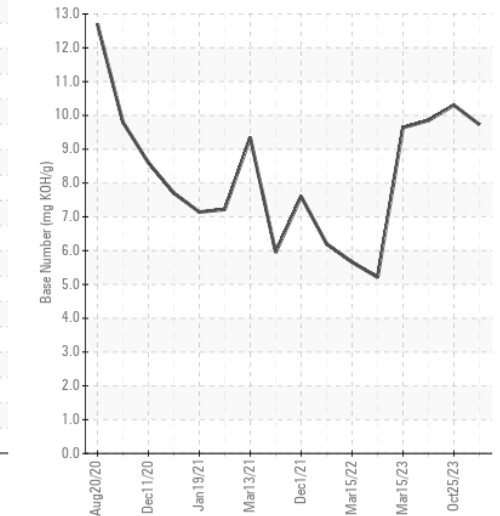
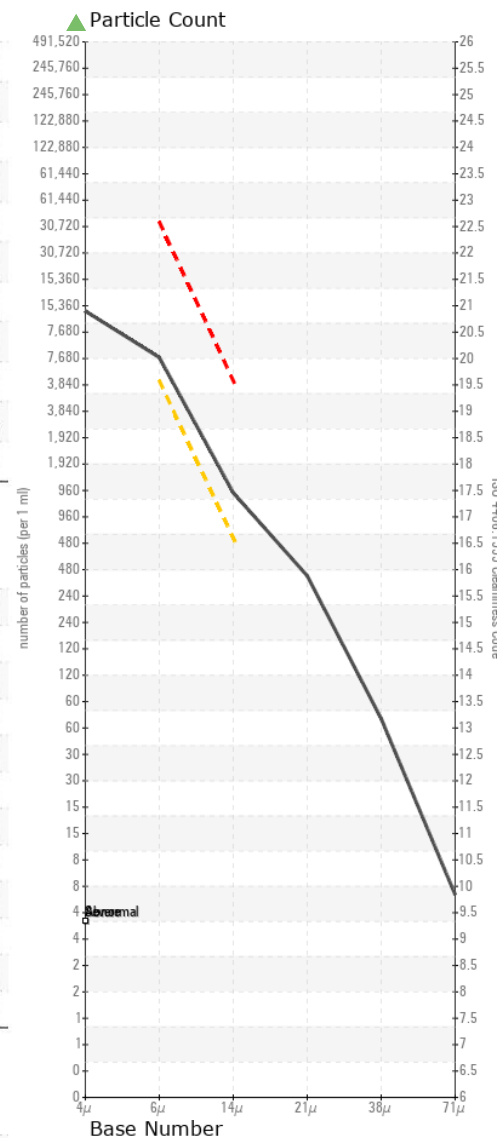
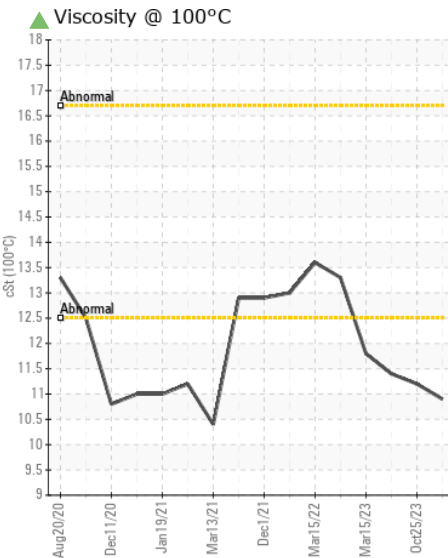
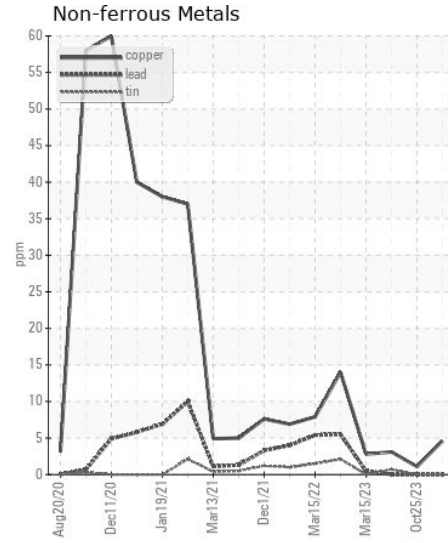
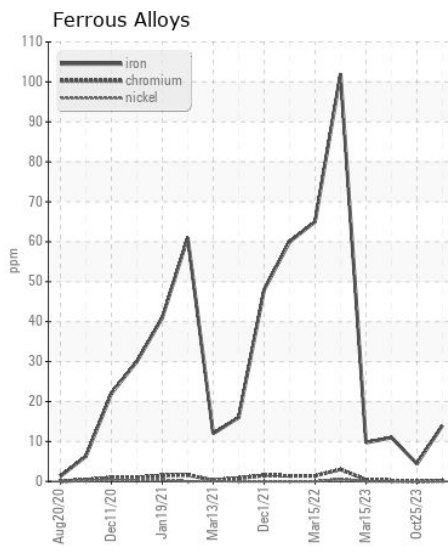
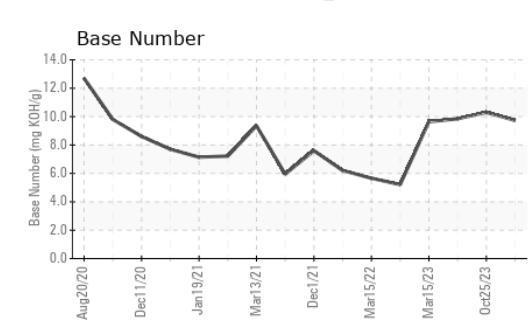
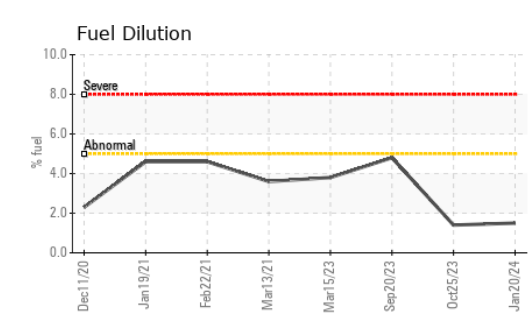
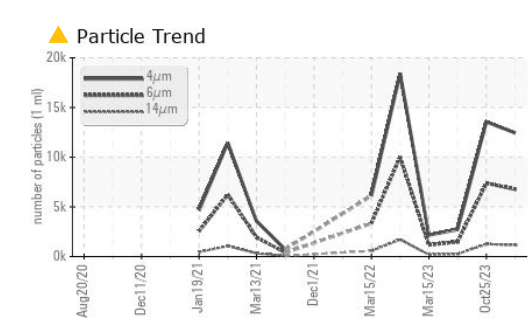
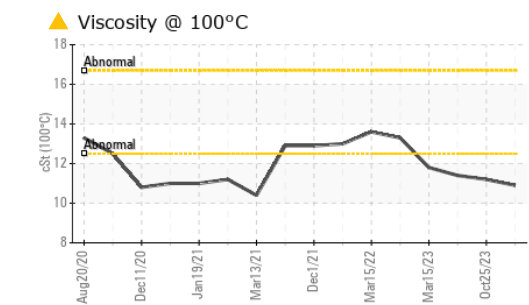
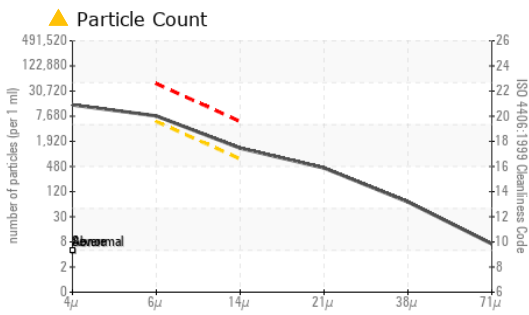
There is a moderate amount of particulates present in the oil. Fuel content negligible.

Silicon	ppm	ASTM D5185m	>25	7	7	5
Potassium	ppm	ASTM D5185m	>20	3	<1	0
Fuel	%	ASTM D3524	>5	1.5	1.4	▲ 4.8
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.9	0.3
Nitration	Abs/cm	*ASTM D7624	>20	6.5	8.9	7.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.5	19.6	17.9
Particles >4µm		ASTM D7647		12441	13554	2723
Particles >6µm		ASTM D7647	>5000	▲ 6777	▲ 7384	▲ 1483
Particles >14µm		ASTM D7647	>640	▲ 1153	▲ 1257	▲ 252
Particles >21µm		ASTM D7647	>160	▲ 389	▲ 423	▲ 85
Particles >38µm		ASTM D7647	>40	▲ 60	▲ 65	▲ 13
Particles >71µm		ASTM D7647	>10	▲ 6	▲ 7	▲ 1
Oil Cleanliness		ISO 4406 (c)	>19/16	▲ 20/17	▲ 20/17	▲ 18/15
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		0	0	<1
Boron	ppm	ASTM D5185m		4	0	40
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		9	2	28
Manganese	ppm	ASTM D5185m		0	0	<1
Magnesium	ppm	ASTM D5185m		104	14	114
Calcium	ppm	ASTM D5185m		2493	2566	2502
Phosphorus	ppm	ASTM D5185m		1156	1091	1118
Zinc	ppm	ASTM D5185m		1310	1272	1345
Sulfur	ppm	ASTM D5185m		3610	3237	3700
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.9	15.1	10.5
Base Number (BN)	mg KOH/g	ASTM D2896		9.73	10.30	9.85
Visc @ 100°C	cSt	ASTM D445		▲ 10.9	▲ 11.2	▲ 11.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013475 **Received** : 30 Jan 2024
Lab Number : 06075009 **Diagnosed** : 02 Feb 2024
Unique Number : 10857100 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel, PrtCount)

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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