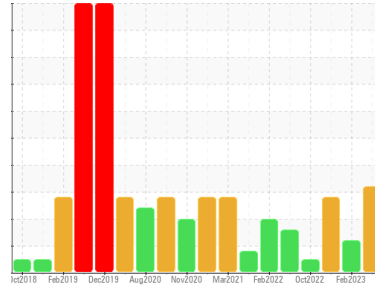




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area
GUAY SON [CONHER]
Machine Id
BM NAUTICO I IBACO BM NAUTICO I
Component
Diesel Engine
Fluid
Diesel Engine Oil (160 LTR)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of particulates present in the oil. There is a moderate amount of fuel present in the oil.

Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		KL0012324	KL0010222	KL0011276
Sample Date	Client Info		30 Mar 2023	17 Feb 2023	22 Nov 2022
Machine Age	hrs	Client Info	11680	11196	10301
Oil Age	hrs	Client Info	508	1403	508
Oil Changed	Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status			ABNORMAL	ABNORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	24	20	11
Chromium	ppm	ASTM D5185m >20	<1	<1	<1
Nickel	ppm	ASTM D5185m >4	0	<1	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	<1	0	2
Lead	ppm	ASTM D5185m >40	0	2	1
Copper	ppm	ASTM D5185m >330	12	11	3
Tin	ppm	ASTM D5185m >15	0	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	32	1	1
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	19	8	3
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	71	12	8
Calcium	ppm	ASTM D5185m	3068	3053	3238
Phosphorus	ppm	ASTM D5185m	1118	1262	1284
Zinc	ppm	ASTM D5185m	1478	1538	1468
Sulfur	ppm	ASTM D5185m	3987	4041	4364

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	11	13	10
Sodium	ppm	ASTM D5185m	3	8	7
Potassium	ppm	ASTM D5185m >20	14	22	29
Fuel	%	ASTM D3524 >5	▲ 5.6	▲ 5.5	▲ 2.4

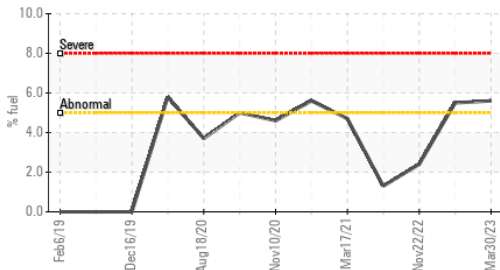
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.2	0.2	0.2
Nitration	Abs/cm	*ASTM D7624 >20	11.0	9.9	9.0
Sulfation	Abs./1mm	*ASTM D7415 >30	21.8	19.7	18.3

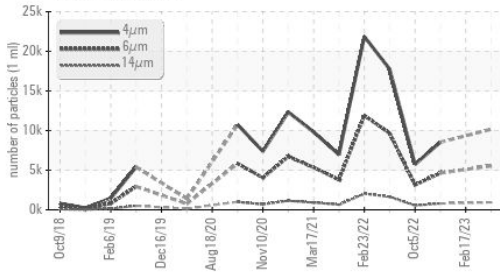


OIL ANALYSIS REPORT

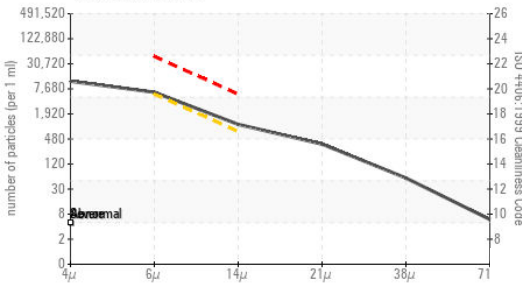
Fuel Dilution



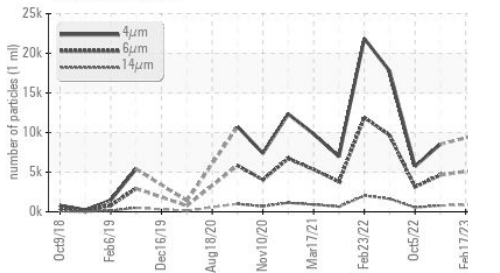
Particle Trend



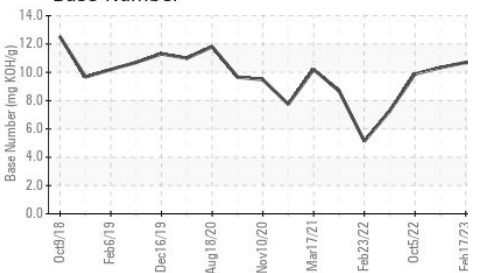
Particle Count



Particle Trend



Base Number



FLUID CLEANLINESS

FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		10170	---	8527
Particles >6µm	ASTM D7647	>5000	▲ 5540	---	4645
Particles >14µm	ASTM D7647	>640	▲ 943	---	▲ 791
Particles >21µm	ASTM D7647	>160	▲ 318	---	▲ 266
Particles >38µm	ASTM D7647	>40	▲ 49	---	▲ 41
Particles >71µm	ASTM D7647	>10	5	---	4
Oil Cleanliness	ISO 4406 (c)	>19/16	▲ 20/17	---	▲ 19/17

FLUID DEGRADATION

FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.6	12.9	10.2
Base Number (BN)	mg KOH/g	ASTM D2896		10.65	10.7	10.33

VISUAL

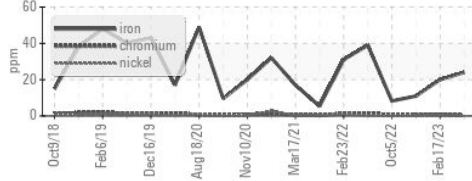
VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

FLUID PROPERTIES

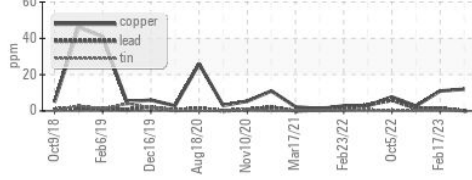
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	▲ 11.5	▲ 11.0	▲ 11.9

GRAPHS

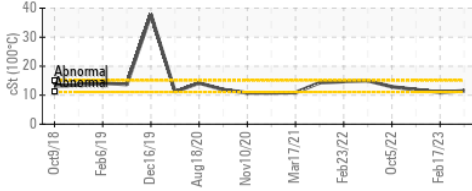
Ferrous Alloys



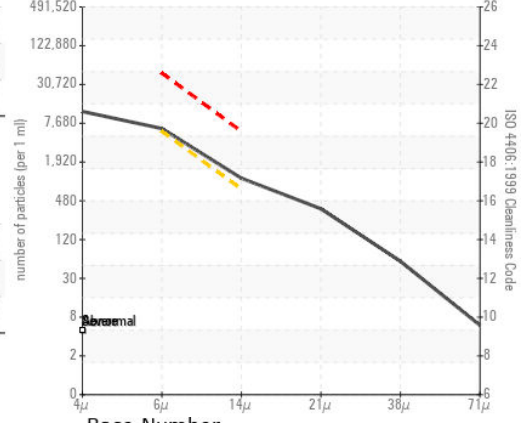
Non-ferrous Metals



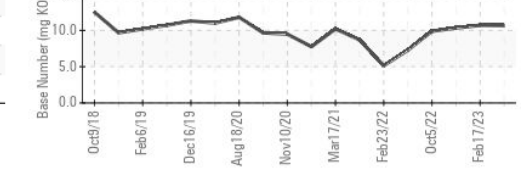
Viscosity @ 100°C



Particle Count



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0012324 **Received** : 14 Apr 2023
Lab Number : 05821125 **Diagnosed** : 19 Apr 2023
Unique Number : 10429208 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: PercentFuel, PrtCount)

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

Certificate L2367
 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)