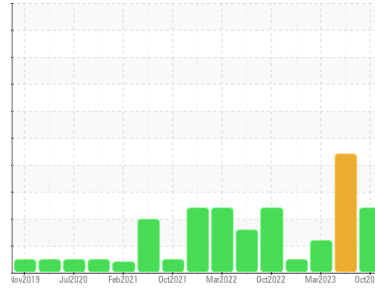




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area
IBACO [CONHER]
Machine Id
BM Luis II
Component
Bottom Diesel Engine
Fluid
XTRA REV 15W40 (160 LTR)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. 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. Light fuel dilution occurring.

Fluid Condition

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

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		KL0013336	KL0012805	KL0011364
Sample Date	Client Info		25 Oct 2023	15 Sep 2023	11 Mar 2023
Machine Age	hrs	Client Info	17533	17110	17100
Oil Age	hrs	Client Info	423	735	725
Oil Changed	Client Info		Changed	Not Changd	Not Changd
Sample Status			ABNORMAL	SEVERE	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	15	16	16
Chromium	ppm	ASTM D5185m >20	0	<1	<1
Nickel	ppm	ASTM D5185m >2	0	0	<1
Titanium	ppm	ASTM D5185m >2	0	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	<1	<1	2
Lead	ppm	ASTM D5185m >40	<1	<1	<1
Copper	ppm	ASTM D5185m >330	9	6	2
Tin	ppm	ASTM D5185m >15	0	<1	0
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	4	102	91
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	6	39	40
Manganese	ppm	ASTM D5185m	0	<1	<1
Magnesium	ppm	ASTM D5185m	17	171	160
Calcium	ppm	ASTM D5185m	2496	2518	2501
Phosphorus	ppm	ASTM D5185m	1101	1071	1028
Zinc	ppm	ASTM D5185m	1259	1279	1204
Sulfur	ppm	ASTM D5185m	3222	4650	4624

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	8	7	11
Sodium	ppm	ASTM D5185m	3	3	4
Potassium	ppm	ASTM D5185m >20	18	13	8
Fuel	%	ASTM D3524 >5	▲ 3.6	◆ 10.2	▲ 6.0

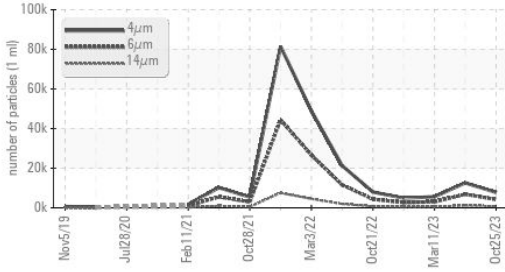
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.1	0	0.5
Nitration	Abs/cm	*ASTM D7624 >20	6.5	8.5	7.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	15.7	20.8	18.1

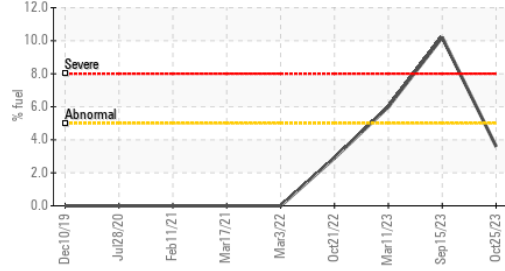


OIL ANALYSIS REPORT

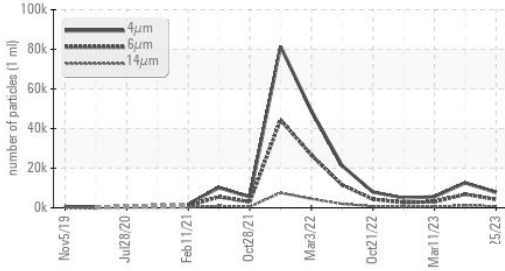
▲ Particle Trend



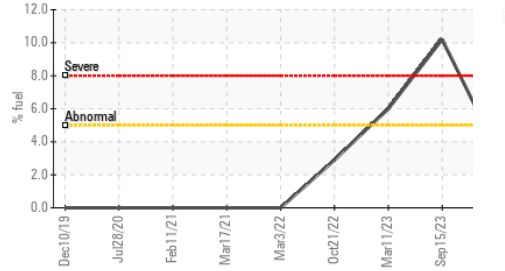
▲ Fuel Dilution



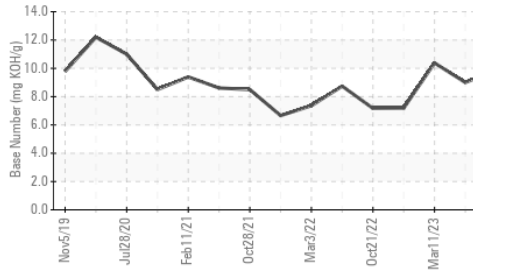
▲ Particle Trend



▲ Fuel Dilution



Base Number



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		7769	12588	5594
Particles >6µm	ASTM D7647	>5000	4232	▲ 6858	3047
Particles >14µm	ASTM D7647	>640	▲ 720	▲ 1167	519
Particles >21µm	ASTM D7647	>160	▲ 243	▲ 393	175
Particles >38µm	ASTM D7647	>40	37	▲ 61	27
Particles >71µm	ASTM D7647	>10	4	6	3
Oil Cleanliness	ISO 4406 (c)	>19/16	▲ 19/17	▲ 20/17	19/16

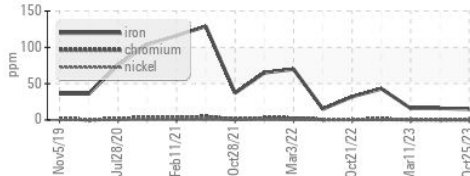
FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414	>25	10.0	12.4	11.5
Base Number (BN)	mg KOH/g ASTM D2896		9.86	9.00	10.38

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar *Visual	NONE	NONE	NONE	VLITE
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	>0.2	NEG	NEG	NEG
Free Water	scalar *Visual		NEG	NEG	NEG

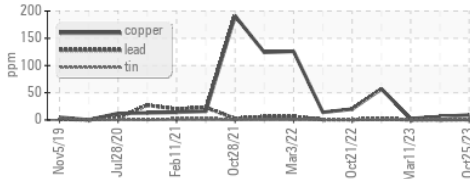
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D445		▲ 10.8	▲ 11.1	▲ 11.3

GRAPHS

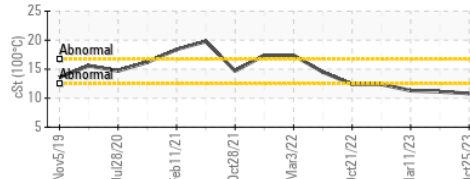
Ferrous Alloys



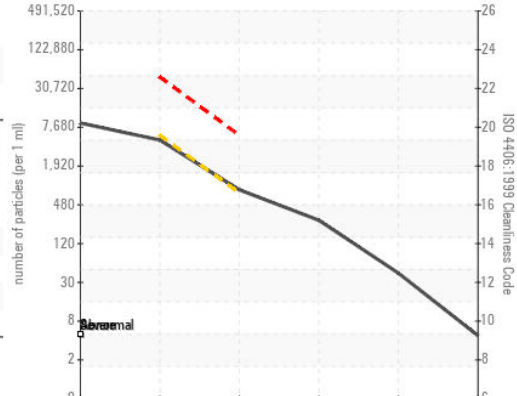
Non-ferrous Metals



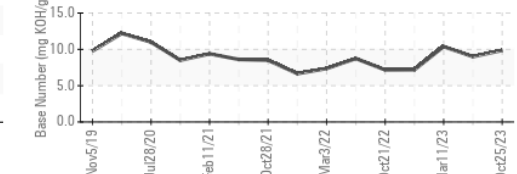
▲ Viscosity @ 100°C



▲ Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013336 **Received** : 01 Nov 2023
Lab Number : 05996369 **Diagnosed** : 03 Nov 2023
Unique Number : 10724729 **Diagnostician** : Don Baldrige
Test Package : MOB 2 (Additional Tests: 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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 F: x: