



OIL ANALYSIS REPORT



Machine Id
CATERPILLAR 416 134
 Component
Diesel Engine
 Fluid
PETRO CANADA 30W (--- GAL)

Sample Rating Trend



WEAR



DIAGNOSIS

▲ Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

▲ Wear

The aluminum level is severe. Piston wear is indicated.

▲ Contamination

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. 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		WC0917247	---	---
Sample Date	Client Info		18 Apr 2024	---	---
Machine Age	hrs	Client Info	3428	---	---
Oil Age	hrs	Client Info	1052	---	---
Oil Changed	Client Info		Not Chngd	---	---
Sample Status			SEVERE	---	---

CONTAMINATION

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

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	78	---	---
Chromium	ppm	ASTM D5185m >20	4	---	---
Nickel	ppm	ASTM D5185m >2	<1	---	---
Titanium	ppm	ASTM D5185m >2	<1	---	---
Silver	ppm	ASTM D5185m >2	0	---	---
Aluminum	ppm	ASTM D5185m >25	▲ 107	---	---
Lead	ppm	ASTM D5185m >40	11	---	---
Copper	ppm	ASTM D5185m >330	18	---	---
Tin	ppm	ASTM D5185m >15	3	---	---
Vanadium	ppm	ASTM D5185m	0	---	---
Cadmium	ppm	ASTM D5185m	0	---	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	11	---	---
Barium	ppm	ASTM D5185m	0	---	---
Molybdenum	ppm	ASTM D5185m	71	---	---
Manganese	ppm	ASTM D5185m	2	---	---
Magnesium	ppm	ASTM D5185m	969	---	---
Calcium	ppm	ASTM D5185m	1130	---	---
Phosphorus	ppm	ASTM D5185m	1009	---	---
Zinc	ppm	ASTM D5185m	1301	---	---
Sulfur	ppm	ASTM D5185m	3308	---	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	▲ 41	---	---
Sodium	ppm	ASTM D5185m	6	---	---
Potassium	ppm	ASTM D5185m >20	<1	---	---

INFRA-RED

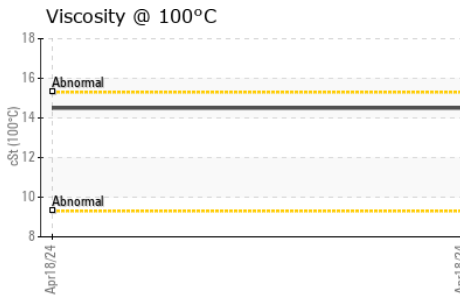
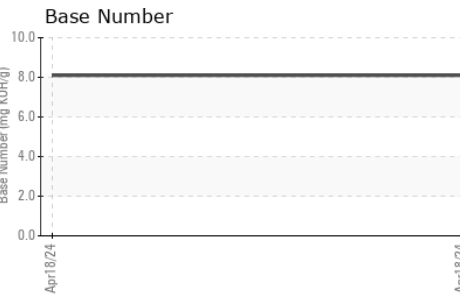
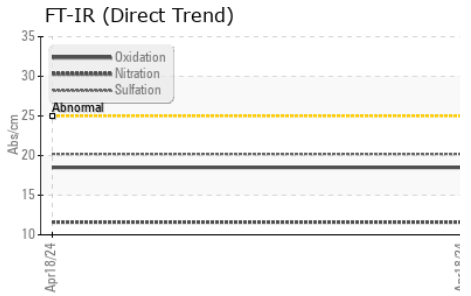
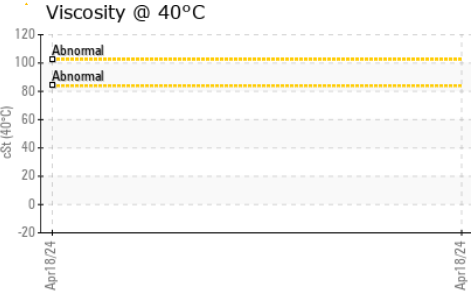
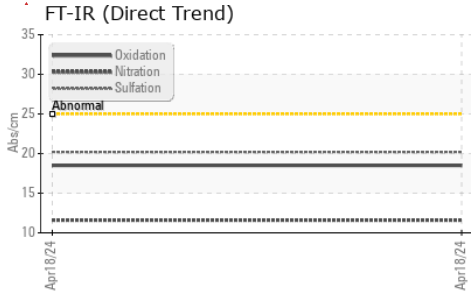
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.4	---	---
Nitration	Abs/cm	*ASTM D7624 >20	11.6	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.2	---	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	18.5	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.10	---	---



