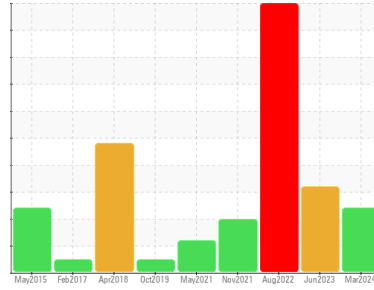


OIL ANALYSIS REPORT



Machine Id
CATERPILLAR 95-94
Component
Hydraulic System
Fluid
PETRO CANADA PRODURO TO-4 SAE 10W (80 LTR)

Sample Rating Trend



WEAR



DIAGNOSIS

Recommendation

We recommend that you drain the oil from the component if this has not already been done. The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

Copper and iron ppm levels are abnormal. Bearing and/or bushing wear is indicated. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

Contamination

There is a light amount of silt (particulates < 14 microns in size) present in the oil.

Fluid Condition

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PC0076097	PC0061431	PC0030458
Sample Date	Client Info		29 Mar 2024	27 Jun 2023	10 Aug 2022
Machine Age	hrs	Client Info	26409	25920	25291
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		Not Changed	Not Changd	Not Changed
Sample Status			ABNORMAL	ABNORMAL	SEVERE

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.1	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m) >20	▲ 31	▲ 38	▲ 83
Chromium	ppm	ASTM D5185(m) >10	0	<1	<1
Nickel	ppm	ASTM D5185(m) >10	0	0	0
Titanium	ppm	ASTM D5185(m)	0	0	<1
Silver	ppm	ASTM D5185(m)	<1	<1	0
Aluminum	ppm	ASTM D5185(m) >10	<1	1	1
Lead	ppm	ASTM D5185(m) >10	4	4	2
Copper	ppm	ASTM D5185(m) >75	▲ 177	▲ 114	● 37
Tin	ppm	ASTM D5185(m) >10	<1	1	1
Antimony	ppm	ASTM D5185(m)	0	0	<1
Vanadium	ppm	ASTM D5185(m)	0	0	0
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

ADDITIVES

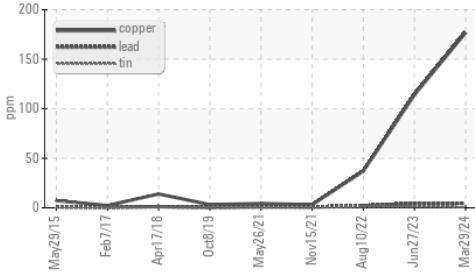
	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 1	<1	<1	2
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 1	0	<1	<1
Manganese	ppm	ASTM D5185(m) 1	<1	<1	1
Magnesium	ppm	ASTM D5185(m) 1	15	8	12
Calcium	ppm	ASTM D5185(m) 2864	1953	2112	1999
Phosphorus	ppm	ASTM D5185(m) 987	826	959	938
Zinc	ppm	ASTM D5185(m) 1162	925	1011	1067
Sulfur	ppm	ASTM D5185(m) 3713	2189	2415	● 11863
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

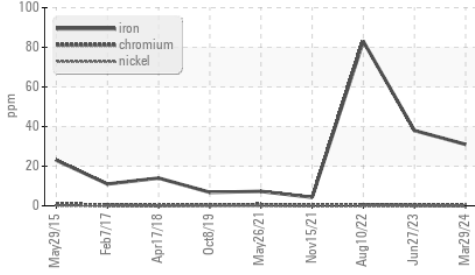
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >20	1	2	5
Sodium	ppm	ASTM D5185(m)	1	2	5
Potassium	ppm	ASTM D5185(m) >20	<1	1	7

OIL ANALYSIS REPORT

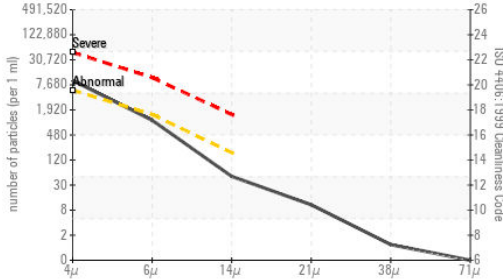
Non-ferrous Metals



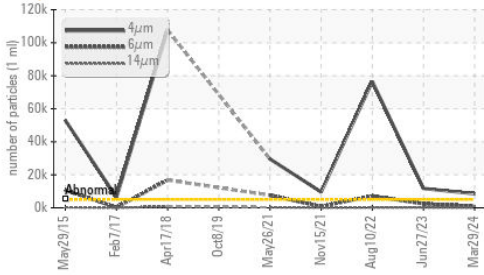
Ferrous Alloys



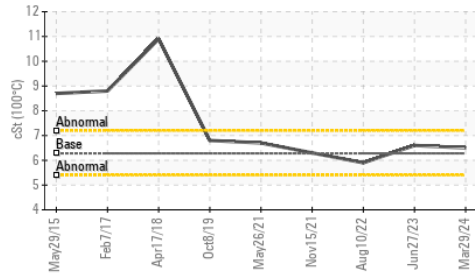
Particle Count



Particle Trend



Viscosity @ 100°C



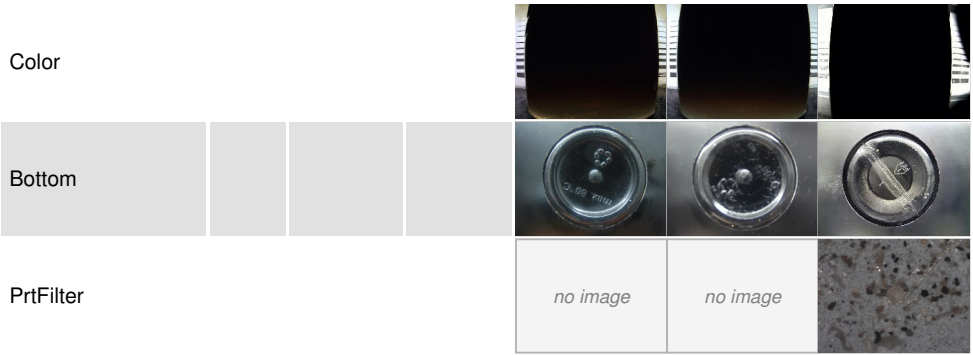
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	8523	11712	76551
Particles >6µm	ASTM D7647	>1300	950	2439	7155
Particles >14µm	ASTM D7647	>160	43	177	168
Particles >21µm	ASTM D7647	>40	9	45	28
Particles >38µm	ASTM D7647	>10	1	1	2
Particles >71µm	ASTM D7647	>3	0	0	1
Oil Cleanliness	ISO 4406 (c)	>19/17/14	20/17/13	21/18/15	23/20/15

FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D974*	3.32	0.72	1.23	0.45

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar Visual*	NONE	NONE	NONE	VLITE
Yellow Metal	scalar Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar Visual*	NONE	NONE	NONE	NONE
Silt	scalar Visual*	NONE	NONE	NONE	NONE
Debris	scalar Visual*	NONE	VLITE	VLITE	LIGHT
Sand/Dirt	scalar Visual*	NONE	NONE	NONE	NONE
Appearance	scalar Visual*	NORML	NORML	NORML	NORML
Odor	scalar Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar Visual*	>0.1	NEG	NEG	NEG
Free Water	scalar Visual*		NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt ASTM D7279(m)	35.38	39.3	40.1	33.0
Visc @ 100°C	cSt ASTM D7279(m)	6.28	6.5	6.6	5.9
Viscosity Index (VI)	Scale ASTM D2270*	128	117	117	123

SAMPLE IMAGES



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0076097
Lab Number : 02637659
Unique Number : 5786821
Test Package : IND 2 (Additional Tests: KV100, PQ, VI)

TRUCK AND EQUIPMENT SOLUTION
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 MIDHURST, ON
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 parts@tesbarrie.com
 T: (705)792-7620
 F: (705)725-5425

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.