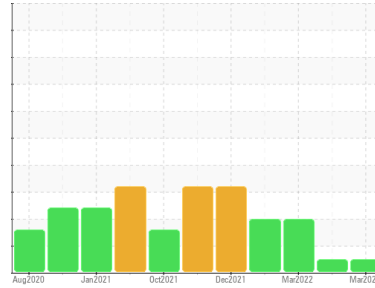




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
GUAY SON [CONHER]
 Machine Id
MADE IN MEXICO IBACO BM NAUTICO 4
 Component
Auxiliary Auxiliary Engine
 Fluid
Valvoline 15W40 (8 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history 1	history 2
Sample Number	Client Info		KL0011368	KL0011205	KL0009186
Sample Date	Client Info		15 Mar 2023	24 Oct 2022	15 Mar 2022
Machine Age	hrs	Client Info	2778	0	14684
Oil Age	hrs	Client Info	156	0	288
Oil Changed	Client Info		Not Chngd	N/A	Changed
Sample Status			NORMAL	NORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history 1	history 2
Fuel	WC Method	>4.0	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m >100	4	6	63
Chromium	ppm	ASTM D5185m >20	<1	2	7
Nickel	ppm	ASTM D5185m >2	0	<1	0
Titanium	ppm	ASTM D5185m >2	<1	<1	0
Silver	ppm	ASTM D5185m >2	0	1	<1
Aluminum	ppm	ASTM D5185m >20	1	2	7
Lead	ppm	ASTM D5185m >40	<1	1	3
Copper	ppm	ASTM D5185m >330	<1	4	8
Tin	ppm	ASTM D5185m >15	<1	<1	2
Antimony	ppm	ASTM D5185m	---	---	---
Vanadium	ppm	ASTM D5185m	0	<1	0
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m	0	0	277
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	<1	4	125
Manganese	ppm	ASTM D5185m	<1	2	<1
Magnesium	ppm	ASTM D5185m	15	19	642
Calcium	ppm	ASTM D5185m	3734	3870	1668
Phosphorus	ppm	ASTM D5185m	909	941	909
Zinc	ppm	ASTM D5185m	1087	1171	1103
Sulfur	ppm	ASTM D5185m	5694	4581	2616

CONTAMINANTS

	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m >25	4	6	11
Sodium	ppm	ASTM D5185m	1	4	6
Potassium	ppm	ASTM D5185m >20	<1	8	<1

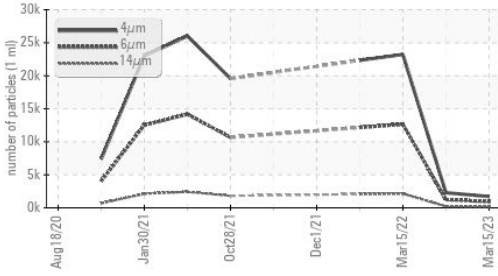
INFRA-RED

	method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844	0.1	0.1	0.6
Nitration	Abs/cm	*ASTM D7624 >20	6.0	6.6	12.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	17.1	18.1	28.2