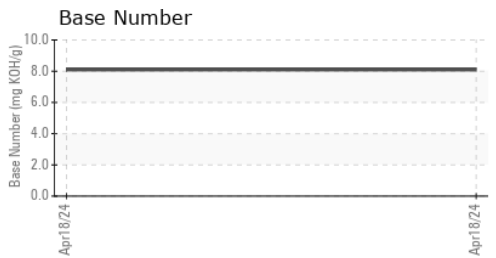
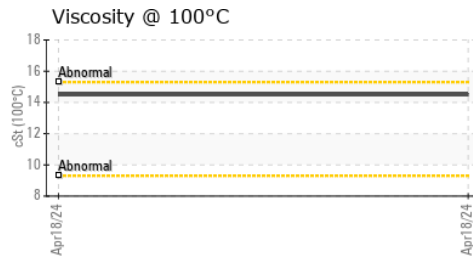
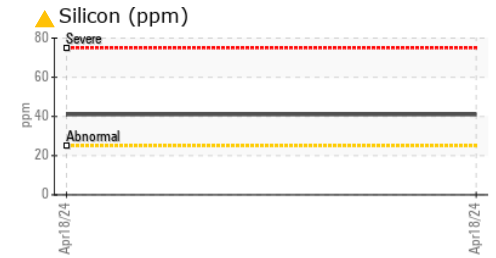
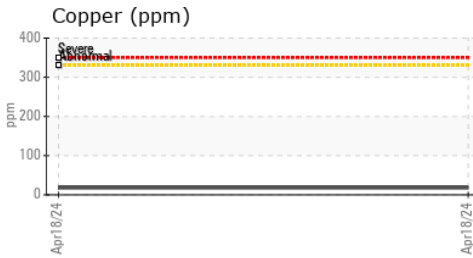
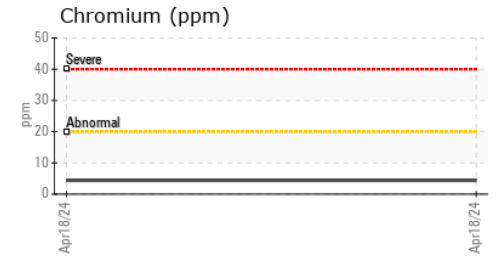
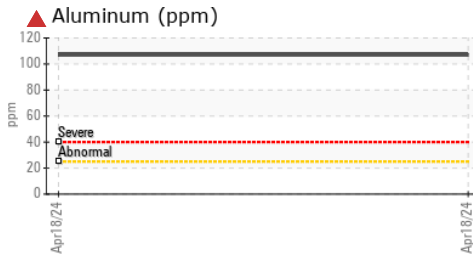
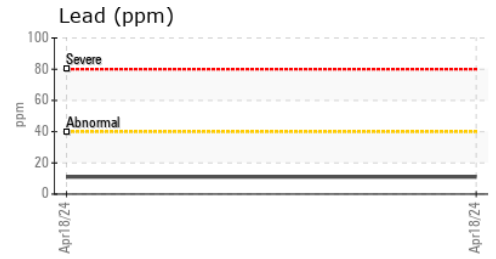
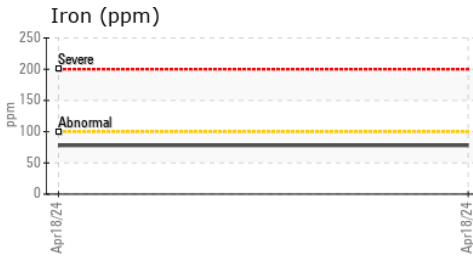
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
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	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.5	---	---

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0917247 **Received** : 17 May 2024
Lab Number : 06183815 **Tested** : 28 May 2024
Unique Number : 11035141 **Diagnosed** : 28 May 2024 - Jonathan Hester
Test Package : MOB 1 (Additional Tests: KV40, TBN)

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 706 38TH AVE N
 MYRTLE BEACH, SC
 US 29577
 Contact: JAMIE HUCKS
 shop@clbenton.com

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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F: