



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL



Machine Id
CATERPILLAR CATERPILLAR 960F
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 50 (--- QTS)

RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0011137	---	---
Sample Date		Client Info		29 Mar 2023	---	---
Machine Age	hrs	Client Info		0	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				SEVERE	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	68	---	---
Chromium	ppm	ASTM D5185m	>20	3	---	---
Nickel	ppm	ASTM D5185m	>2	<1	---	---
Titanium	ppm	ASTM D5185m	>2	<1	---	---
Silver	ppm	ASTM D5185m	>2	0	---	---
Aluminum	ppm	ASTM D5185m	>25	4	---	---
Lead	ppm	ASTM D5185m	>40	4	---	---
Copper	ppm	ASTM D5185m	>330	5	---	---
Tin	ppm	ASTM D5185m	>15	1	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

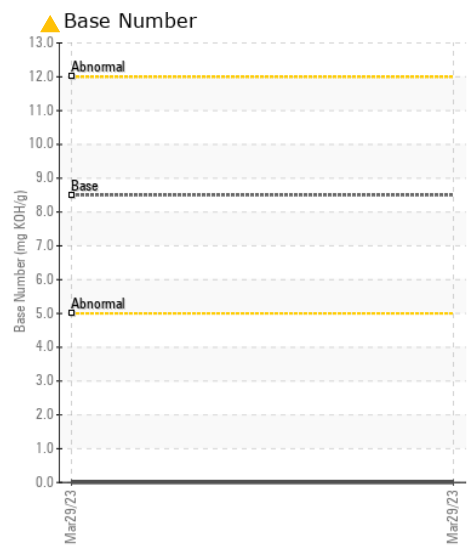
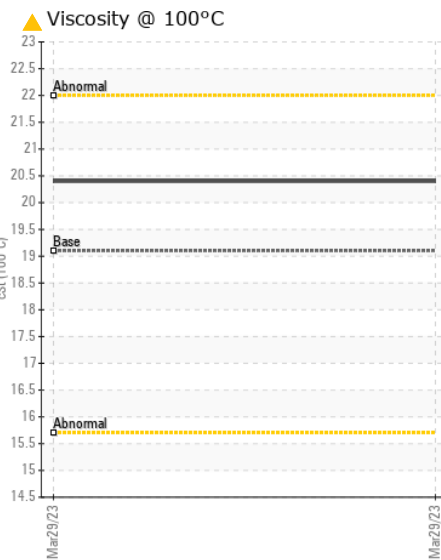
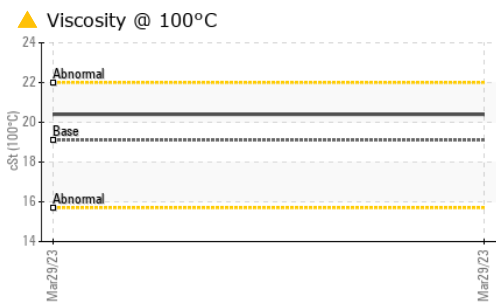
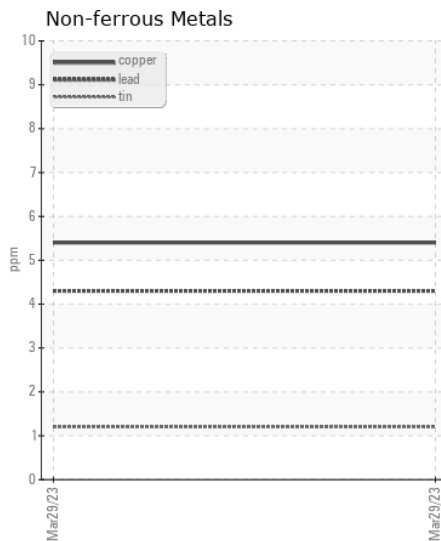
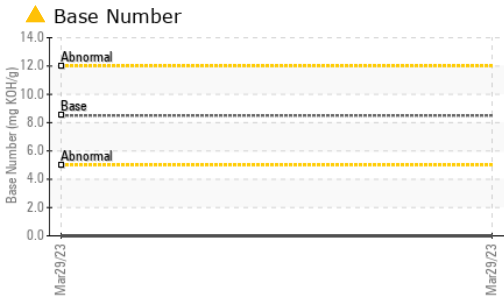
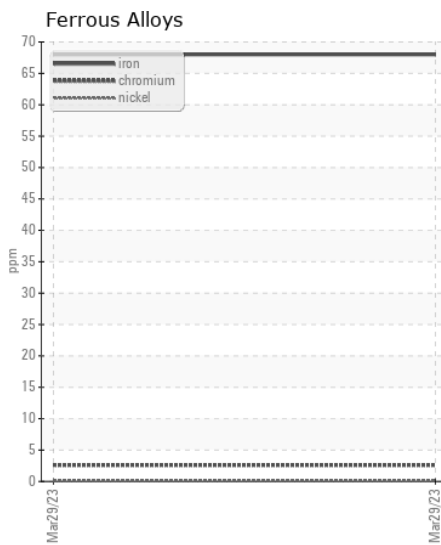
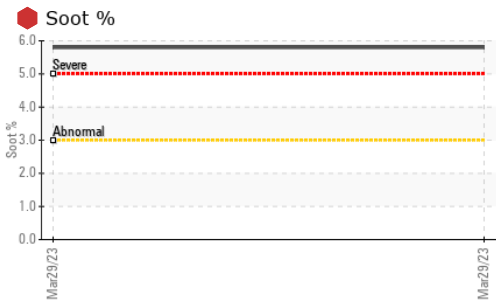
There is an abnormal amount of solids and carbon present in the oil.

Silicon	ppm	ASTM D5185m	>25	6	---	---
Potassium	ppm	ASTM D5185m	>20	2	---	---
Fuel		WC Method	>5	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	5.8	---	---
Nitration	Abs/cm	*ASTM D7624	>20	14.7	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	39.3	---	---
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	---	---

FLUID CONDITION

The oil viscosity is higher than normal. The BN level is low. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		0	---	---
Boron	ppm	ASTM D5185m	250	20	---	---
Barium	ppm	ASTM D5185m	10	<1	---	---
Molybdenum	ppm	ASTM D5185m	100	13	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m	450	204	---	---
Calcium	ppm	ASTM D5185m	3000	3044	---	---
Phosphorus	ppm	ASTM D5185m	1150	820	---	---
Zinc	ppm	ASTM D5185m	1350	964	---	---
Sulfur	ppm	ASTM D5185m	4250	5808	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.0	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	0.0	---	---
Visc @ 100°C	cSt	ASTM D445	19.1	20.4	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0011137 **Recieved** : 30 Mar 2023
Lab Number : 05806779 **Diagnosed** : 02 Apr 2023
Unique Number : 10404308 **Diagnostician** : Don Baldrige
Test Package : FLEET

KENT INDUSTRIES

SALT MARSH,
 JM
 Contact: ERIC MORGAN
 ERICMORGAN200@GMAIL.COM
 T:
 F:

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)