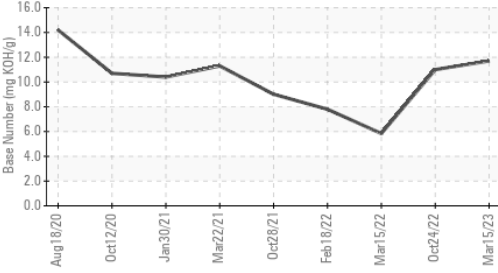


OIL ANALYSIS REPORT

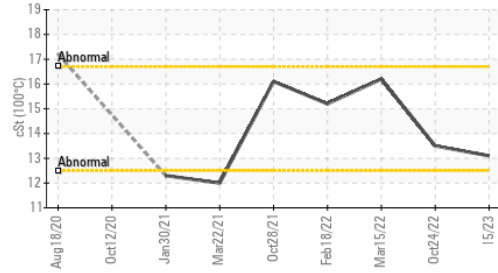
Particle Trend



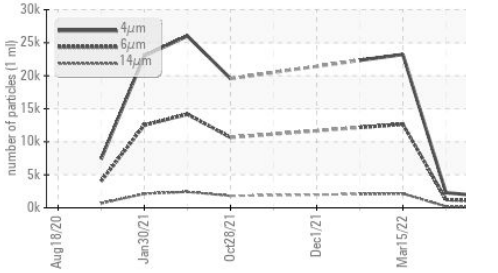
Base Number



Viscosity @ 100°C



Particle Trend



FLUID CLEANLINESS	method	limit/base	current	history 1	history 2
Particles >4µm	ASTM D7647		1705	2288	23217
Particles >6µm	ASTM D7647	>5000	929	1246	▲ 12648
Particles >14µm	ASTM D7647	>640	158	212	▲ 2152
Particles >21µm	ASTM D7647	>160	53	71	▲ 725
Particles >38µm	ASTM D7647	>40	8	11	▲ 112
Particles >71µm	ASTM D7647	>10	1	1	▲ 11
Oil Cleanliness	ISO 4406 (c)	>19/16	17/14	17/15	▲ 21/18

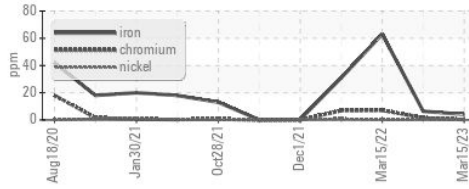
FLUID DEGRADATION	method	limit/base	current	history 1	history 2
Oxidation	Abs./1mm *ASTM D7414	>25	10.7	11.1	28.8
Base Number (BN)	mg KOH/g ASTM D2896		11.70	11.0	5.84

VISUAL	method	limit/base	current	history 1	history 2
White Metal	scalar *Visual	NONE	VLITE	NONE	NONE
Yellow Metal	scalar *Visual	NONE	NONE	NONE	NONE
Precipitate	scalar *Visual	NONE	NONE	NONE	NONE
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	>0.1	NEG	NEG	NEG
Free Water	scalar *Visual		NEG	NEG	NEG

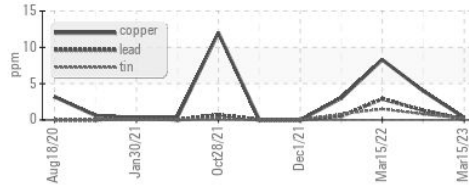
FLUID PROPERTIES	method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt ASTM D445		13.1	13.5	16.2

GRAPHS

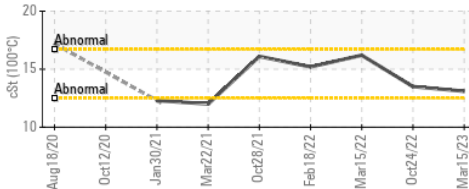
Ferrous Alloys



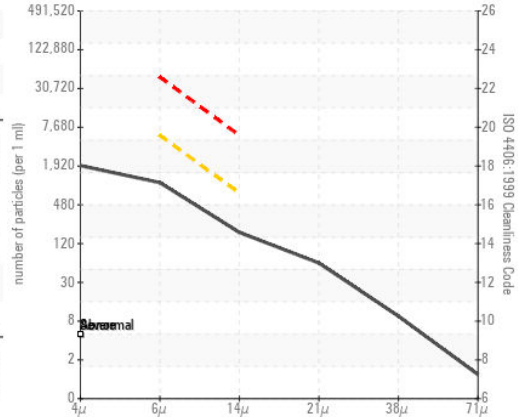
Non-ferrous Metals



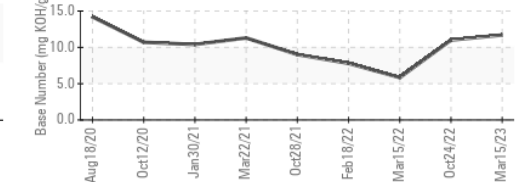
Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0011368 **Received** : 22 Mar 2023
Lab Number : 05798840 **Diagnosed** : 27 Mar 2023
Unique Number : 10388524 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: 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)

JUAREZ 348
HERMOSILLO,
MX 83140
Contact: EDUARDO GARCIA
egarcia.comsa@gmail.com
T: (526)622-1581 x:81
F: x: