

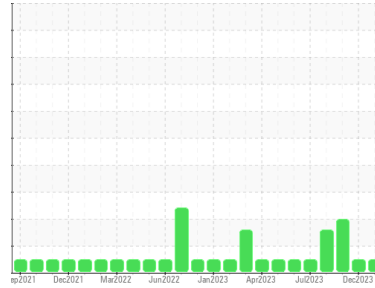


OIL ANALYSIS REPORT



Area
GUAY SON/Yavaros [CONHER]
 Machine Id
CATERPILLAR Pacifico Ind-Pisa1 MP
 Component
Diesel Engine
 Fluid
CHEVRON DELO 400 XLE 15W40 (100 LTR)

Sample Rating Trend



NORMAL



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

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		KL0013462	KL0013443	KL0013383
Sample Date	Client Info		23 Jan 2024	21 Dec 2023	17 Nov 2023
Machine Age	hrs	Client Info	40119	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			NORMAL	NORMAL	ATTENTION

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	57	36	40
Chromium	ppm	ASTM D5185m >20	1	<1	2
Nickel	ppm	ASTM D5185m >2	0	0	1
Titanium	ppm	ASTM D5185m >2	0	0	<1
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	3	3	7
Lead	ppm	ASTM D5185m >40	<1	<1	1
Copper	ppm	ASTM D5185m >330	33	33	60
Tin	ppm	ASTM D5185m >15	<1	<1	1
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	71	102	269
Barium	ppm	ASTM D5185m	2	0	2
Molybdenum	ppm	ASTM D5185m	148	141	214
Manganese	ppm	ASTM D5185m	<1	<1	2
Magnesium	ppm	ASTM D5185m	726	729	1074
Calcium	ppm	ASTM D5185m	1695	1680	2552
Phosphorus	ppm	ASTM D5185m 760	820	767	1098
Zinc	ppm	ASTM D5185m 830	921	928	1333
Sulfur	ppm	ASTM D5185m 2770	2918	2478	4143

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	7	6	11
Sodium	ppm	ASTM D5185m	0	2	3
Potassium	ppm	ASTM D5185m >20	2	0	3

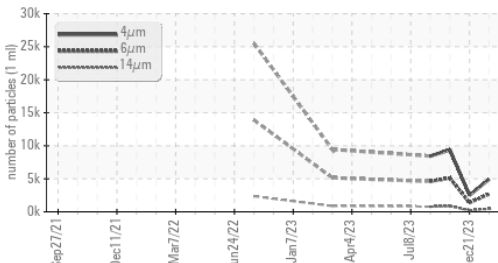
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	2	1.8	1.4
Nitration	Abs/cm	*ASTM D7624 >20	11.5	10.6	9.2
Sulfation	Abs.1mm	*ASTM D7415 >30	27.9	27.3	25.9

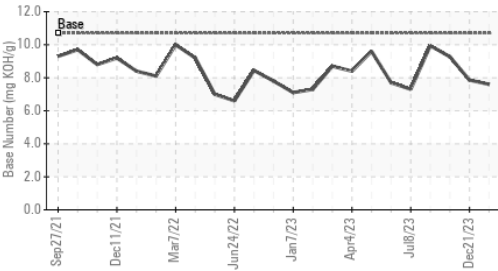


OIL ANALYSIS REPORT

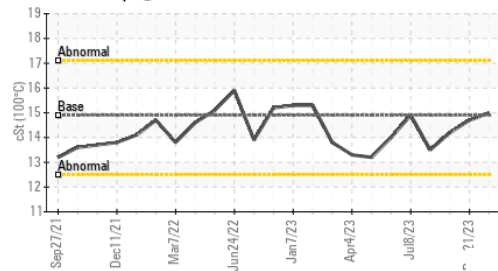
Particle Trend



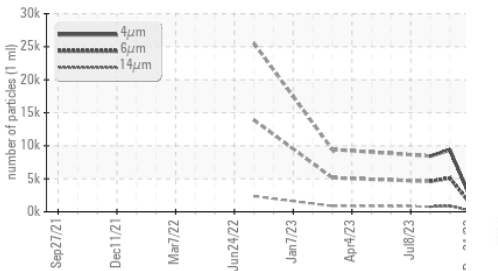
Base Number



Viscosity @ 100°C



Particle Trend



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		4941	2505	9378
Particles >6µm	ASTM D7647	>5000	2692	1365	▲ 5109
Particles >14µm	ASTM D7647	>640	458	232	▲ 869
Particles >21µm	ASTM D7647	>160	154	78	▲ 293
Particles >38µm	ASTM D7647	>40	24	12	▲ 45
Particles >71µm	ASTM D7647	>10	2	1	5
Oil Cleanliness	ISO 4406 (c)	>19/16	19/16	18/15	▲ 20/17

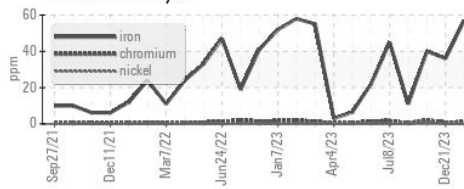
FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	*ASTM D7414	>25	20.6	19.2	17.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	7.60	7.86	9.27

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

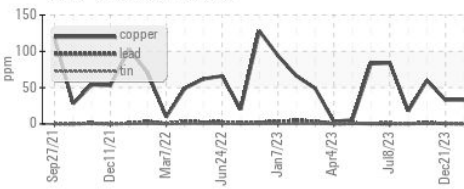
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	14.9	15.0	14.7	14.2

GRAPHS

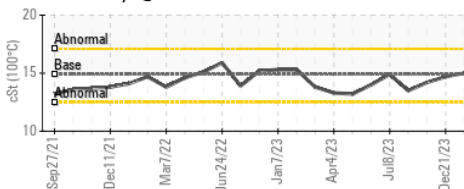
Ferrous Alloys



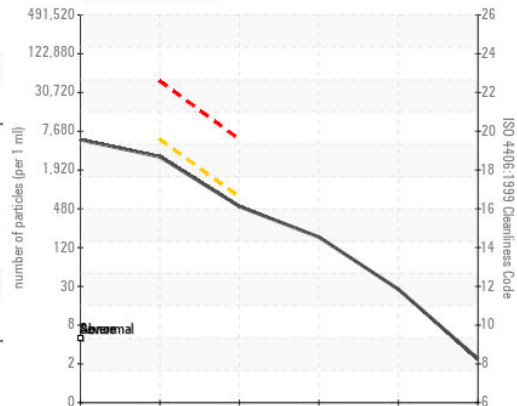
Non-ferrous Metals



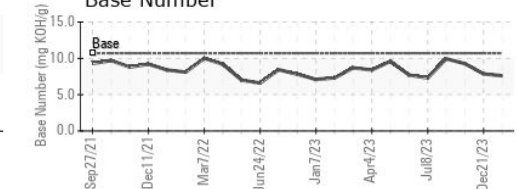
Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013462 **Received** : 30 Jan 2024
Lab Number : 06075010 **Diagnosed** : 02 Feb 2024
Unique Number : 10857101 **Diagnostician** : Jonathan Hester
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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