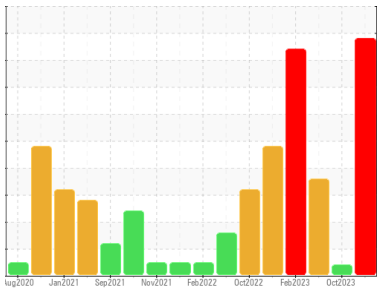
OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Area
GUAY SON [CONHER]
Machine Id
Máquina principal Mantito I
Component
Diesel Engine
Fluid
XTRA REV 15W40 (160 LTR)

DIAGNOSIS

Recommendation
We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

Wear
A sharp increase in the copper level is noted. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core).

Contamination
Sodium and/or potassium levels are high. Test for glycol is positive. 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		**KL0013472**	KL0013324	KL0012814
Sample Date		Client Info		**24 Jan 2024**	24 Oct 2023	16 Sep 2023
Machine Age	hrs	Client Info		**0**	10780	10291
Oil Age	hrs	Client Info		**404**	177	5
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	ATTENTION	ABNORMAL

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**26**	5	17
Chromium	ppm	ASTM D5185m	>20	**<1**	0	0
Nickel	ppm	ASTM D5185m	>4	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**2**	0	<1
Lead	ppm	ASTM D5185m	>40	**4**	<1	2
Copper	ppm	ASTM D5185m	>330	▲ **232**	<1	4
Tin	ppm	ASTM D5185m	>15	**<1**	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**	0	0
Barium	ppm	ASTM D5185m		**<1**	0	0
Molybdenum	ppm	ASTM D5185m		**30**	0	4
Manganese	ppm	ASTM D5185m		**0**	0	<1
Magnesium	ppm	ASTM D5185m		**7**	9	7
Calcium	ppm	ASTM D5185m		**2630**	3114	2639
Phosphorus	ppm	ASTM D5185m		**1176**	926	1086
Zinc	ppm	ASTM D5185m		**1303**	786	1324
Sulfur	ppm	ASTM D5185m		**3664**	5174	4172

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**11**	7	13
Sodium	ppm	ASTM D5185m		▲ **59**	3	11
Potassium	ppm	ASTM D5185m	>20	▲ **208**	0	35
Fuel	%	ASTM D3524	>5	▲ **2.0**	1.2	▲ 4.5
Glycol	%	*ASTM D2982		▲ **0.06**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.6**	0.1	0
Nitration	Abs/cm	*ASTM D7624	>20	**7.4**	7.5	5.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**16.1**	18.3	15.5

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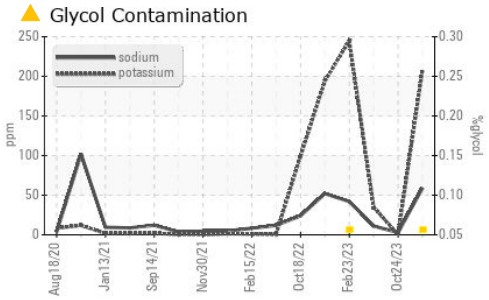
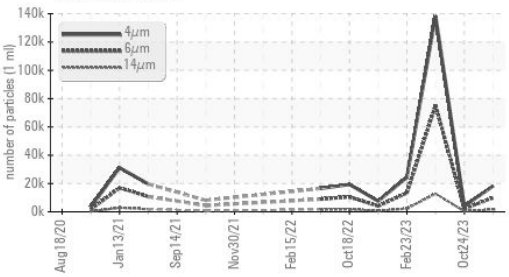
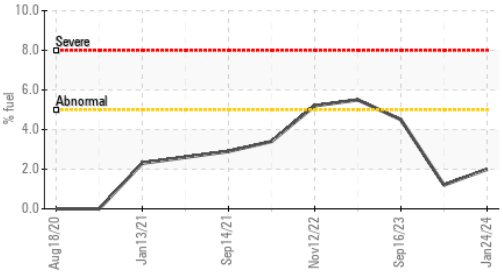
Glycol Contamination



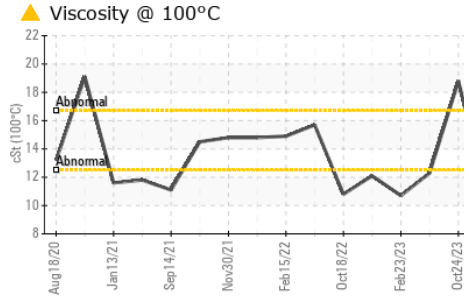
Particle Trend



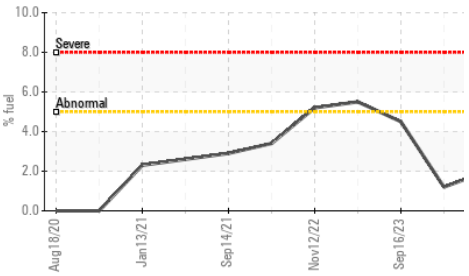
Fuel Dilution



Viscosity @ 100°C



Fuel Dilution



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**18243**	3967	138272
Particles >6µm		ASTM D7647	>5000	▲ **9938**	2161	▲ 75325
Particles >14µm		ASTM D7647	>640	▲ **1691**	368	▲ 12819
Particles >21µm		ASTM D7647	>160	▲ **570**	124	▲ 4318
Particles >38µm		ASTM D7647	>40	▲ **88**	19	▲ 667
Particles >71µm		ASTM D7647	>10	**9**	2	▲ 68
Oil Cleanliness		ISO 4406 (c)	>19/16	▲ **20/18**	18/16	▲ 23/21

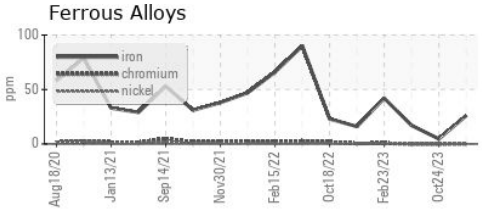
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**8.2**	13.2	7.8
Base Number (BN)	mg KOH/g	ASTM D2896		**10.21**	10.02	9.47

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

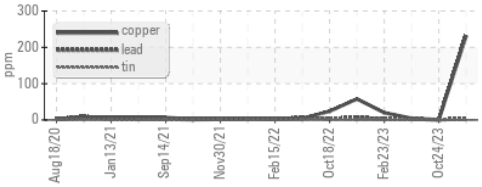
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		▲ **10.6**	▲ 18.8	▲ 12.3

GRAPHS

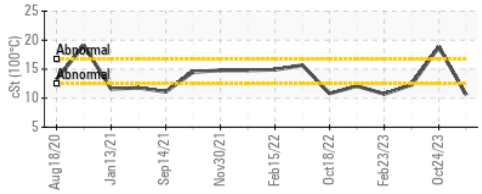
Ferrous Alloys



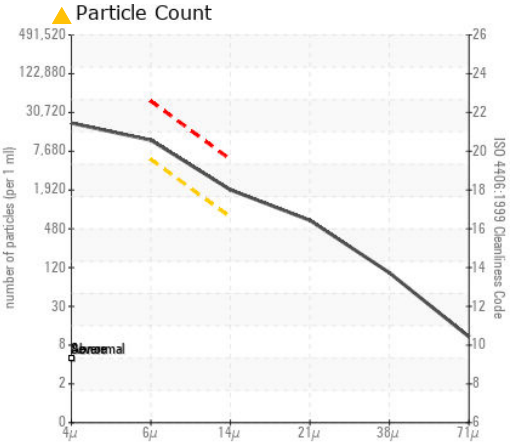
Non-ferrous Metals



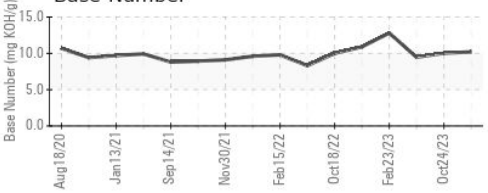
Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013472 **Recieved** : 30 Jan 2024
Lab Number : 06075001 **Diagnosed** : 02 Feb 2024
Unique Number : 10857092 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: FuelDilution, Glycol, 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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Report Id: CONHERKL [WUSCAR] 06075001 (Generated: 02/02/2024 11:27:13) Rev: 1

Submitted By: EDUARDO GARCIA