

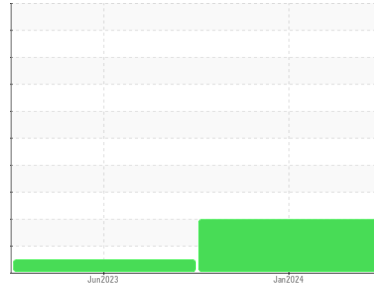


OIL ANALYSIS REPORT



Area
GUAY SON [CONHER]
 Machine Id
CATERPILLAR EI Chuchin MP 3512
 Component
Diesel Engine
 Fluid
PHILLIPS 66 15W40 (600 LTR)

Sample Rating Trend



ISO



DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates present 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		KL0013466	KL0012380	---
Sample Date	Client Info		26 Jan 2024	21 Jun 2023	---
Machine Age	hrs	Client Info	0	1014	---
Oil Age	hrs	Client Info	500	1014	---
Oil Changed	Client Info		Not Chngd	Not Chngd	---
Sample Status			ABNORMAL	NORMAL	---

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	---
Water	WC Method	>0.2	NEG	NEG	---
Glycol	WC Method		NEG	NEG	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	12	10	---
Chromium	ppm	ASTM D5185m >20	<1	<1	---
Nickel	ppm	ASTM D5185m >2	0	0	---
Titanium	ppm	ASTM D5185m >2	0	<1	---
Silver	ppm	ASTM D5185m >2	0	<1	---
Aluminum	ppm	ASTM D5185m >25	2	2	---
Lead	ppm	ASTM D5185m >40	0	<1	---
Copper	ppm	ASTM D5185m >330	7	16	---
Tin	ppm	ASTM D5185m >15	0	<1	---
Vanadium	ppm	ASTM D5185m	0	0	---
Cadmium	ppm	ASTM D5185m	0	0	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<1	1	---
Barium	ppm	ASTM D5185m	<1	0	---
Molybdenum	ppm	ASTM D5185m	<1	1	---
Manganese	ppm	ASTM D5185m	0	<1	---
Magnesium	ppm	ASTM D5185m	18	30	---
Calcium	ppm	ASTM D5185m	3419	3761	---
Phosphorus	ppm	ASTM D5185m	1016	1043	---
Zinc	ppm	ASTM D5185m	1154	1270	---
Sulfur	ppm	ASTM D5185m	4539	5103	---

CONTAMINANTS

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

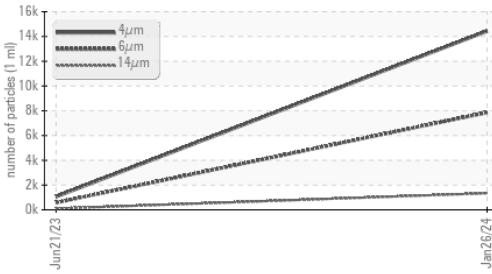
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.2	0.2	---
Nitration	Abs/cm	*ASTM D7624 >20	6.1	6.4	---
Sulfation	Abs:1mm	*ASTM D7415 >30	16.2	16.8	---

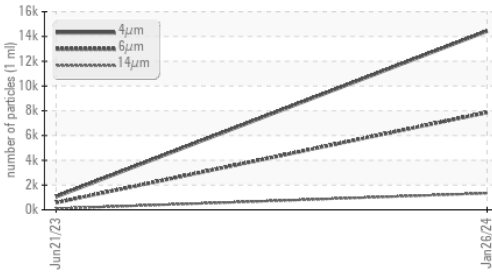


OIL ANALYSIS REPORT

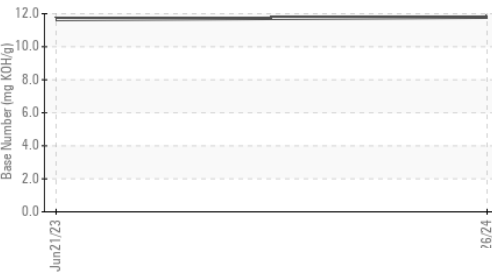
▲ Particle Trend



▲ Particle Trend



Base Number



Viscosity @ 100°C



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		14433	1053	---
Particles >6µm	ASTM D7647	>5000	▲ 7862	573	---
Particles >14µm	ASTM D7647	>640	▲ 1338	98	---
Particles >21µm	ASTM D7647	>160	▲ 451	33	---
Particles >38µm	ASTM D7647	>40	▲ 70	5	---
Particles >71µm	ASTM D7647	>10	7	1	---
Oil Cleanliness	ISO 4406 (c)	>19/16	▲ 20/18	16/14	---

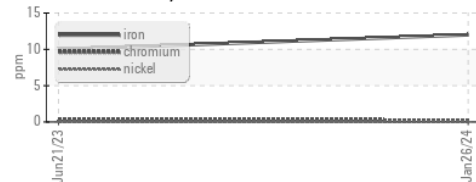
FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414	>25	9.3	9.5	---
Base Number (BN)	mg KOH/g ASTM D2896		11.79	11.65	---

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	---
Free Water	scalar *Visual		NEG	NEG	---

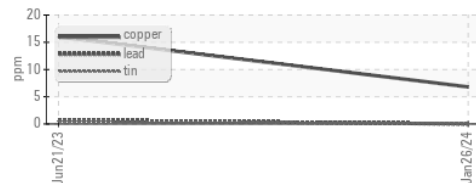
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D445		13.9	14.2	---

GRAPHS

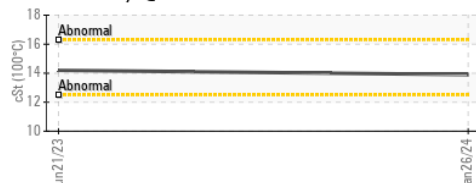
Ferrous Alloys



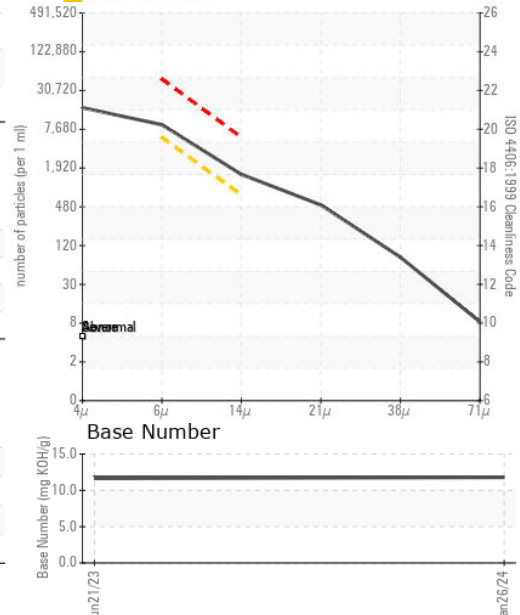
Non-ferrous Metals



Viscosity @ 100°C



▲ Particle Count



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013466 **Received** : 30 Jan 2024
Lab Number : **06074998** **Diagnosed** : 02 Feb 2024
Unique Number : 10857089 **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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