

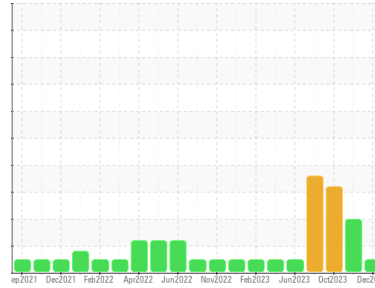


OIL ANALYSIS REPORT



Area
GUAY SON/Yavaros [CONHER]
Machine Id
CATERPILLAR Pacifico Ind Admiralty MP
Component
Center Diesel Engine
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (160 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		KL0013441	KL0013390	KL0013297
Sample Date	Client Info		21 Dec 2023	17 Nov 2023	16 Oct 2023
Machine Age	hrs	Client Info	0	5481	0
Oil Age	hrs	Client Info	255	77	100
Oil Changed	Client Info		Not Changed	Not Changd	Not Changed
Sample Status			NORMAL	ATTENTION	ABNORMAL

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	10	6	10
Chromium	ppm	ASTM D5185m >20	0	<1	<1
Nickel	ppm	ASTM D5185m >2	0	<1	0
Titanium	ppm	ASTM D5185m >2	0	<1	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	3	3	3
Lead	ppm	ASTM D5185m >40	3	1	4
Copper	ppm	ASTM D5185m >330	86	25	50
Tin	ppm	ASTM D5185m >15	<1	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	232	306	243
Barium	ppm	ASTM D5185m	0	1	0
Molybdenum	ppm	ASTM D5185m	141	130	136
Manganese	ppm	ASTM D5185m	0	<1	<1
Magnesium	ppm	ASTM D5185m	733	637	680
Calcium	ppm	ASTM D5185m	1671	1462	1565
Phosphorus	ppm	ASTM D5185m 1360	761	661	657
Zinc	ppm	ASTM D5185m 1480	925	808	952
Sulfur	ppm	ASTM D5185m	2499	2495	2392

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	8	7	10
Sodium	ppm	ASTM D5185m	65	49	▲ 119
Potassium	ppm	ASTM D5185m >20	0	2	3

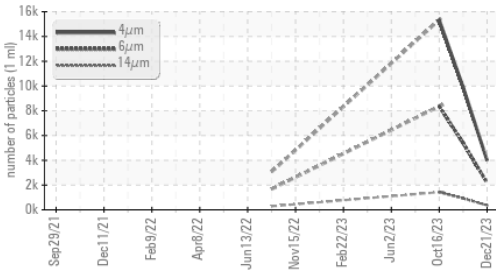
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.3	0.2	0.3
Nitration	Abs/cm	*ASTM D7624 >20	10.1	6.7	8.9
Sulfation	Abs./1mm	*ASTM D7415 >30	26.1	23.2	24.6

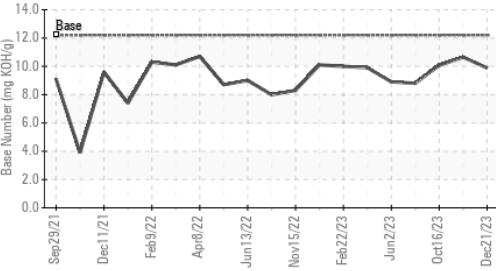


OIL ANALYSIS REPORT

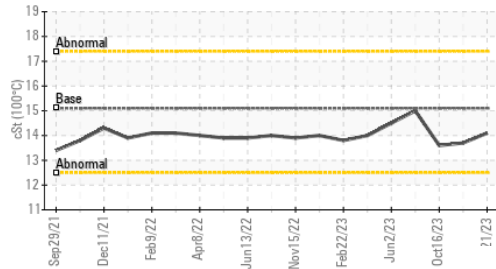
Particle Trend



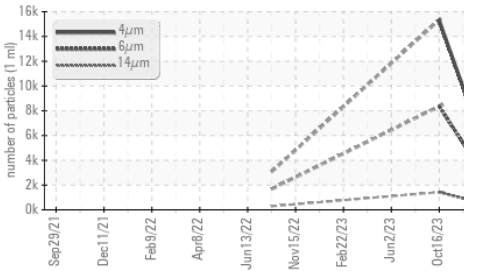
Base Number



Viscosity @ 100°C



Particle Trend



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		3993	9900	15338
Particles >6µm	ASTM D7647	>5000	2175	▲ 5393	▲ 8355
Particles >14µm	ASTM D7647	>640	370	▲ 918	▲ 1422
Particles >21µm	ASTM D7647	>160	125	▲ 309	▲ 479
Particles >38µm	ASTM D7647	>40	19	▲ 48	▲ 74
Particles >71µm	ASTM D7647	>10	2	5	8
Oil Cleanliness	ISO 4406 (c)	>19/16	18/16	▲ 20/17	▲ 20/18

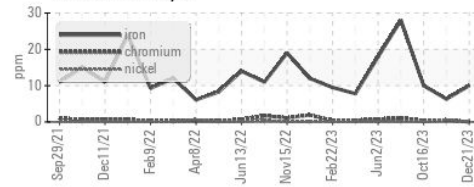
FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.4	16.9	19.3
Base Number (BN)	mg KOH/g	ASTM D2896	12.2	9.88	10.65	10.07

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

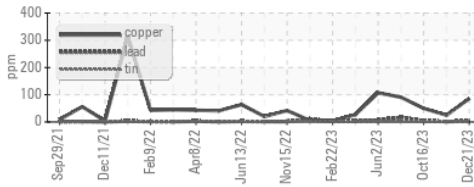
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.1	14.1	13.7	13.6

GRAPHS

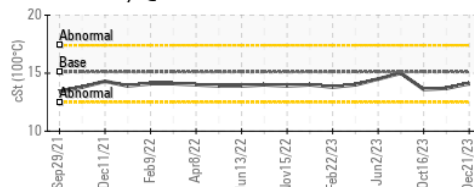
Ferrous Alloys



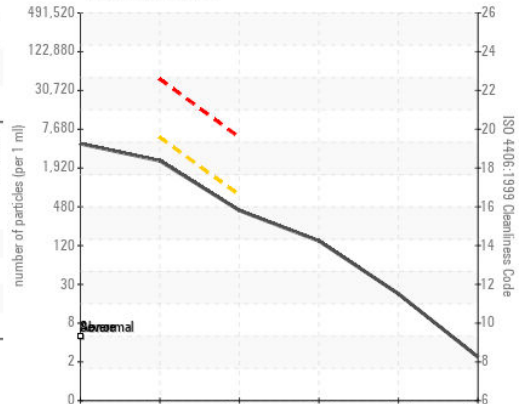
Non-ferrous Metals



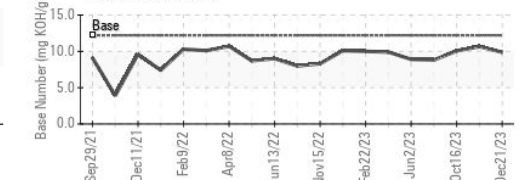
Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : KL0013441
 Lab Number : 06055998
 Unique Number : 10821947
 Test Package : MOB 2 (Additional Tests: PrtCount)

Recieved : 09 Jan 2024
 Diagnosed : 11 Jan 2024
 Diagnostician : Don Baldrige

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)

CONOR
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