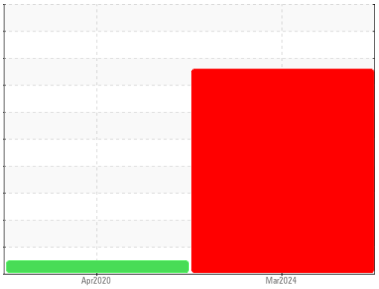
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
CATERPILLAR 980M L56
Component
Front Differential
Fluid
PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)

DIAGNOSIS

▲ Recommendation
The oil change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

▲ Wear
Gear wear is indicated.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The AN level is acceptable for this fluid. 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		**PCA0118512**	PCA0016950	---
Sample Date		Client Info		**11 Mar 2024**	28 Apr 2020	---
Machine Age	hrs	Client Info		**16346**	5001	---
Oil Age	hrs	Client Info		**2183**	1000	---
Oil Changed		Client Info		**Changed**	Changed	---
Sample Status				**SEVERE**	NORMAL	---

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>.2	**NEG**	NEG	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>500	▲ **1331**	37	---
Chromium	ppm	ASTM D5185m	>3	▲ **4**	<1	---
Nickel	ppm	ASTM D5185m	>3	**2**	<1	---
Titanium	ppm	ASTM D5185m	>2	**<1**	0	---
Silver	ppm	ASTM D5185m	>2	**0**	<1	---
Aluminum	ppm	ASTM D5185m	>30	▲ **33**	1	---
Lead	ppm	ASTM D5185m	>13	**2**	<1	---
Copper	ppm	ASTM D5185m	>103	**44**	6	---
Tin	ppm	ASTM D5185m	>5	**1**	0	---
Antimony	ppm	ASTM D5185m	>5	**---**	0	---
Vanadium	ppm	ASTM D5185m		**<1**	0	---
Cadmium	ppm	ASTM D5185m		**0**	<1	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	**12**	<1	---
Barium	ppm	ASTM D5185m	0	**0**	0	---
Molybdenum	ppm	ASTM D5185m	0	**<1**	0	---
Manganese	ppm	ASTM D5185m	0	**20**	<1	---
Magnesium	ppm	ASTM D5185m	9	**50**	8	---
Calcium	ppm	ASTM D5185m	3114	**3334**	2703	---
Phosphorus	ppm	ASTM D5185m	1099	**956**	866	---
Zinc	ppm	ASTM D5185m	1245	**1000**	1056	---
Sulfur	ppm	ASTM D5185m	7086	**6103**	8057	---

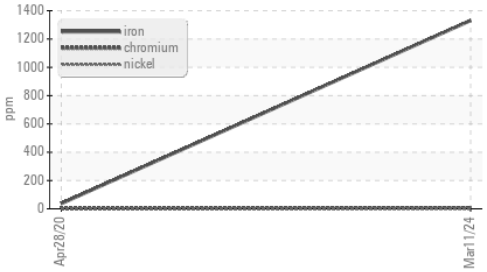
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>100	**34**	17	---
Sodium	ppm	ASTM D5185m		**1**	1	---
Potassium	ppm	ASTM D5185m	>20	**0**	0	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	3.27	**0.39**	1.419	---

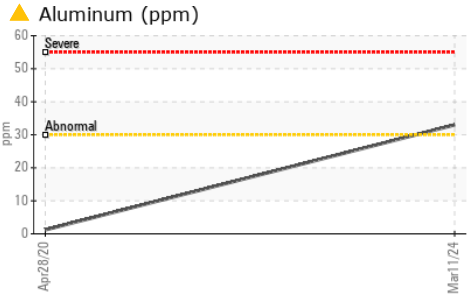
OIL ANALYSIS REPORT

OIL DIAGNOSTICS

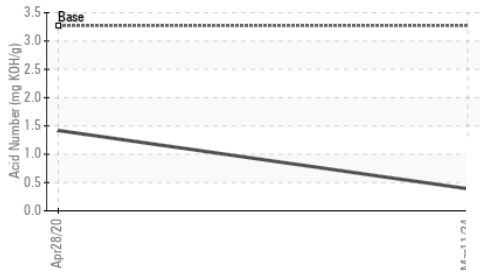
Ferrous Alloys



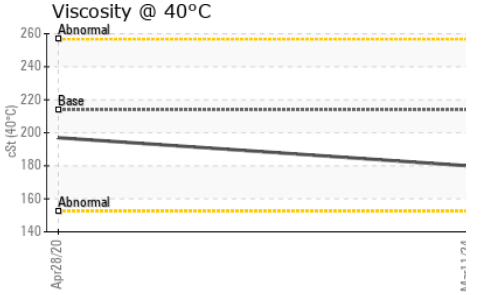
Aluminum (ppm)



Acid Number

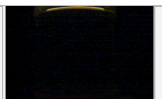
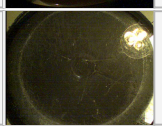


Viscosity @ 40°C



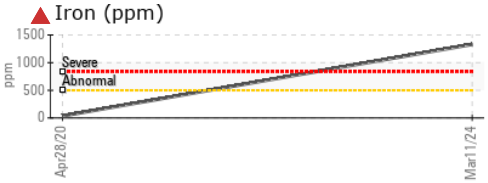
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	MODER	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	NONE	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	---
Appearance	scalar	*Visual	NORML	**NORML**	NORML	---
Odor	scalar	*Visual	NORML	**NORML**	NORML	---
Emulsified Water	scalar	*Visual	>.2	**NEG**	NEG	---
Free Water	scalar	*Visual		**NEG**	NEG	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	213.9	**180**	197	---

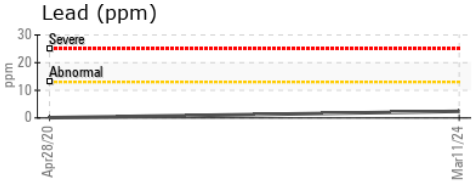
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color			*no image*		*no image*
Bottom			*no image*		*no image*

GRAPHS

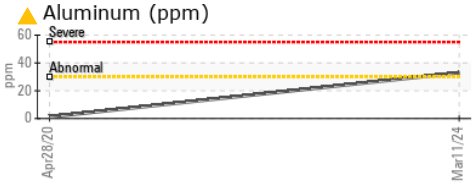
Iron (ppm)



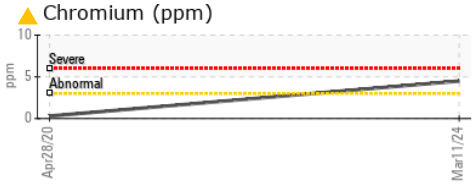
Lead (ppm)



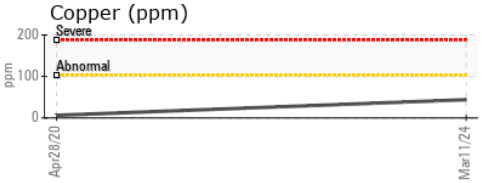
Aluminum (ppm)



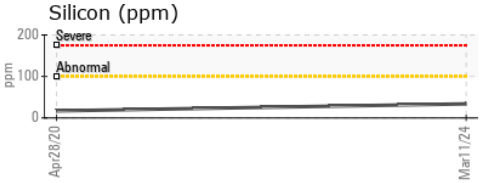
Chromium (ppm)



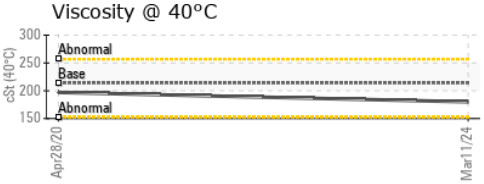
Copper (ppm)



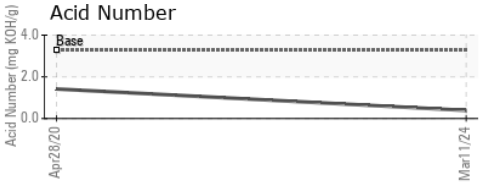
Silicon (ppm)



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0118512
Lab Number : 06121002
Unique Number : 10929835
Test Package : MOB 2

Received : 18 Mar 2024
Tested : 19 Mar 2024
Diagnosed : 20 Mar 2024 - Don Baldridge

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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