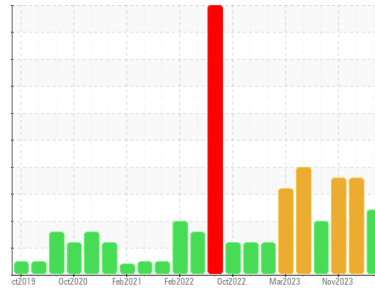




OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Area
IBACO [CONHER]
 Machine Id
IBACO BM COZAR IX
 Component
Main Engine
 Fluid
RALOY 15W40 (160 LTR)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor. (Customer Sample Comment: Fluid: Raloy 15W40)

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates present in the oil.

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.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	KL0014196	KL0014155	KL0013426
Sample Date	Client Info	20 Mar 2024	06 Feb 2024	14 Nov 2023
Machine Age	hrs	0	12106	11466
Oil Age	hrs	250	500	460
Oil Changed	Client Info	Not Chngd	Not Chngd	Changed
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL

CONTAMINATION

method	limit/base	current	history1	history2	
Water	WC Method	>0.1	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185m	>75	5	6	8
Chromium	ppm	ASTM D5185m	>8	0	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>3	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	1	2	1
Lead	ppm	ASTM D5185m	>18	<1	1	<1
Copper	ppm	ASTM D5185m	>80	<1	1	3
Tin	ppm	ASTM D5185m	>14	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	<1

ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m		13	12	98
Barium	ppm	ASTM D5185m		0	0	<1
Molybdenum	ppm	ASTM D5185m		9	3	19
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		21	18	87
Calcium	ppm	ASTM D5185m		2971	2579	2471
Phosphorus	ppm	ASTM D5185m		1053	1070	1118
Zinc	ppm	ASTM D5185m		1184	1277	1274
Sulfur	ppm	ASTM D5185m		4242	3130	3887

CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>20	6	7	8
Sodium	ppm	ASTM D5185m	>75	0	0	3
Potassium	ppm	ASTM D5185m	>20	<1	2	4
Fuel	%	ASTM D3524	>4.0	<1.0	▲ 2.0	▲ 2.4

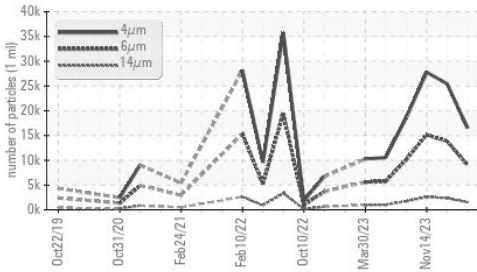
INFRA-RED

method	limit/base	current	history1	history2		
Soot %	%	*ASTM D7844		0.2	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	5.9	6.7	6.3
Sulfation	Abs.1mm	*ASTM D7415	>30	14.6	14.9	16.0

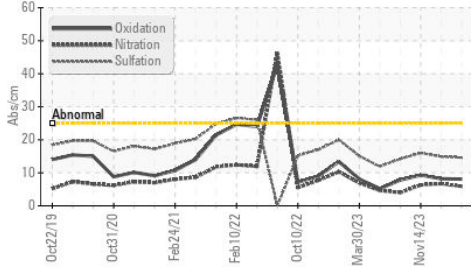


OIL ANALYSIS REPORT

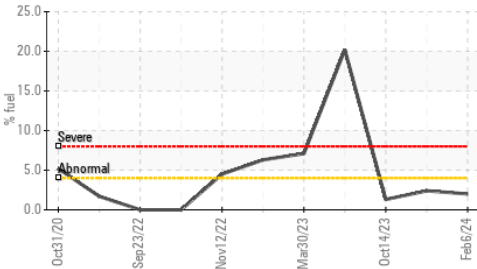
Particle Trend



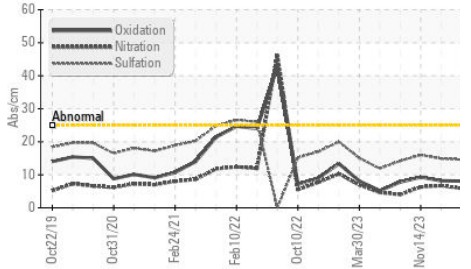
FT-IR (Direct Trend)



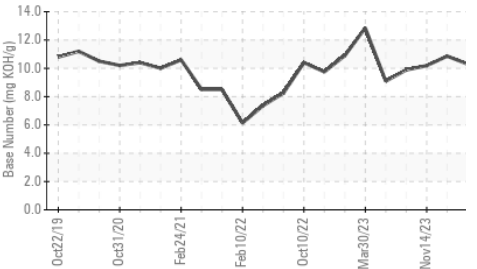
Fuel Dilution



FT-IR (Direct Trend)



Base Number



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		16521	25420	27778
Particles >6µm	ASTM D7647	>5000	▲ 9000	▲ 13848	▲ 15132
Particles >14µm	ASTM D7647	>640	▲ 1532	▲ 2357	▲ 2575
Particles >21µm	ASTM D7647	>160	▲ 516	▲ 794	▲ 867
Particles >38µm	ASTM D7647	>40	▲ 80	▲ 123	▲ 134
Particles >71µm	ASTM D7647	>10	8	▲ 13	▲ 14
Oil Cleanliness	ISO 4406 (c)	>19/16	▲ 20/18	▲ 21/18	▲ 21/19

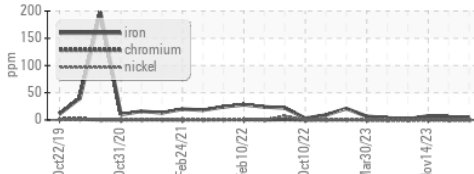
FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm *ASTM D7414	>25	8.1	8.2	9.3
Base Number (BN)	mg KOH/g ASTM D2896		10.30	10.86	10.19

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
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

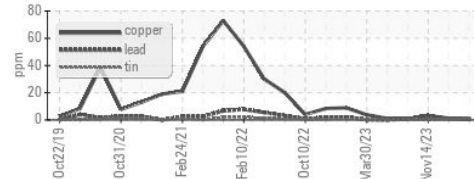
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D445		12.4	11.0	11.6

GRAPHS

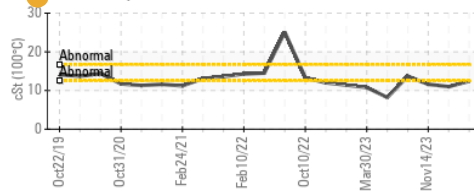
Ferrous Alloys



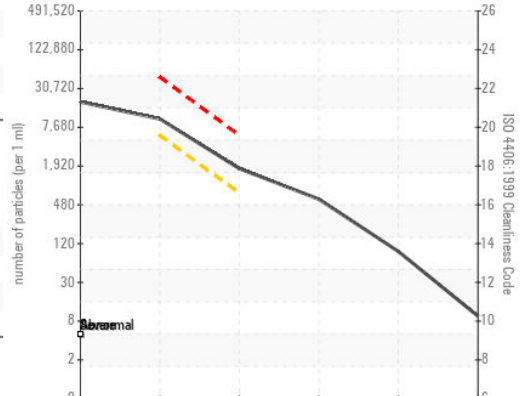
Non-ferrous Metals



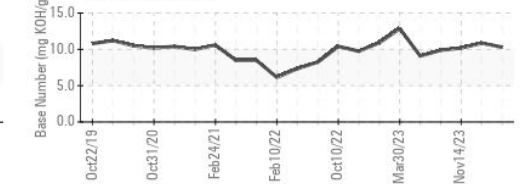
Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0014196
Lab Number : 06153286
Unique Number : 10983364
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel, PrtCount)

Received : 18 Apr 2024
Tested : 23 Apr 2024
Diagnosed : 23 Apr 2024 - Don Baldrige

CONOR
 JUAREZ 348
 HERMOSILLO,
 MX 83140

Contact: EDUARDO GARCIA
 egarcia.comsa@gmail.com

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)

T: (526)622-1581 x:81

F: x: