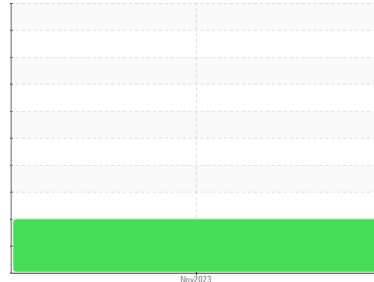




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
CATERPILLAR 3456 CAT Generator (S/N 7WG04026)
 Component
1 Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 40 (10 GAL)

DIAGNOSIS

▲ Recommendation

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. (Customer Sample Comment: This sample was taken prior to Kleenoil system installation. The oil and filters on the machine had 237 hrs at time of install.)

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 acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		KL0013069	---	---
Sample Date	Client Info		30 Nov 2023	---	---
Machine Age	hrs	Client Info	8140	---	---
Oil Age	hrs	Client Info	8140	---	---
Oil Changed	Client Info		N/A	---	---
Sample Status			ABNORMAL	---	---

CONTAMINATION

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

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	10	---	---
Chromium	ppm	ASTM D5185m >20	<1	---	---
Nickel	ppm	ASTM D5185m >2	<1	---	---
Titanium	ppm	ASTM D5185m >2	0	---	---
Silver	ppm	ASTM D5185m >2	0	---	---
Aluminum	ppm	ASTM D5185m >25	2	---	---
Lead	ppm	ASTM D5185m >40	<1	---	---
Copper	ppm	ASTM D5185m >330	4	---	---
Tin	ppm	ASTM D5185m >15	0	---	---
Vanadium	ppm	ASTM D5185m	0	---	---
Cadmium	ppm	ASTM D5185m	0	---	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	44	---	---
Barium	ppm	ASTM D5185m 10	0	---	---
Molybdenum	ppm	ASTM D5185m 100	77	---	---
Manganese	ppm	ASTM D5185m	0	---	---
Magnesium	ppm	ASTM D5185m 450	189	---	---
Calcium	ppm	ASTM D5185m 3000	2007	---	---
Phosphorus	ppm	ASTM D5185m 1150	918	---	---
Zinc	ppm	ASTM D5185m 1350	1149	---	---
Sulfur	ppm	ASTM D5185m 4250	3872	---	---

CONTAMINANTS

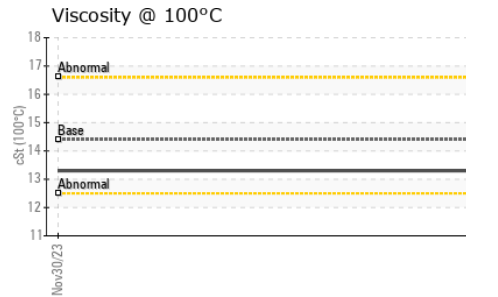
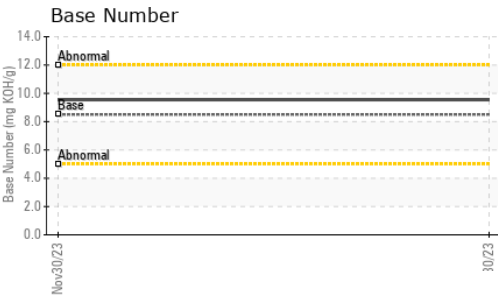
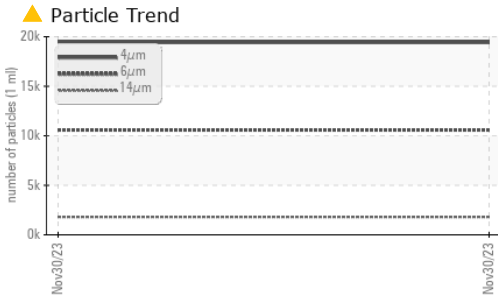
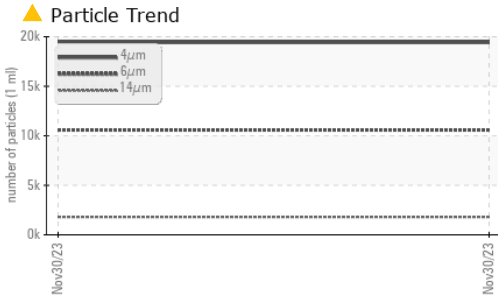
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	5	---	---
Sodium	ppm	ASTM D5185m >216	0	---	---
Potassium	ppm	ASTM D5185m >20	1	---	---

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.1	---	---
Nitration	Abs/cm	*ASTM D7624 >20	8.1	---	---
Sulfation	Abs./1mm	*ASTM D7415 >30	19.6	---	---



OIL ANALYSIS REPORT



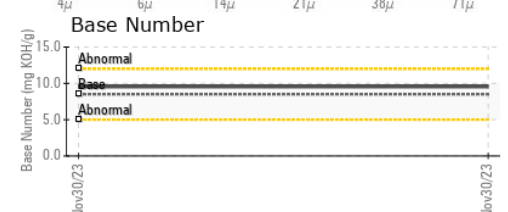
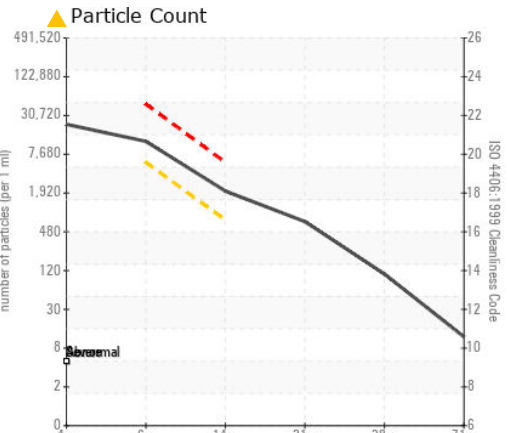
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		19426	---	---
Particles >6µm	ASTM D7647	>5000	▲ 10583	---	---
Particles >14µm	ASTM D7647	>640	▲ 1801	---	---
Particles >21µm	ASTM D7647	>160	▲ 607	---	---
Particles >38µm	ASTM D7647	>40	▲ 94	---	---
Particles >71µm	ASTM D7647	>10	10	---	---
Oil Cleanliness	ISO 4406 (c)	>19/16	▲ 21/18	---	---

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414	>25	16.8	---	---
Base Number (BN)	mg KOH/g ASTM D2896	8.5	9.55	---	---

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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D445	14.4	13.3	---	---

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013069 **Received** : 06 Dec 2023
Lab Number : **06027206** **Diagnosed** : 08 Dec 2023
Unique Number : 10776997 **Diagnostician** : Angela Borella
Test Package : MOB 2 (Additional Tests: PrtCount)

INNOVATIVE SOLUTIONS
 14026 COUNTY RD 3
 WIGGINS, CO
 US 80654
 Contact: STEVEN DEIKER
 stevejlpservices@gmail.com

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)

T:
F: