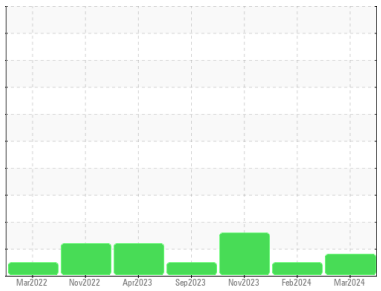
OIL ANALYSIS REPORT

Area
GUAY SON [CONHER]
Machine Id
CATERPILLAR CHUYITO XXVIII - IBACO
Component
Transmission (Manual)
Fluid
RALOY SAE 50 (60 LTR)

Sample Rating Trend



ISO

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor. (Customer Sample Comment: Fluid: Raloy SAE 50)

Wear
All component wear rates are normal.

Contamination
There is a moderate amount of particulates present in the fluid.

Fluid Condition
The AN level is acceptable for this fluid. The condition of the fluid is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KL0014211**	KL0014141	KL0013377
Sample Date		Client Info		**20 Mar 2024**	06 Feb 2024	08 Nov 2023
Machine Age	hrs	Client Info		**17535**	16897	15710
Oil Age	hrs	Client Info		**1065**	427	740
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**ATTENTION**	NORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	**<1**	2	0
Chromium	ppm	ASTM D5185m	>5	**0**	0	0
Nickel	ppm	ASTM D5185m	>5	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>7	**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**0**	0	0
Lead	ppm	ASTM D5185m	>45	**<1**	<1	2
Copper	ppm	ASTM D5185m	>225	**5**	5	10
Tin	ppm	ASTM D5185m	>10	**<1**	<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		**10**	8	2
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**4**	5	<1
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**24**	24	7
Calcium	ppm	ASTM D5185m		**3050**	2706	3475
Phosphorus	ppm	ASTM D5185m		**924**	813	977
Zinc	ppm	ASTM D5185m		**799**	720	852
Sulfur	ppm	ASTM D5185m		**6800**	4965	6526

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>125	**9**	7	10
Sodium	ppm	ASTM D5185m		**2**	<1	2
Potassium	ppm	ASTM D5185m	>20	**0**	0	0

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**32031**	3285	27289
Particles >6µm		ASTM D7647	>2500	**2903**	219	▲ 6398
Particles >14µm		ASTM D7647	>320	**22**	10	556
Particles >21µm		ASTM D7647	>80	**6**	8	132
Particles >38µm		ASTM D7647	>20	**2**	1	2
Particles >71µm		ASTM D7647	>4	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>18/15	**19/12**	15/10	▲ 20/16

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.75**	0.76	0.77

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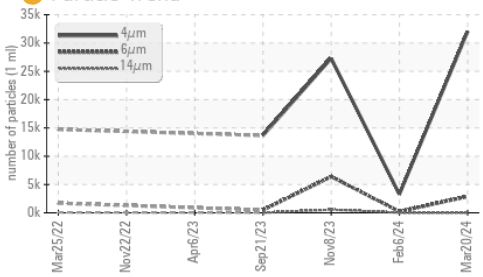
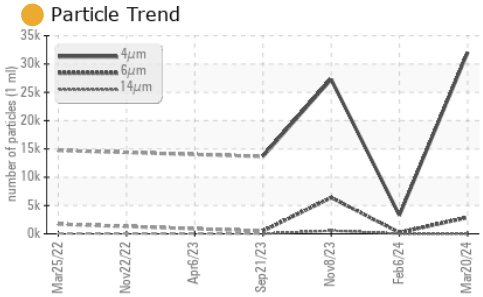
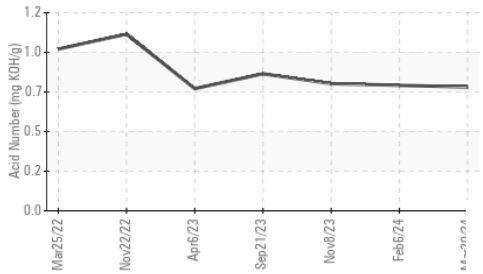
Particle Trend



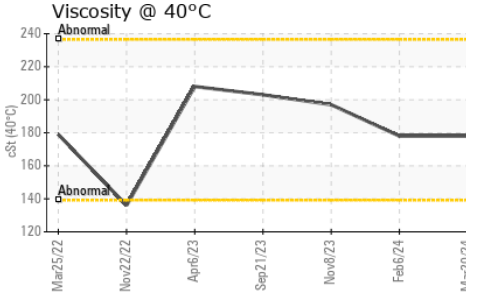
Particle Trend



Acid Number



Viscosity @ 40°C



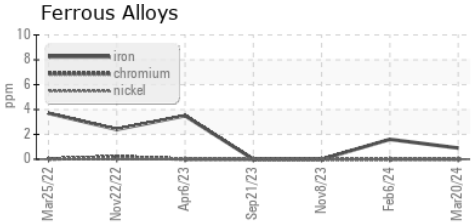
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		**178**	178	197

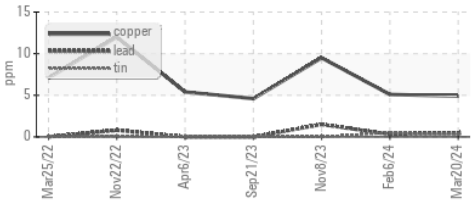
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom						

GRAPHS

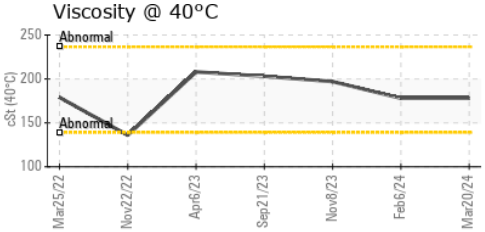
Ferrous Alloys



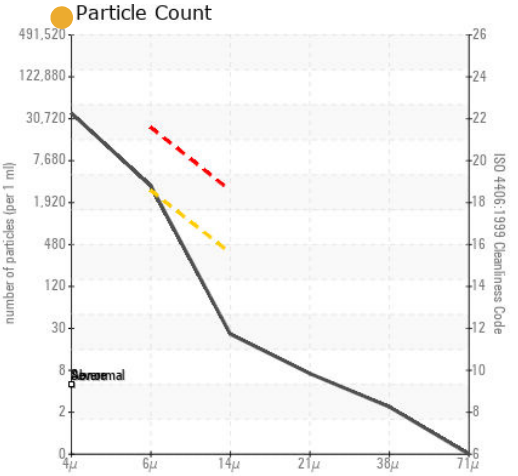
Non-ferrous Metals



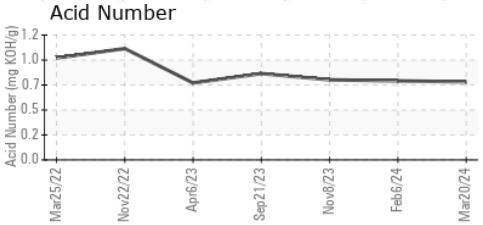
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0014211 **Received** : 18 Apr 2024
Lab Number : 06153090 **Tested** : 19 Apr 2024
Unique Number : 10983168 **Diagnosed** : 22 Apr 2024 - Angela Borella
Test Package : MOB 2 (Additional Tests: 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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