



OIL ANALYSIS REPORT

Sample Rating Trend

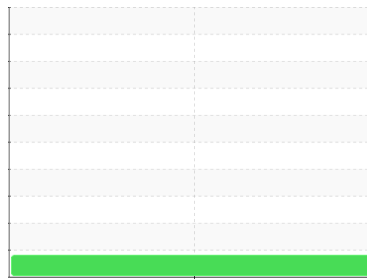
WEAR



Machine Id
JCB 510-445 04F462 (S/N 3149900)

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 5W40 (15 LTR)



DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other 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 acceptable for the time in service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	JCB000149	---	---
Sample Date	Client Info	20 Aug 2023	---	---
Machine Age	hrs	Client Info	1030	---
Oil Age	hrs	Client Info	552	---
Oil Changed	Client Info	Changed	---	---
Sample Status		ABNORMAL	---	---

CONTAMINATION

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

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>125	30	---
Chromium	ppm	ASTM D5185m	>5	2	---
Nickel	ppm	ASTM D5185m	>4	2	---
Titanium	ppm	ASTM D5185m		<1	---
Silver	ppm	ASTM D5185m	>3	0	---
Aluminum	ppm	ASTM D5185m	>25	5	---
Lead	ppm	ASTM D5185m	>15	<1	---
Copper	ppm	ASTM D5185m	>125	▲ 246	---
Tin	ppm	ASTM D5185m	>4	<1	---
Vanadium	ppm	ASTM D5185m		0	---
Cadmium	ppm	ASTM D5185m		0	---

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	250	130	---
Barium	ppm	ASTM D5185m	10	0	---
Molybdenum	ppm	ASTM D5185m	100	7	---
Manganese	ppm	ASTM D5185m		2	---
Magnesium	ppm	ASTM D5185m	450	90	---
Calcium	ppm	ASTM D5185m	3000	2077	---
Phosphorus	ppm	ASTM D5185m	1150	924	---
Zinc	ppm	ASTM D5185m	1350	1152	---
Sulfur	ppm	ASTM D5185m	4250	3270	---

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>50	18	---
Sodium	ppm	ASTM D5185m	>44	6	---
Potassium	ppm	ASTM D5185m	>20	4	---

INFRA-RED

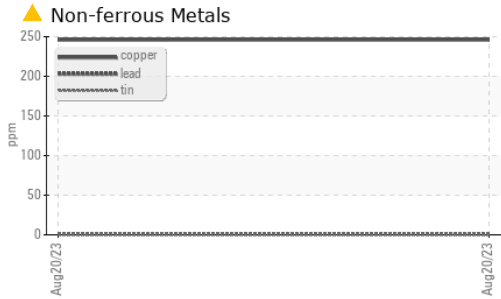
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	0.2	---
Nitration	Abs/cm	*ASTM D7624	>20	7.5	---
Sulfation	Abs.1mm	*ASTM D7415	>30	19.9	---

FLUID DEGRADATION

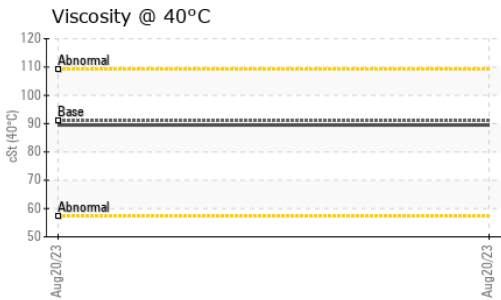
method	limit/base	current	history1	history2	
Oxidation	Abs.1mm	*ASTM D7414	>25	15.3	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.4	---



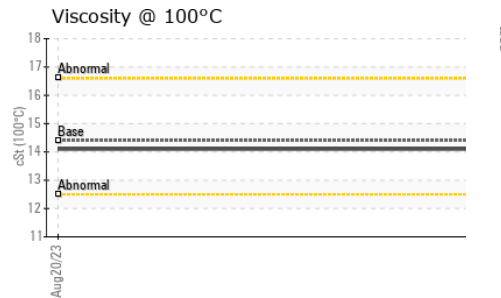
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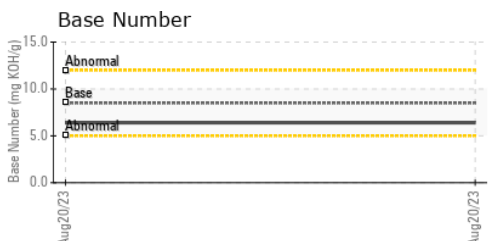
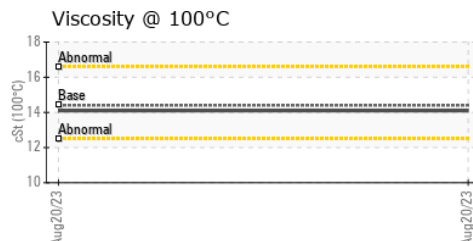
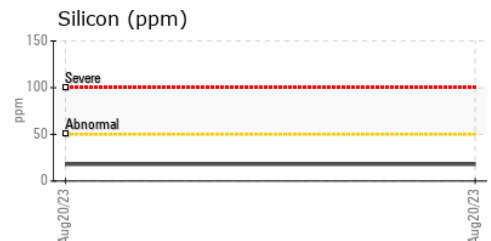
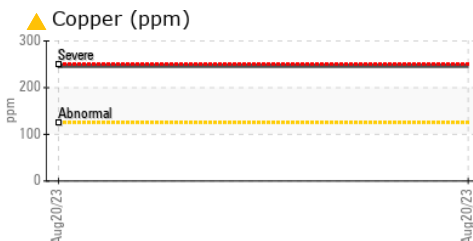
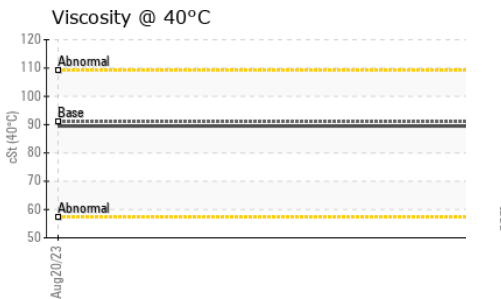
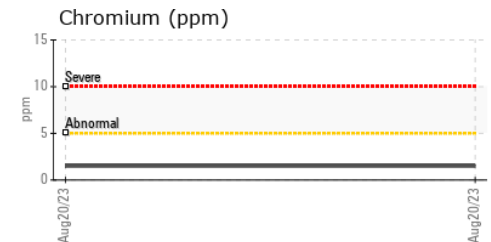
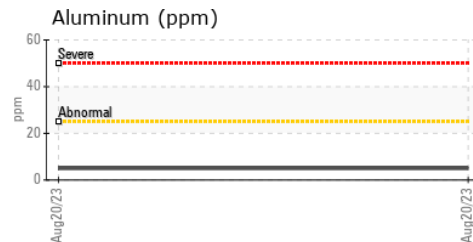
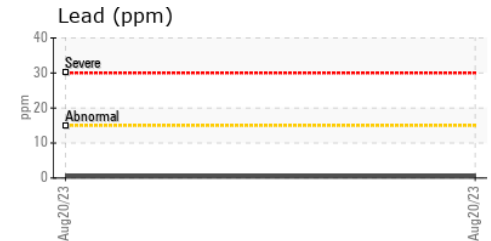
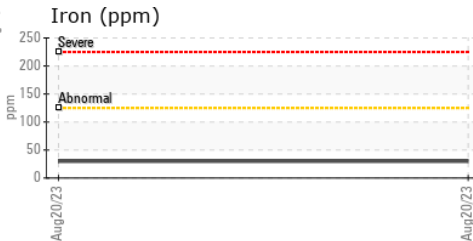
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*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 @ 40°C	cSt	ASTM D445	91	89.5	---
Visc @ 100°C	cSt	ASTM D445	14.4	14.1	---
Viscosity Index (VI)	Scale	ASTM D2270	164	162	---



GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JCB000149 **Received** : 28 Sep 2023
Lab Number : 05963451 **Diagnosed** : 29 Sep 2023
Unique Number : 10670002 **Diagnostician** : Don Baldrige
Test Package : MOB 1 (Additional Tests: KV40, TBN, VI)

UNITED RENTALS
 4010 THATCHER AVE
 SASKATOON, SK
 CA S7R 1A2
 Contact: ZACH EDWARDS
 ZEDWARDS@UR.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: