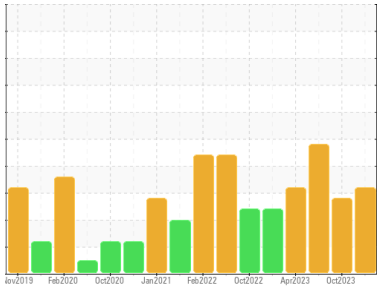
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

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

DIAGNOSIS

Recommendation
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 high amount of particulates present in the oil. Light fuel dilution occurring.

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		**KL0013490**	KL0013330	KL0012820
Sample Date		Client Info		**24 Jan 2024**	25 Oct 2023	16 Sep 2023
Machine Age	hrs	Client Info		**0**	16703	16023
Oil Age	hrs	Client Info		**700**	692	12
Oil Changed		Client Info		**Changed**	Changed	Not Changd
Sample Status				**ABNORMAL**	ATTENTION	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**12**	19	10
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**0**	0	0
Titanium	ppm	ASTM D5185m	>2	**0**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**2**	1	<1
Lead	ppm	ASTM D5185m	>40	**0**	0	<1
Copper	ppm	ASTM D5185m	>330	**<1**	8	<1
Tin	ppm	ASTM D5185m	>15	**0**	0	<1
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

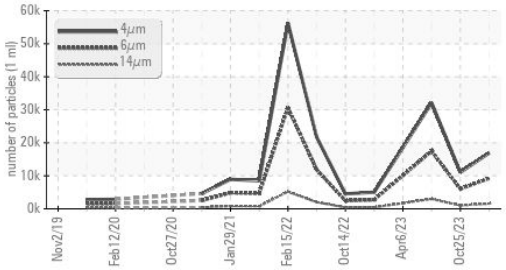
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	88	222
Barium	ppm	ASTM D5185m		**<1**	0	0
Molybdenum	ppm	ASTM D5185m		**<1**	60	84
Manganese	ppm	ASTM D5185m		**0**	0	<1
Magnesium	ppm	ASTM D5185m		**5**	252	382
Calcium	ppm	ASTM D5185m		**2809**	1975	1929
Phosphorus	ppm	ASTM D5185m		**1188**	830	930
Zinc	ppm	ASTM D5185m		**1337**	984	1135
Sulfur	ppm	ASTM D5185m		**3722**	3244	4075

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**8**	6	6
Sodium	ppm	ASTM D5185m		**0**	4	2
Potassium	ppm	ASTM D5185m	>20	**4**	<1	4
Fuel	%	ASTM D3524	>5	▲ **4.3**	▲ 3.9	⬢ 9.7

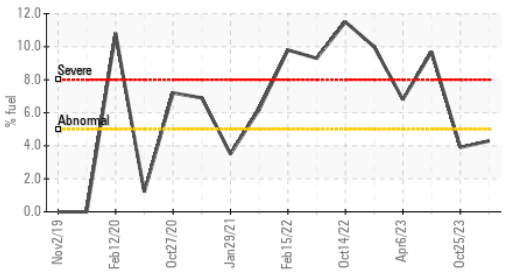
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.2**	1.2	0
Nitration	Abs/cm	*ASTM D7624	>20	**9.7**	14.5	10.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**17.7**	22.5	23.0

OIL ANALYSIS REPORT

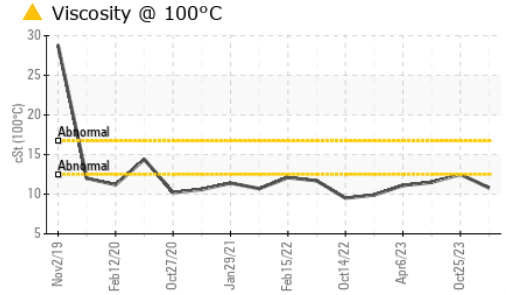
Particle Trend



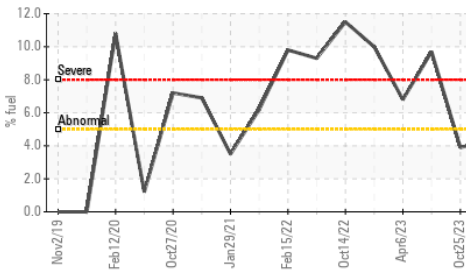
Fuel Dilution



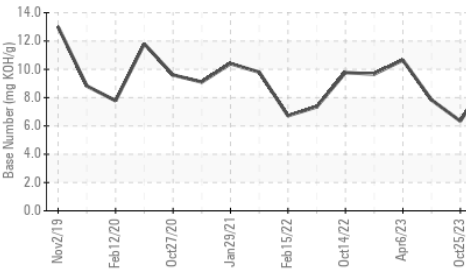
Viscosity @ 100°C



Fuel Dilution



Base Number



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**16903**	11040	32084
Particles >6µm		ASTM D7647	>5000	▲ **9208**	▲ 6014	▲ 17478
Particles >14µm		ASTM D7647	>640	▲ **1567**	▲ 1024	▲ 2975
Particles >21µm		ASTM D7647	>160	▲ **528**	▲ 345	▲ 1002
Particles >38µm		ASTM D7647	>40	▲ **81**	▲ 53	▲ 155
Particles >71µm		ASTM D7647	>10	**8**	5	▲ 16
Oil Cleanliness		ISO 4406 (c)	>19/16	▲ **20/18**	▲ 20/17	▲ 21/19

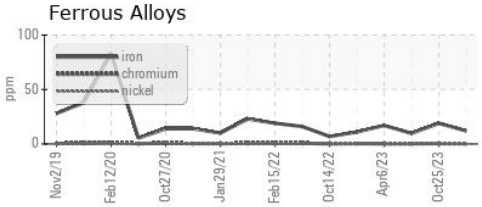
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**13.2**	21.4	18.6
Base Number (BN)	mg KOH/g	ASTM D2896		**9.49**	6.34	7.83

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	>0.2	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

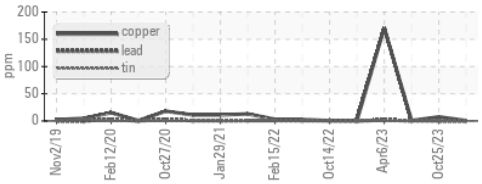
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		▲ **10.8**	12.5	▲ 11.5

GRAPHS

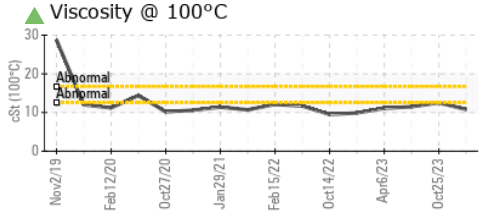
Ferrous Alloys



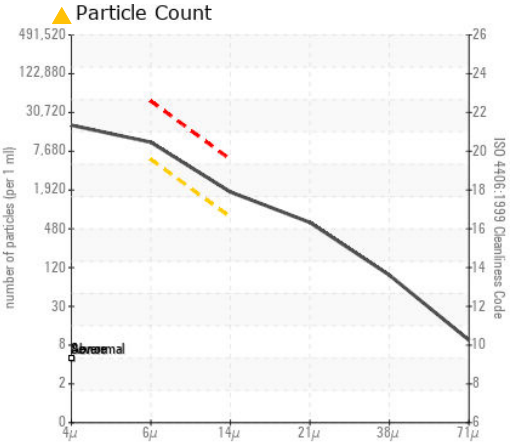
Non-ferrous Metals



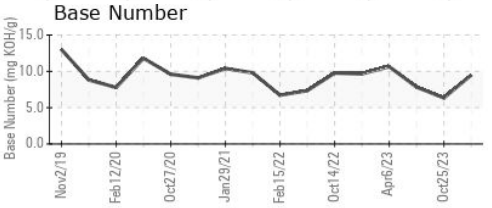
Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013490 **Recieved** : 30 Jan 2024
Lab Number : 06074995 **Diagnosed** : 02 Feb 2024
Unique Number : 10857086 **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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