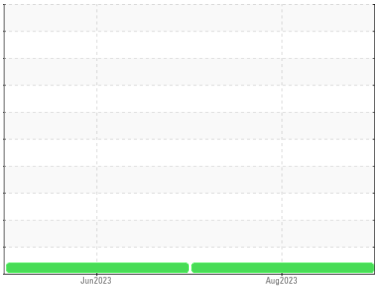
PROBLEM SUMMARY

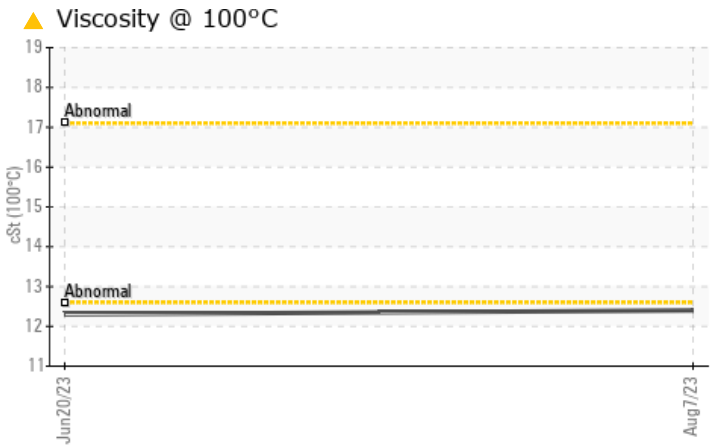
Machine Id
CATERPILLAR 330C HOE 121
Component
Diesel Engine
Fluid
PETRO CANADA 15W40 (--- GAL)

Sample Rating Trend



VISCOSITY

COMPONENT CONDITION SUMMARY



RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ATTENTION**	MARGINAL	---
Visc @ 100°C	cSt	ASTM D445		▲ **12.4**	▲ 12.3	---

Customer Id: CLBMYR
Sample No.: WC0517492
Lab Number: 05939124
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldridge +1
don.b505@comcast.net

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.

HISTORICAL DIAGNOSIS

20 Jun 2023 Diag: Jonathan Hester

VISCOSITY

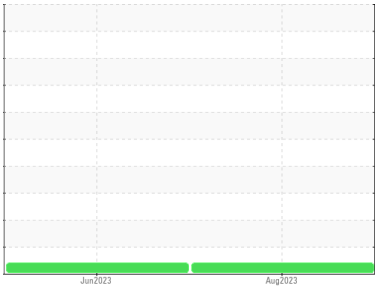
Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

OIL ANALYSIS REPORT

Machine Id
CATERPILLAR 330C HOE 121
Component
Diesel Engine
Fluid
PETRO CANADA 15W40 (--- GAL)

Sample Rating Trend



VISCOSITY

DIAGNOSIS

Recommendation
Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Fluid Condition
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0517492**	WC0822335	---
Sample Date		Client Info		**07 Aug 2023**	20 Jun 2023	---
Machine Age	hrs	Client Info		**8725**	8473	---
Oil Age	hrs	Client Info		**252**	263	---
Oil Changed		Client Info		**Changed**	Changed	---
Sample Status				**ATTENTION**	MARGINAL	---

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**10**	15	---
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	---
Nickel	ppm	ASTM D5185m	>2	**<1**	0	---
Titanium	ppm	ASTM D5185m	>2	**0**	0	---
Silver	ppm	ASTM D5185m	>2	**0**	0	---
Aluminum	ppm	ASTM D5185m	>25	**2**	1	---
Lead	ppm	ASTM D5185m	>40	**<1**	0	---
Copper	ppm	ASTM D5185m	>330	**1**	1	---
Tin	ppm	ASTM D5185m	>15	**<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		**5**	12	---
Barium	ppm	ASTM D5185m		**0**	0	---
Molybdenum	ppm	ASTM D5185m		**65**	62	---
Manganese	ppm	ASTM D5185m		**<1**	<1	---
Magnesium	ppm	ASTM D5185m		**951**	968	---
Calcium	ppm	ASTM D5185m		**1163**	1237	---
Phosphorus	ppm	ASTM D5185m		**1086**	1094	---
Zinc	ppm	ASTM D5185m		**1273**	1361	---
Sulfur	ppm	ASTM D5185m		**3296**	3946	---

