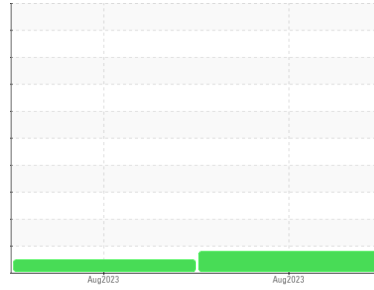


PROBLEM SUMMARY



Area
[2ND CLEAN]
 Machine Id
CATERPILLAR 30-398 (S/N CAT00349CRYG20094)
 Component
Hydraulic System
 Fluid
PETRO CANADA ENVIRON AW 46 (250 LTR)

Sample Rating Trend

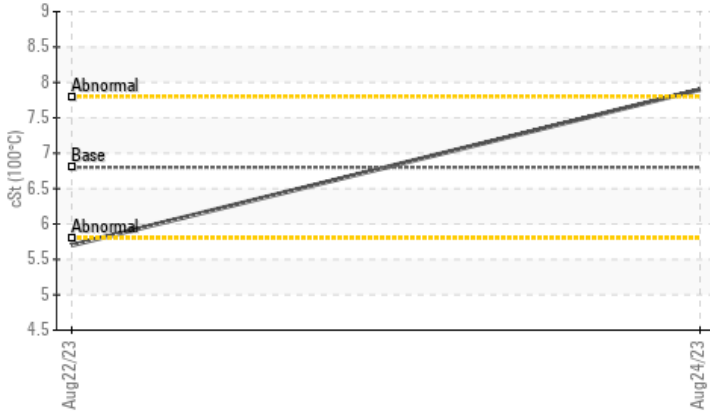


OFF SPEC



COMPONENT CONDITION SUMMARY

▲ Viscosity @ 100°C



RECOMMENDATION

Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	NORMAL	---
Visc @ 100°C	cSt	ASTM D7279(m)	6.8	▲ 7.9	5.7	---
Viscosity Index (VI)	Scale	ASTM D2270*	104	▲ 154	124	---

Customer Id: LESNEW
 Sample No.: PC0052381
 Lab Number: 02579105
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Kevin Marson +1 (289)291-4644 x4644
Kevin.Marson@wearcheck.com

To change component or sample information:
 Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

22 Aug 2023 Diag: Kevin Marson

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

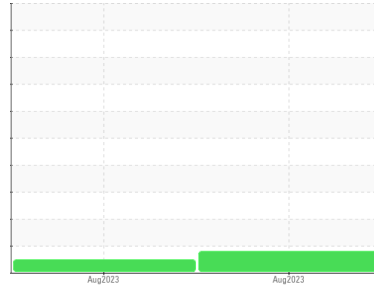


OIL ANALYSIS REPORT



Area
[2ND CLEAN]
Machine Id
CATERPILLAR 30-398 (S/N CAT00349CRYG20094)
Component
Hydraulic System
Fluid
PETRO CANADA ENVIRON AW 46 (250 LTR)

Sample Rating Trend



OFF SPEC



DIAGNOSIS

▲ Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

▲ Fluid Condition

The viscosity of the oil is higher than normal, possibly indicating the addition of a heavier grade of oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PC0052381	PC0052392	---
Sample Date	Client Info		24 Aug 2023	22 Aug 2023	---
Machine Age	hrs	Client Info	3214	3212	---
Oil Age	hrs	Client Info	2	1500	---
Oil Changed	Client Info		Not Changed	Changed	---
Sample Status			ABNORMAL	NORMAL	---

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>20	0	8	---
Chromium	ppm	ASTM D5185(m)	>20	0	<1	---
Nickel	ppm	ASTM D5185(m)	>20	<1	<1	---
Titanium	ppm	ASTM D5185(m)		0	<1	---
Silver	ppm	ASTM D5185(m)		0	0	---
Aluminum	ppm	ASTM D5185(m)	>20	0	3	---
Lead	ppm	ASTM D5185(m)	>20	0	<1	---
Copper	ppm	ASTM D5185(m)	>20	<1	11	---
Tin	ppm	ASTM D5185(m)	>20	0	0	---
Antimony	ppm	ASTM D5185(m)		0	0	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
Beryllium	ppm	ASTM D5185(m)		0	0	---
Cadmium	ppm	ASTM D5185(m)		0	0	---

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	0	0	22	---
Barium	ppm	ASTM D5185(m)	0	0	0	---
Molybdenum	ppm	ASTM D5185(m)	0	0	12	---
Manganese	ppm	ASTM D5185(m)	0	0	<1	---
Magnesium	ppm	ASTM D5185(m)	0	<1	146	---
Calcium	ppm	ASTM D5185(m)	0	3	2389	---
Phosphorus	ppm	ASTM D5185(m)	650	650	923	---
Zinc	ppm	ASTM D5185(m)	0	2	1031	---
Sulfur	ppm	ASTM D5185(m)	1280	1347	3409	---
Lithium	ppm	ASTM D5185(m)		<1	<1	---

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>15	0	7	---
Sodium	ppm	ASTM D5185(m)		0	3	---
Potassium	ppm	ASTM D5185(m)	>20	0	1	---

INFRA-RED

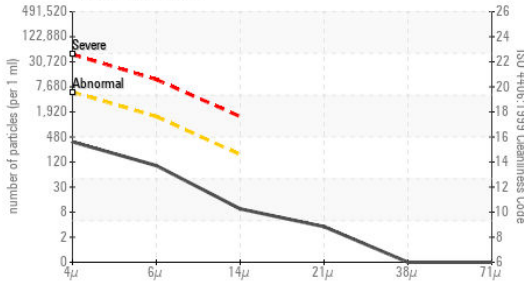
	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*		0	---	---
Nitration	Abs/cm	ASTM D7624*		2.1	---	---
Sulfation	Abs/.1mm	ASTM D7415*		20.2	---	---

OIL ANALYSIS REPORT

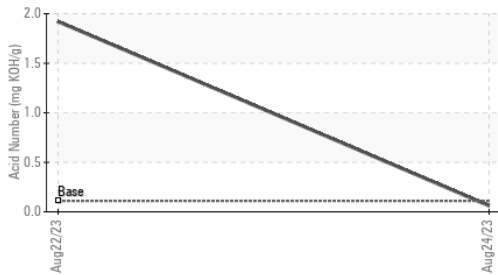
▲ Viscosity @ 100°C



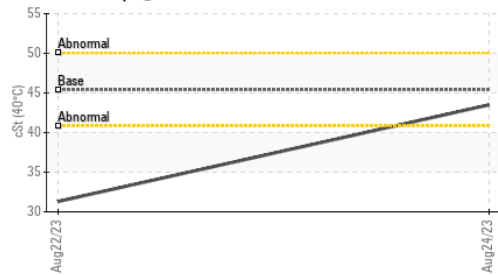
Particle Count



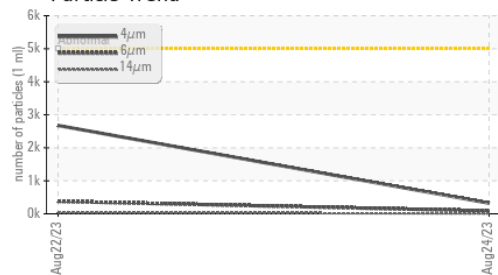
Acid Number



Viscosity @ 40°C



Particle Trend



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	323	2675	---
Particles >6µm		ASTM D7647	>1300	87	378	---
Particles >14µm		ASTM D7647	>160	8	33	---
Particles >21µm		ASTM D7647	>40	3	8	---
Particles >38µm		ASTM D7647	>10	0	0	---
Particles >71µm		ASTM D7647	>3	0	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	16/14/10	19/16/12	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*		11.2	---	---
Acid Number (AN)	mg KOH/g	ASTM D974*	0.11	0.06	1.92	---

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*	>0.05	NEG	NEG	---
Free Water	scalar	Visual*		NEG	NEG	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	45.4	43.5	31.3	---
Visc @ 100°C	cSt	ASTM D7279(m)	6.8	▲ 7.9	5.7	---
Viscosity Index (VI)	Scale	ASTM D2270*	104	▲ 154	124	---

SAMPLE IMAGES method limit/base current history1 history2

Color			no image
Bottom			no image



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0052381 **Received** : 29 Aug 2023
Lab Number : **02579105** **Diagnosed** : 05 Sep 2023
Unique Number : 5632165 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: FT-IR, ICP-NewOil, KV100, VI)

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

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