

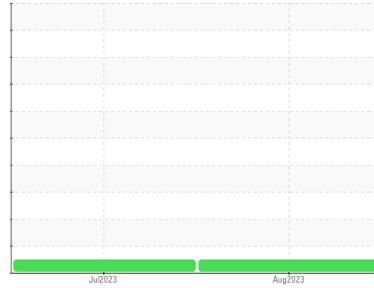


OIL ANALYSIS REPORT



Area
[PE0002361]
 Machine Id
CATERPILLAR Cat Generator BC 648
 Component
Diesel Engine
 Fluid
SHELL ROTELLA T3 15W40 (--- GAL)

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.

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	PE0002361	PE0002363	---
Sample Date	Client Info	18 Aug 2023	25 Jul 2023	---
Machine Age	hrs Client Info	742	572	---
Oil Age	hrs Client Info	597	427	---
Oil Changed	Client Info	Not Chngd	Not Chngd	---
Sample Status		NORMAL	NORMAL	---

CONTAMINATION

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

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >86	20	13	---
Chromium	ppm ASTM D5185m >3	<1	<1	---
Nickel	ppm ASTM D5185m >3	0	<1	---
Titanium	ppm ASTM D5185m >2	0	0	---
Silver	ppm ASTM D5185m >2	0	0	---
Aluminum	ppm ASTM D5185m >15	0	2	---
Lead	ppm ASTM D5185m >16	<1	<1	---
Copper	ppm ASTM D5185m >250	3	2	---
Tin	ppm ASTM D5185m >2	<1	<1	---
Vanadium	ppm ASTM D5185m	0	0	---
Cadmium	ppm ASTM D5185m	0	0	---

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 10	31	27	---
Barium	ppm ASTM D5185m 0	0	0	---
Molybdenum	ppm ASTM D5185m 10	63	60	---
Manganese	ppm ASTM D5185m	<1	<1	---
Magnesium	ppm ASTM D5185m 10	350	367	---
Calcium	ppm ASTM D5185m 2600	1743	1777	---
Phosphorus	ppm ASTM D5185m 1050	980	1007	---
Zinc	ppm ASTM D5185m 1250	1169	1236	---
Sulfur	ppm ASTM D5185m 3900	3495	4058	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >35	18	18	---
Sodium	ppm ASTM D5185m	0	<1	---
Potassium	ppm ASTM D5185m >20	1	<1	---

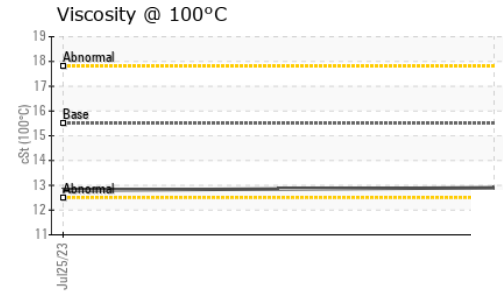
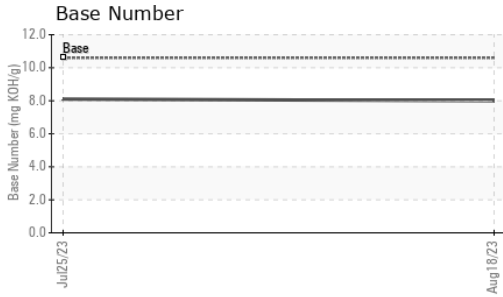
INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.2	0.2	---
Nitration	Abs/cm *ASTM D7624 >20	6.5	6.2	---
Sulfation	Abs/.1mm *ASTM D7415 >30	19.1	18.4	---

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	15.0	14.5	---
Base Number (BN)	mg KOH/g ASTM D2896 10.6	8.0	8.1	---

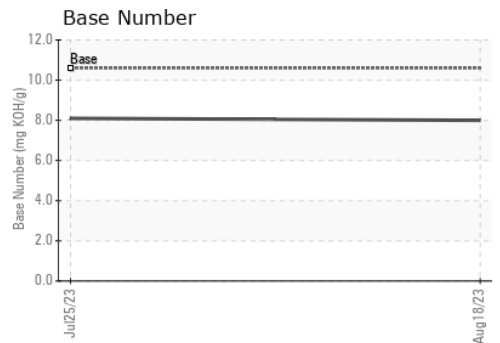
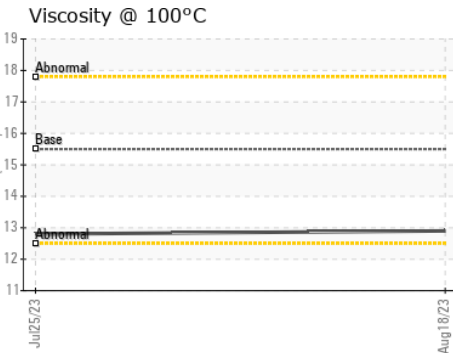
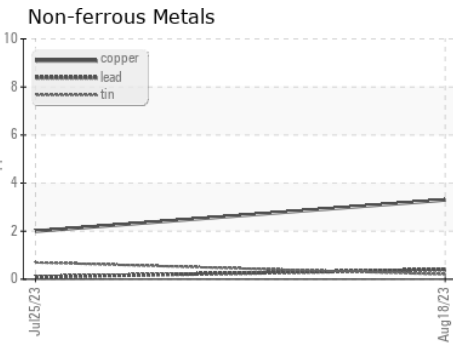
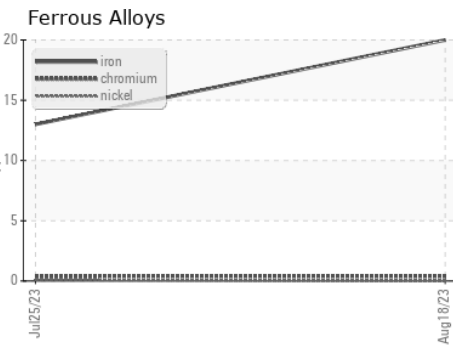
OIL ANALYSIS REPORT



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	15.5	12.9	12.8	---

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PE0002361 **Received** : 23 Aug 2023
Lab Number : **05932592** **Diagnosed** : 25 Aug 2023
Unique Number : 10617863 **Diagnostician** : Sean Felton
Test Package : CONST (Additional Tests: FT-IR, ICP, KV100, SCREEN, TBN)

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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