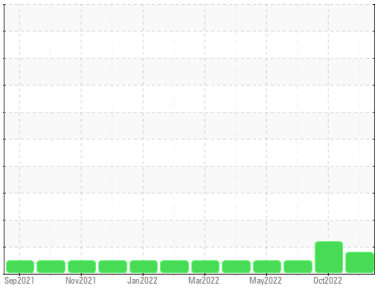
OIL ANALYSIS REPORT

Area
GUAY SON/Yavaros [CONHER]
Machine Id
CATERPILLAR Pacifico Ind Azteca MP
Component
Diesel Engine
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (160 LTR)

Sample Rating Trend



WEAR

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core).

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KL0010206**	KL0011180	KL0010181
Sample Date		Client Info		**15 Nov 2022**	16 Oct 2022	13 Jun 2022
Machine Age	hrs	Client Info		**0**	3891	3641
Oil Age	hrs	Client Info		**0**	250	722
Oil Changed		Client Info		**N/A**	Not Changd	N/A
Sample Status				**ABNORMAL**	ATTENTION	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
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	**33**	13	24
Chromium	ppm	ASTM D5185m	>20	**<1**	1	<1
Nickel	ppm	ASTM D5185m	>2	**0**	<1	0
Titanium	ppm	ASTM D5185m	>2	**0**	<1	0
Silver	ppm	ASTM D5185m	>2	**0**	1	<1
Aluminum	ppm	ASTM D5185m	>25	**3**	3	4
Lead	ppm	ASTM D5185m	>40	**3**	1	3
Copper	ppm	ASTM D5185m	>330	▲ **190**	30	11
Tin	ppm	ASTM D5185m	>15	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	<1	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**188**	393	173
Barium	ppm	ASTM D5185m		**2**	0	0
Molybdenum	ppm	ASTM D5185m		**126**	108	87
Manganese	ppm	ASTM D5185m		**<1**	2	<1
Magnesium	ppm	ASTM D5185m		**554**	545	469
Calcium	ppm	ASTM D5185m		**1487**	1452	1461
Phosphorus	ppm	ASTM D5185m	1360	**653**	623	607
Zinc	ppm	ASTM D5185m	1480	**807**	776	758
Sulfur	ppm	ASTM D5185m		**2269**	2664	2311

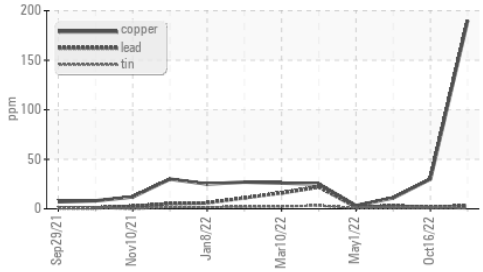
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**17**	15	8
Sodium	ppm	ASTM D5185m		**15**	9	6
Potassium	ppm	ASTM D5185m	>20	**1**	3	2

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.4**	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	**11.7**	8.5	10.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	**25.4**	26.1	24.3

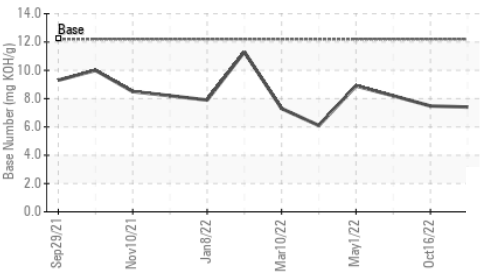
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**23.3**	19.3	18.9
Base Number (BN)	mg KOH/g	ASTM D2896	12.2	**7.4**	7.48	8.2

OIL ANALYSIS REPORT

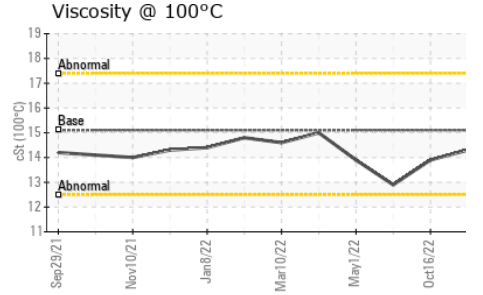
Non-ferrous Metals



Base Number



Viscosity @ 100°C

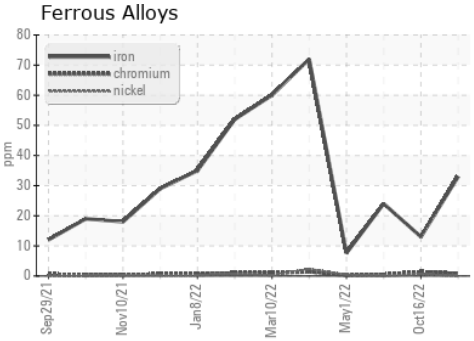


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

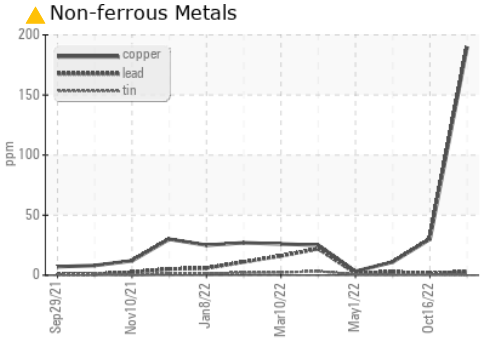
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	**14.3**	13.9	12.9

GRAPHS

Ferrous Alloys



Non-ferrous Metals



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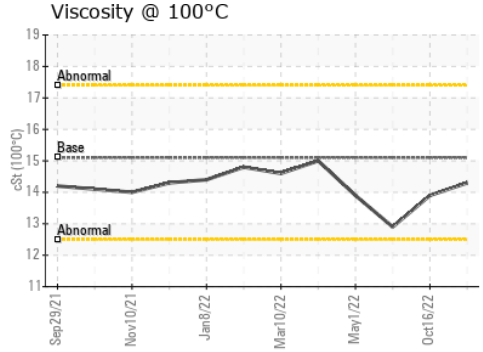
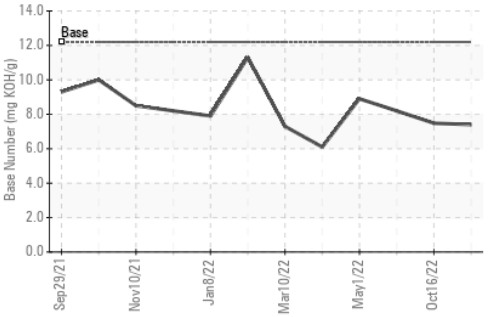


Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0010206
Lab Number : 05739448
Unique Number : 10294047
Test Package : FLEET

Received : 16 Jan 2023
Tested : 17 Jan 2023
Diagnosed : 17 Jan 2023 - Jonathan Hester

Certificate L2367

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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