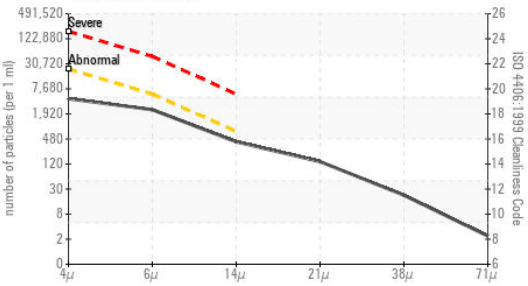
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**6**	10	---
Sodium	ppm	ASTM D5185m		**0**	1	---
Potassium	ppm	ASTM D5185m	>20	**1**	0	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.3**	0.3	---
Nitration	Abs/cm	*ASTM D7624	>20	**6.6**	6.7	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**18.8**	19.3	---

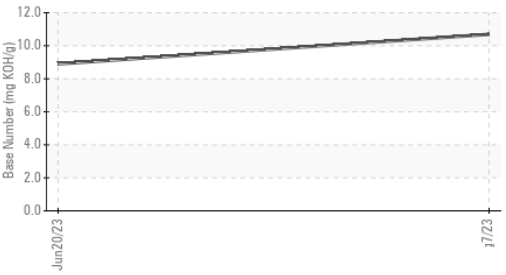
OIL ANALYSIS REPORT

Particle Trend

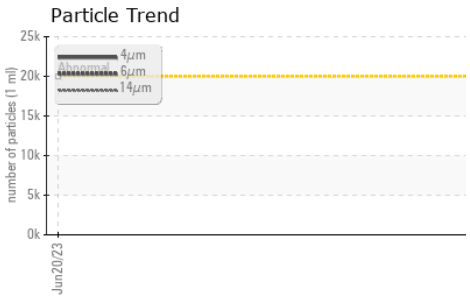
Particle Count



Base Number



Particle Trend



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	**3889**	---	---
Particles >6µm		ASTM D7647	>5000	**2118**	---	---
Particles >14µm		ASTM D7647	>640	**361**	---	---
Particles >21µm		ASTM D7647	>160	**121**	---	---
Particles >38µm		ASTM D7647	>40	**19**	---	---
Particles >71µm		ASTM D7647	>10	**2**	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	**19/18/16**	---	---

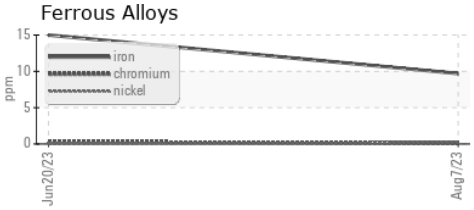
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**14.3**	14.6	---
Base Number (BN)	mg KOH/g	ASTM D2896		**10.69**	8.9	---

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	---

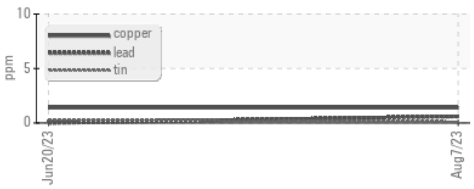
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		▲ **12.4**	▲ 12.3	---

GRAPHS

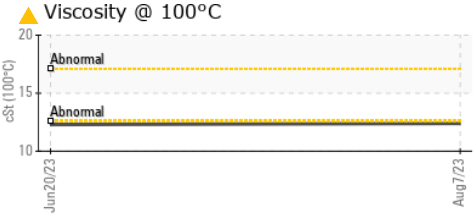
Ferrous Alloys



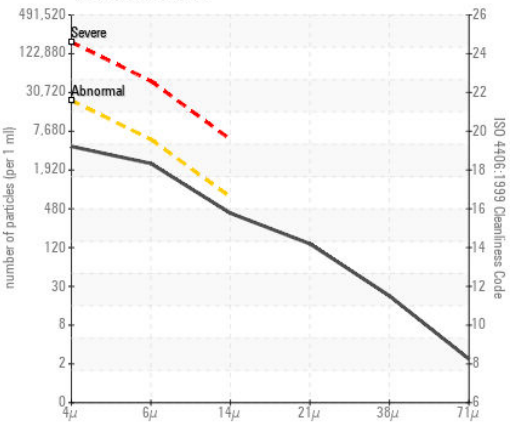
Non-ferrous Metals



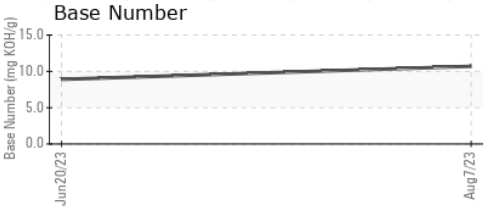
▲ Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0517492 **Received** : 30 Aug 2023
Lab Number : 05939124 **Diagnosed** : 01 Sep 2023
Unique Number : 10629736 **Diagnostician** : Don Baldridge
Test Package : IND 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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