

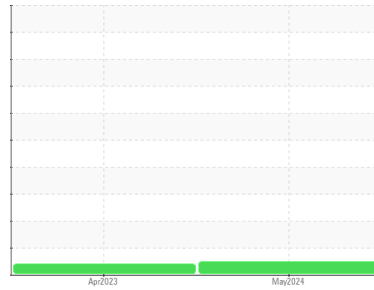


OIL ANALYSIS REPORT



Machine Id
CATERPILLAR 149
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

Sample Rating Trend



NORMAL



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

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

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		RW0005483	RW0004176	---
Sample Date	Client Info		06 May 2024	11 Apr 2023	---
Machine Age	hrs	Client Info	1315	280	---
Oil Age	hrs	Client Info	393	280	---
Oil Changed	Client Info		Changed	Changed	---
Sample Status			NORMAL	ATTENTION	---

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	1.6	---
Water	WC Method	>0.2	NEG	NEG	---
Glycol	WC Method		NEG	NEG	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	14	17	---
Chromium	ppm	ASTM D5185m >20	0	<1	---
Nickel	ppm	ASTM D5185m >2	0	0	---
Titanium	ppm	ASTM D5185m >2	0	0	---
Silver	ppm	ASTM D5185m >2	0	0	---
Aluminum	ppm	ASTM D5185m >25	2	2	---
Lead	ppm	ASTM D5185m >40	0	0	---
Copper	ppm	ASTM D5185m >330	20	11	---
Tin	ppm	ASTM D5185m >15	<1	0	---
Vanadium	ppm	ASTM D5185m	0	0	---
Cadmium	ppm	ASTM D5185m	0	0	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	19	34	---
Barium	ppm	ASTM D5185m 10	<1	0	---
Molybdenum	ppm	ASTM D5185m 100	74	44	---
Manganese	ppm	ASTM D5185m	<1	2	---
Magnesium	ppm	ASTM D5185m 450	914	572	---
Calcium	ppm	ASTM D5185m 3000	1508	1720	---
Phosphorus	ppm	ASTM D5185m 1150	1175	867	---
Zinc	ppm	ASTM D5185m 1350	1416	1130	---
Sulfur	ppm	ASTM D5185m 4250	3375	3336	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	4	10	---
Sodium	ppm	ASTM D5185m >158	3	3	---
Potassium	ppm	ASTM D5185m >20	0	0	---

INFRA-RED

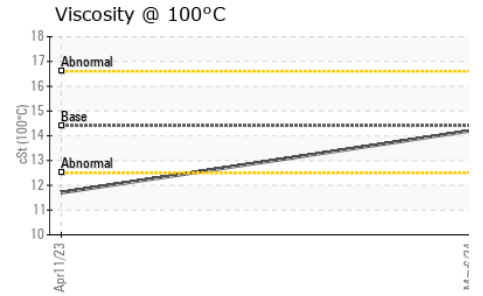
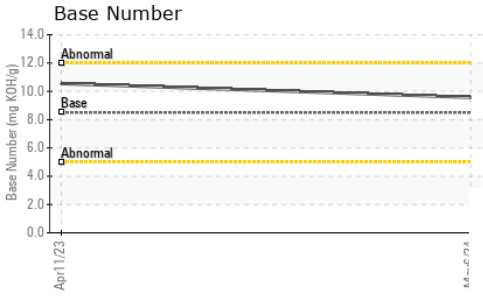
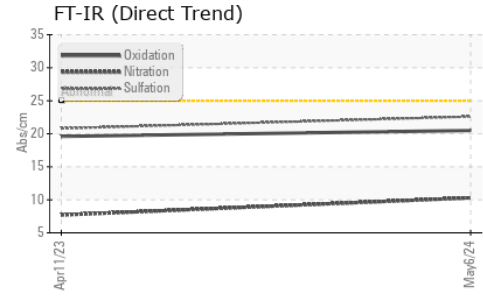
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.2	0.1	---
Nitration	Abs/cm	*ASTM D7624 >20	10.3	7.7	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	22.6	20.8	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	20.5	19.6	---
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	9.57	10.55	---



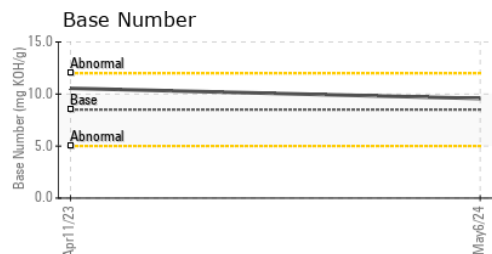
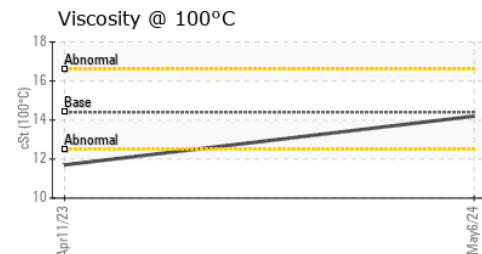
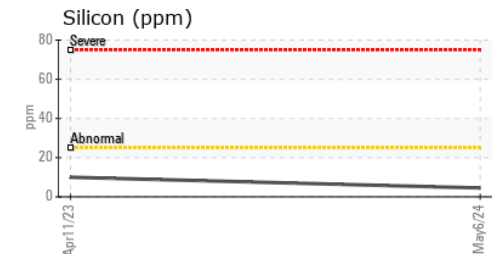
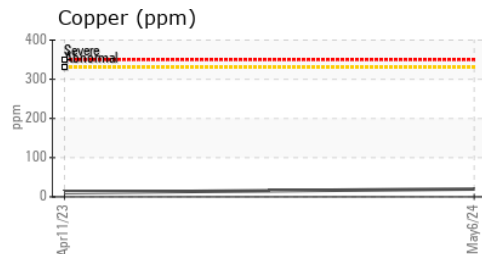
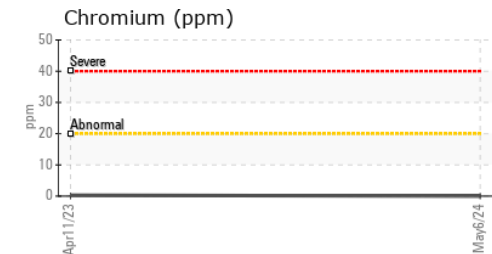
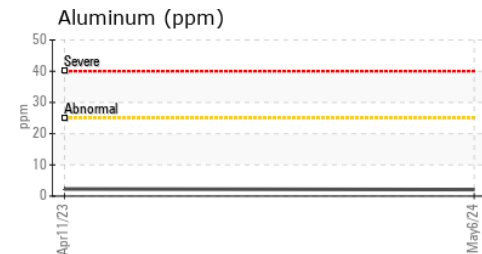
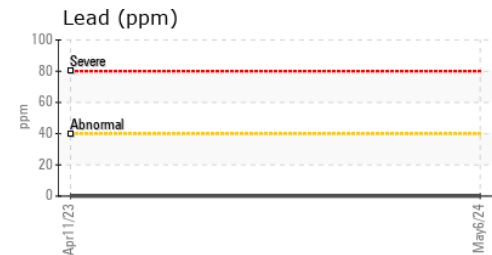
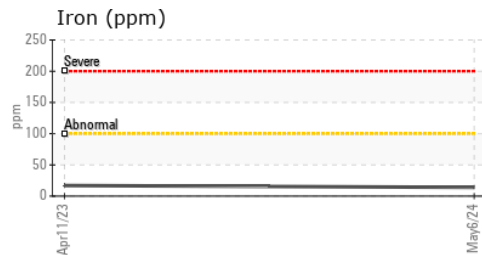
OIL ANALYSIS REPORT



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	14.4	14.2	11.7

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RW0005483
Lab Number : 06176209
Unique Number : 11022262
Test Package : MOB 2

HALLACK CONTRACTING, INC.
 4223 W POLK
 HART, MI
 US 49420

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

Contact: DAN HALLACK KARL BUTCHER
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* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

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Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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