



VOLVO PENTA

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Area
MIKE LOCKWOOD [LAST RUN]
Machine Id
CATERPILLAR C1201417
Component
Diesel Engine
Fluid
CAT DIESEL ENGINE OIL 15W40 (7 GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VPA012770	---	---
Sample Date		Client Info		16 Jul 2024	---	---
Machine Age	hrs	Client Info		2650	---	---
Oil Age	hrs	Client Info		120	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				ABNORMAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	17	---	---
Chromium	ppm	ASTM D5185m	>20	<1	---	---
Nickel	ppm	ASTM D5185m	>2	<1	---	---
Titanium	ppm	ASTM D5185m	>2	0	---	---
Silver	ppm	ASTM D5185m	>2	0	---	---
Aluminum	ppm	ASTM D5185m	>25	<1	---	---
Lead	ppm	ASTM D5185m	>40	1	---	---
Copper	ppm	ASTM D5185m	>330	11	---	---
Tin	ppm	ASTM D5185m	>15	0	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

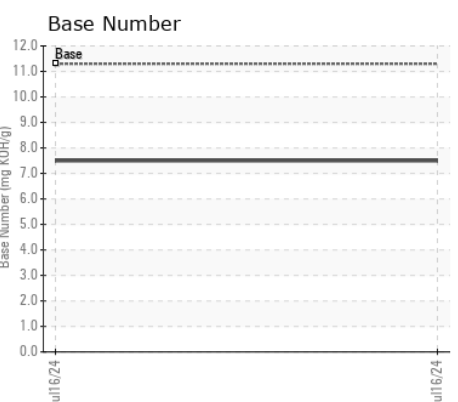
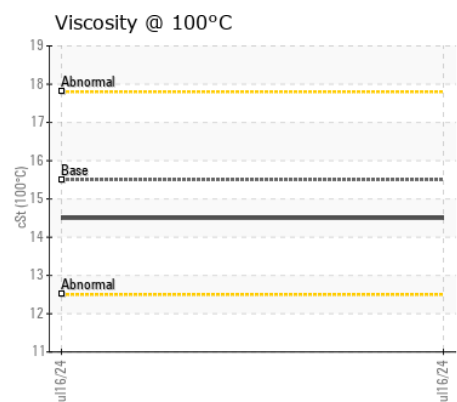
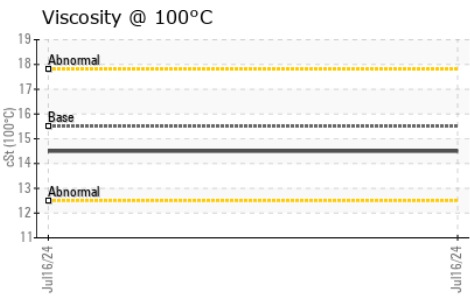
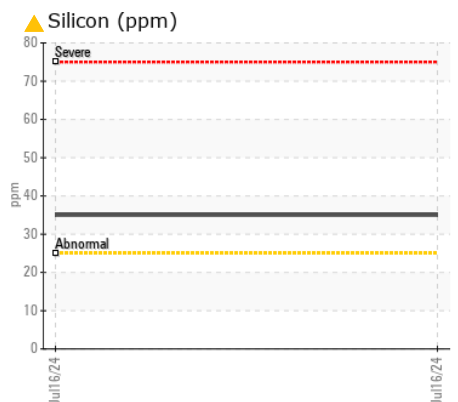
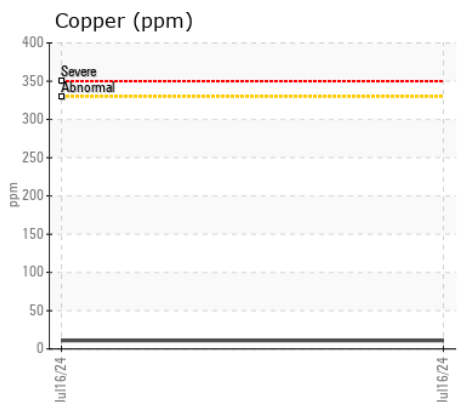
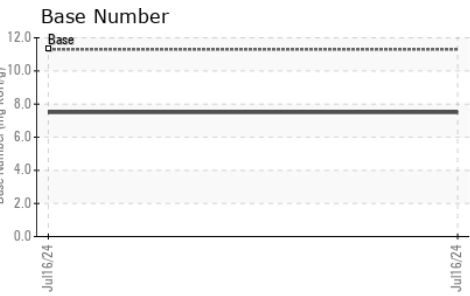
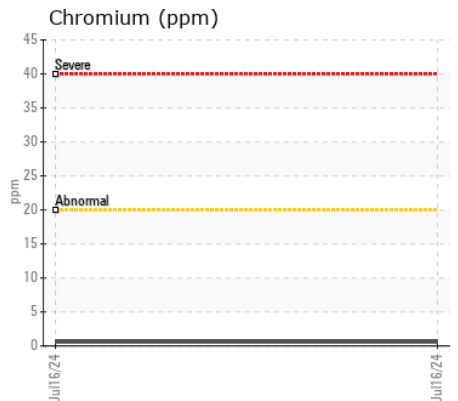
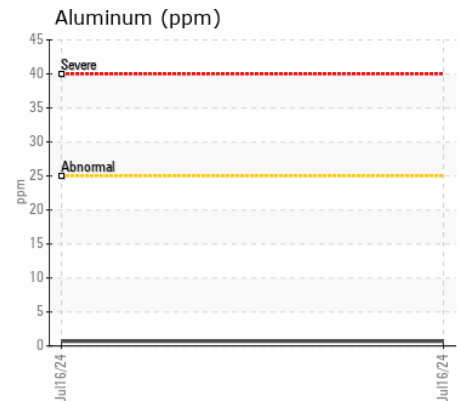
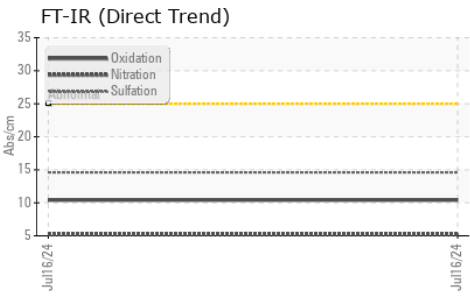
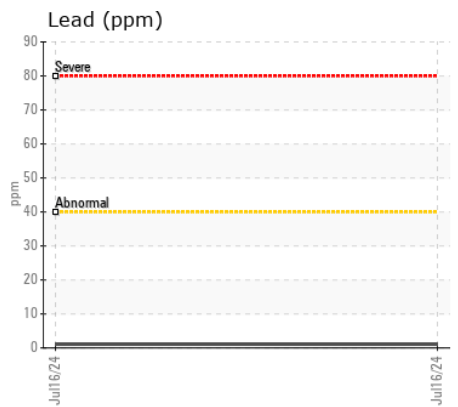
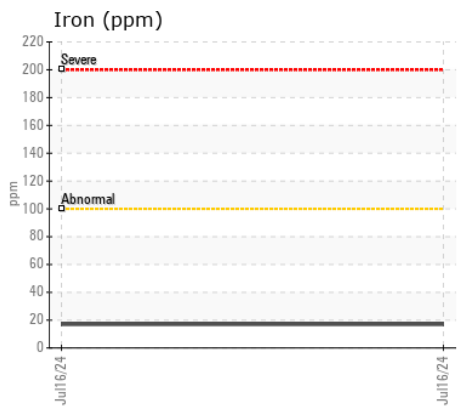
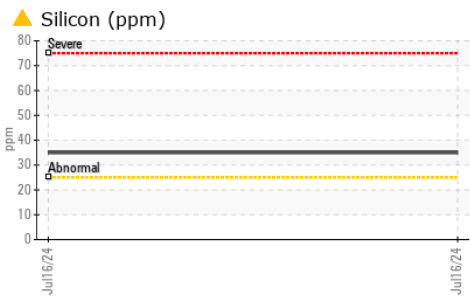
Elemental level of silicon (Si) above normal.

Silicon	ppm	ASTM D5185m	>25	▲ 35	---	---
Potassium	ppm	ASTM D5185m	>20	2	---	---
Fuel		WC Method	>5	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.2	---	---
Nitration	Abs/cm	*ASTM D7624	>20	5.2	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	14.6	---	---
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	---	---

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		2	---	---
Boron	ppm	ASTM D5185m		7	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		8	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		1085	---	---
Calcium	ppm	ASTM D5185m		1401	---	---
Phosphorus	ppm	ASTM D5185m		1003	---	---
Zinc	ppm	ASTM D5185m	1460	1153	---	---
Sulfur	ppm	ASTM D5185m		3427	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.4	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	11.3	7.5	---	---
Visc @ 100°C	cSt	ASTM D445	15.5	14.5	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VPA012770 **Received** : 18 Jul 2024
Lab Number : 06239955 **Tested** : 18 Jul 2024
Unique Number : 11128789 **Diagnosed** : 19 Jul 2024 - Don Baldrige
Test Package : MOB 1 (Additional Tests: TBN)

Lockwood Boat Works Inc
 1825 Highway 35, Morgan
 SOUTH AMBOY, NJ
 US 08879

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Contact: Ellen Lockwood
 ellen@lockwoodboatworks.com; maryann@lockwoodboatworks.com

* - 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: