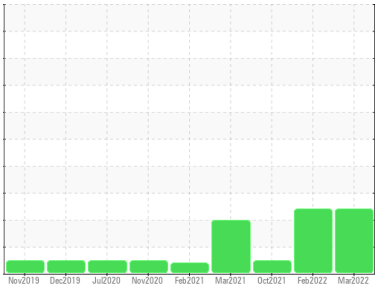
OIL ANALYSIS REPORT

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

Sample Rating Trend



VISCOSITY

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor. Please note that this is a corrected copy. Patch Analysis: Results indicate that the copper showing in the metals analysis is not present as wear, indicating that it is from passivation on copper surfaces (lube cooler, etc) from the presence of anti-wear additives in the lubricant. The only materials present are normal amounts of wear debris and soot. (Customer Sample Comment: Looking for glycol)

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates present in the oil. Test for glycol is negative.

Fluid Condition

The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION		method	limit/base	current	history 1	history 2
Sample Number		Client Info		**KL0009140**	KL0009104	KL0006837
Sample Date		Client Info		**03 Mar 2022**	14 Feb 2022	28 Oct 2021
Machine Age	hrs	Client Info		**13578**	13575	11940
Oil Age	hrs	Client Info		**3**	2326	691
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history 1	history 2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0

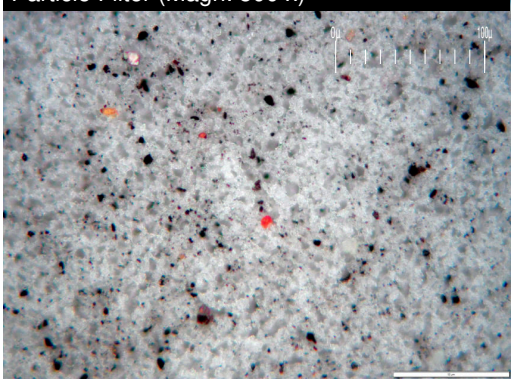
WEAR METALS		method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>100	**70**	65	37
Chromium	ppm	ASTM D5185m	>20	**2**	2	1
Nickel	ppm	ASTM D5185m	>2	**0**	1	<1
Titanium	ppm	ASTM D5185m	>2	**<1**	<1	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>25	**4**	4	2
Lead	ppm	ASTM D5185m	>40	**6**	6	3
Copper	ppm	ASTM D5185m	>330	**126**	124	191
Tin	ppm	ASTM D5185m	>15	**1**	2	<1
Antimony	ppm	ASTM D5185m		**---**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m		**180**	163	244
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**113**	101	91
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**488**	534	409
Calcium	ppm	ASTM D5185m		**2280**	2461	1786
Phosphorus	ppm	ASTM D5185m		**1083**	1132	916
Zinc	ppm	ASTM D5185m		**1336**	1308	1124
Sulfur	ppm	ASTM D5185m		**2793**	3190	2763

CONTAMINANTS		method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m	>25	**19**	18	22
Sodium	ppm	ASTM D5185m		**28**	24	52
Potassium	ppm	ASTM D5185m	>20	**4**	2	4
Glycol	%	*ASTM D2982		**0.0**	NEG	NEG

INFRA-RED		method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844	>3	**1**	1	0.5
Nitration	Abs/cm	*ASTM D7624	>20	**16.9**	17.2	11.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**34.0**	34.0	25

Particle Filter (Magn: 500 x)



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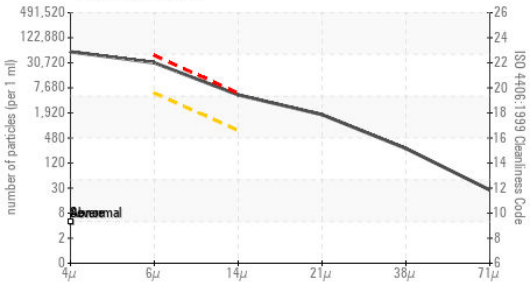
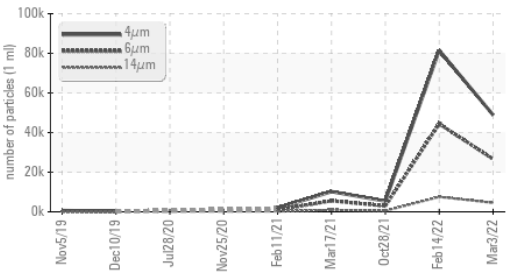
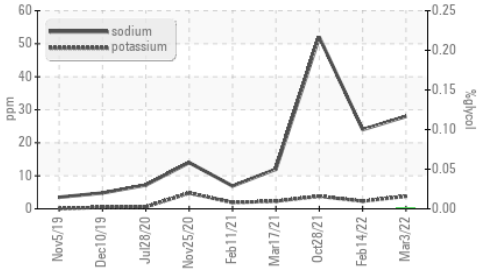
Particle Count



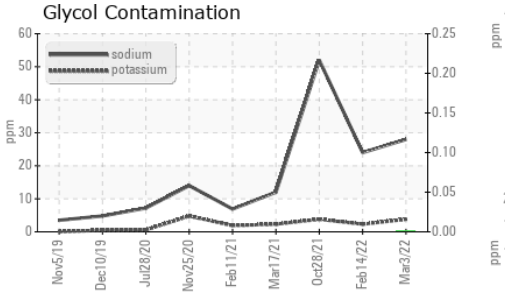
Particle Trend



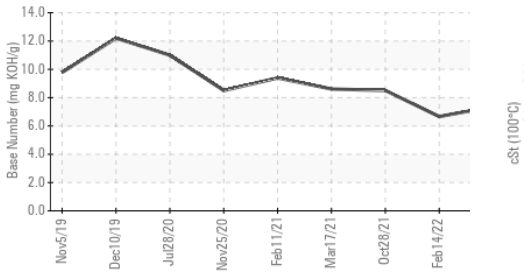
Glycol Contamination



Glycol Contamination



Base Number



FLUID CLEANLINESS	method	limit/base	current	history 1	history 2
Particles >4µm	ASTM D7647		**48912**	81483	5418
Particles >6µm	ASTM D7647	>5000	▲ **26645**	▲ 44389	2951
Particles >14µm	ASTM D7647	>640	▲ **4535**	▲ 7554	502
Particles >21µm	ASTM D7647	>160	▲ **1527**	▲ 2545	169
Particles >38µm	ASTM D7647	>40	▲ **236**	▲ 393	26
Particles >71µm	ASTM D7647	>10	▲ **24**	▲ 40	3
Oil Cleanliness	ISO 4406 (c)	>19/16	▲ **22/19**	▲ 23/20	19/16

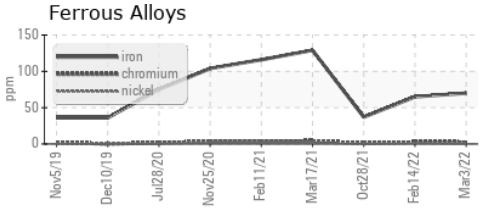
FLUID DEGRADATION		method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**41.1**	41.0	21.7
Base Number (BN)	mg KOH/g	ASTM D2896		**7.36**	6.66	8.50

VISUAL		method	limit/base	current	history 1	history 2
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	>0.2	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

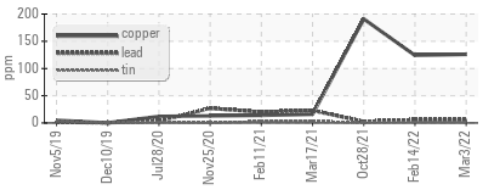
FLUID PROPERTIES		method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt	ASTM D445		▲ **17.4**	▲ 17.4	14.7

GRAPHS

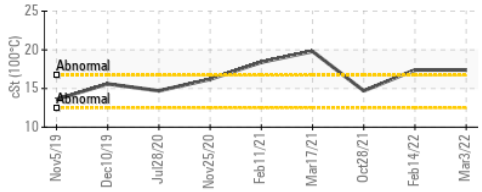
Ferrous Alloys



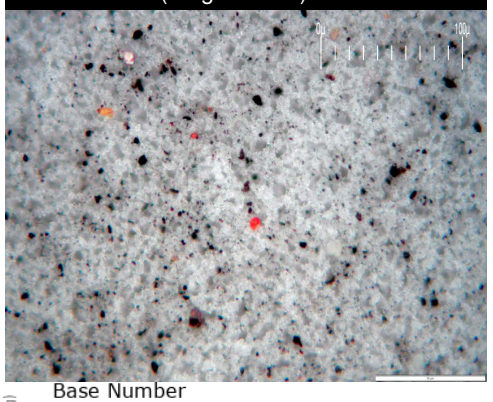
Non-ferrous Metals



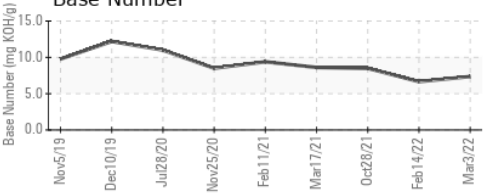
Viscosity @ 100°C



Particle Filter (Magn: 500 x)



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0009140 **Received** : 15 Mar 2022
Lab Number : 05492718 **Diagnosed** : 08 Apr 2022
Unique Number : 9891938 **Diagnostician** : Doug Bogart
Test Package : MOB 2 (Additional Tests: BOTTOM, BOTTOMANALYSIS, FILTERPATCH, GLYCOL, 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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Report Id: CONHERKL [WUSCAR] 05492718 (Generated: 07/03/2023 20:28:03) Rev: 1

Submitted By: EDUARDO GARCIA