

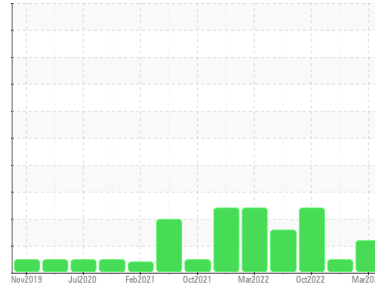


OIL ANALYSIS REPORT



Area
IBACO [CONHER]
Machine Id
BM Luis II
Component
Bottom Diesel Engine
Fluid
Xtra Rev 15W-40 (160 LTR)

Sample Rating Trend



FUEL



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 fuel present in the oil. The amount and size of particulates present in the system are acceptable.

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		KL0011364	KL0011224	KL0011210
Sample Date	Client Info		11 Mar 2023	10 Nov 2022	21 Oct 2022
Machine Age	hrs	Client Info	17100	15124	0
Oil Age	hrs	Client Info	725	1073	0
Oil Changed	Client Info		Not Chngd	Not Chngd	N/A
Sample Status			ABNORMAL	NORMAL	ATTENTION

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	16	43	32
Chromium	ppm	ASTM D5185m >20	<1	<1	<1
Nickel	ppm	ASTM D5185m >2	<1	<1	0
Titanium	ppm	ASTM D5185m >2	0	<1	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	2	2	2
Lead	ppm	ASTM D5185m >40	<1	2	<1
Copper	ppm	ASTM D5185m >330	2	57	20
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	91	176	228
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	40	92	94
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	160	363	363
Calcium	ppm	ASTM D5185m	2501	1767	1616
Phosphorus	ppm	ASTM D5185m	1028	845	788
Zinc	ppm	ASTM D5185m	1204	1014	938
Sulfur	ppm	ASTM D5185m	4624	3858	3231

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	11	11	11
Sodium	ppm	ASTM D5185m	4	4	5
Potassium	ppm	ASTM D5185m >20	8	9	8
Fuel	%	ASTM D3524 >5	▲ 6.0	<1.0	▲ 2.9

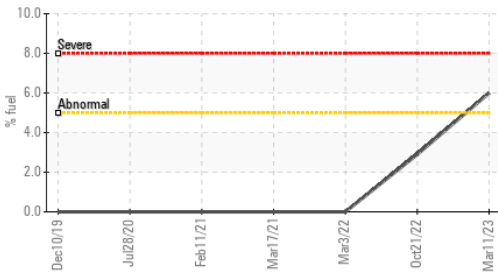
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.5	1	2.2
Nitration	Abs/cm	*ASTM D7624 >20	7.8	10.1	12.1
Sulfation	Abs./1mm	*ASTM D7415 >30	18.1	23.2	27

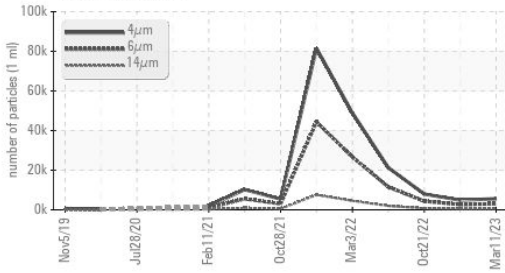


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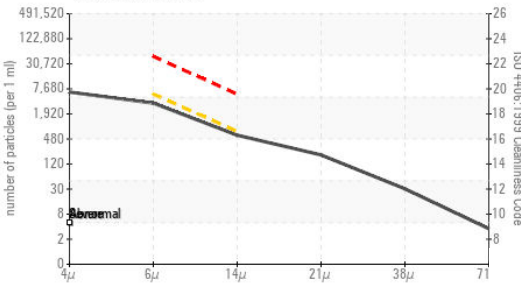
Fuel Dilution



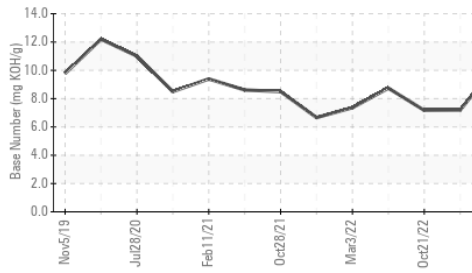
Particle Trend



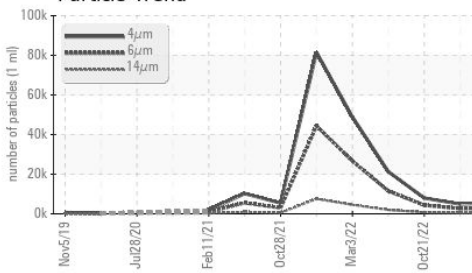
Particle Count



Base Number



Particle Trend



FLUID CLEANLINESS

method	limit/base	current	history1	history2
ASTM D7647		5594	4891	7973
ASTM D7647	>5000	3047	2665	4343
ASTM D7647	>640	519	453	▲ 739
ASTM D7647	>160	175	153	▲ 249
ASTM D7647	>40	27	24	38
ASTM D7647	>10	3	2	4
ISO 4406 (c)	>19/16	19/16	19/16	▲ 19/17

FLUID DEGRADATION

method	limit/base	current	history1	history2
Abs./1mm *ASTM D7414	>25	11.5	18.5	20.7
mg KOH/g ASTM D2896		10.38	7.19	7.17

VISUAL

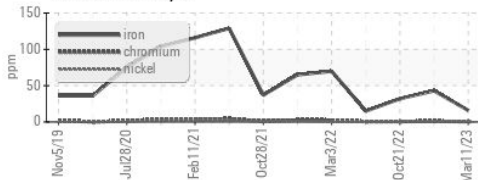
method	limit/base	current	history1	history2
*Visual	NONE	VLITE	NONE	NONE
*Visual	NONE	NONE	NONE	NONE
*Visual	NONE	NONE	NONE	NONE
*Visual	NONE	NONE	NONE	NONE
*Visual	NONE	NONE	NONE	NONE
*Visual	NONE	NONE	NONE	NONE
*Visual	NORML	NORML	NORML	NORML
*Visual	NORML	NORML	NORML	NORML
*Visual	>0.2	NEG	NEG	NEG
*Visual		NEG	NEG	NEG

FLUID PROPERTIES

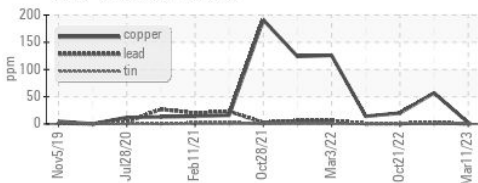
method	limit/base	current	history1	history2
cSt ASTM D445		▲ 11.3	12.4	▲ 12.4

GRAPHS

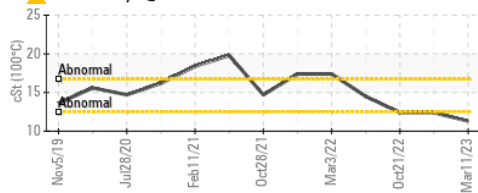
Ferrous Alloys



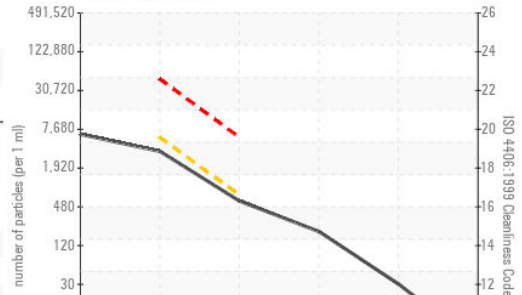
Non-ferrous Metals



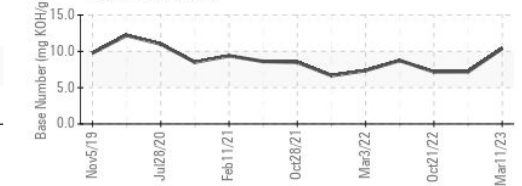
Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0011364 **Received** : 22 Mar 2023
Lab Number : 05798839 **Diagnosed** : 27 Mar 2023
Unique Number : 10388523 **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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