



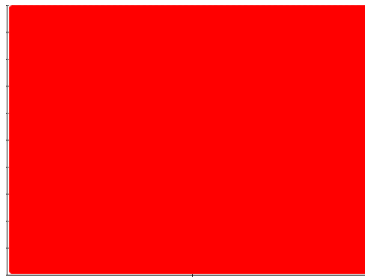
OIL ANALYSIS REPORT

Sample Rating Trend

WEAR



Machine Id
CASE 250 MAGNUM JJAMG250TLRK02601
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (7 GAL)



DIAGNOSIS

Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter 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

Cylinder, crank, or cam shaft 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 due to the presence of contaminants.

SAMPLE INFORMATION	method	limit/base	current	history1	history2
Sample Number	Client Info		JCB005588	---	---
Sample Date	Client Info		12 Jul 2023	---	---
Machine Age	hrs	Client Info	1246	---	---
Oil Age	hrs	Client Info	245	---	---
Oil Changed	Client Info		Changed	---	---
Sample Status			SEVERE	---	---

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

WEAR METALS	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	371	---
Chromium	ppm	ASTM D5185m	>20	19	---
Nickel	ppm	ASTM D5185m	>4	5	---
Titanium	ppm	ASTM D5185m		5	---
Silver	ppm	ASTM D5185m	>3	0	---
Aluminum	ppm	ASTM D5185m	>20	127	---
Lead	ppm	ASTM D5185m	>40	1	---
Copper	ppm	ASTM D5185m	>330	28	---
Tin	ppm	ASTM D5185m	>15	16	---
Vanadium	ppm	ASTM D5185m		<1	---
Cadmium	ppm	ASTM D5185m		0	---

ADDITIVES	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	31	---
Barium	ppm	ASTM D5185m	10	0	---
Molybdenum	ppm	ASTM D5185m	100	74	---
Manganese	ppm	ASTM D5185m		5	---
Magnesium	ppm	ASTM D5185m	450	978	---
Calcium	ppm	ASTM D5185m	3000	1681	---
Phosphorus	ppm	ASTM D5185m	1150	1238	---
Zinc	ppm	ASTM D5185m	1350	1587	---
Sulfur	ppm	ASTM D5185m	4250	4074	---

CONTAMINANTS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	282	---
Sodium	ppm	ASTM D5185m	>158	21	---
Potassium	ppm	ASTM D5185m	>20	22	---
Glycol	%	*ASTM D2982		NEG	---

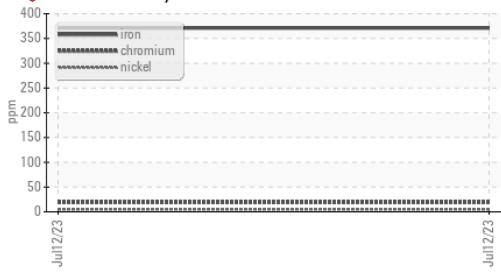
INFRA-RED	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.2	---
Nitration	Abs/cm	*ASTM D7624	>20	13.8	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	28.6	---

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	30.3	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.4	---

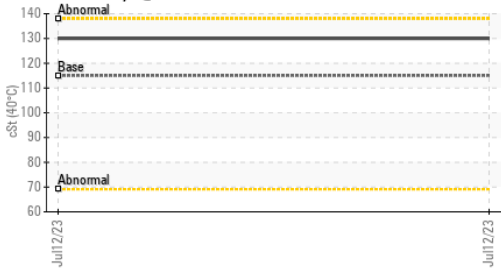


OIL ANALYSIS REPORT

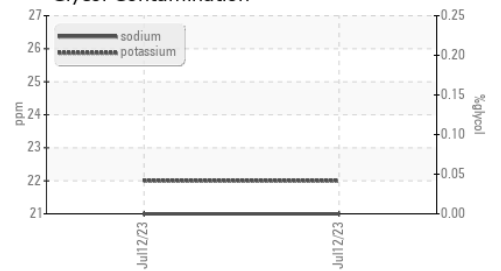
Ferrous Alloys



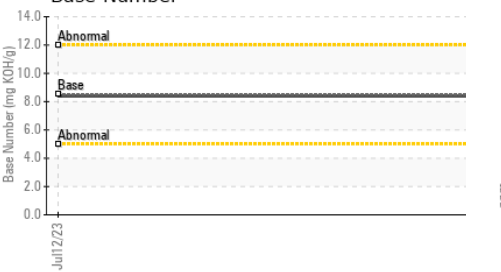
Viscosity @ 40°C



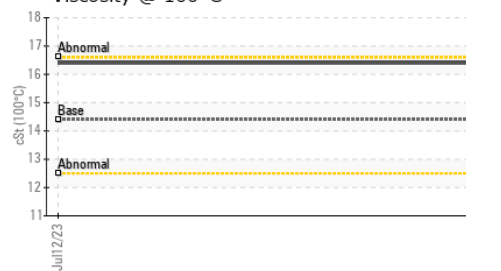
Glycol Contamination



Base Number



Viscosity @ 100°C

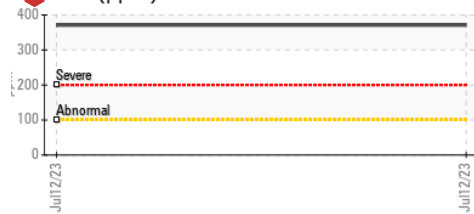


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

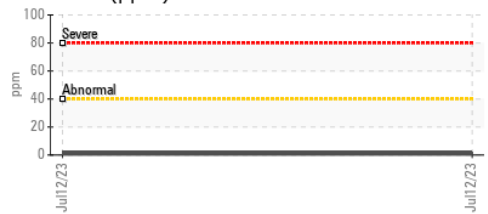
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	115	130	---
Visc @ 100°C	cSt	ASTM D445	14.4	16.4	---
Viscosity Index (VI)	Scale	ASTM D2270	126	135	---

GRAPHS

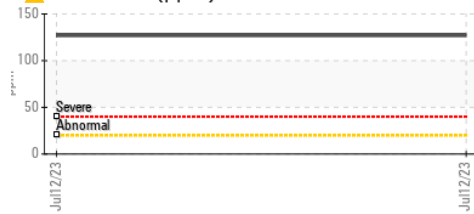
Iron (ppm)



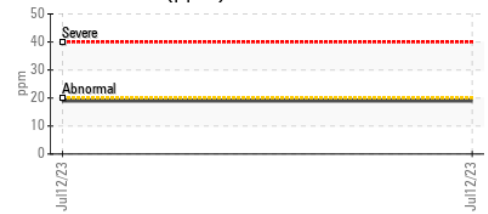
Lead (ppm)



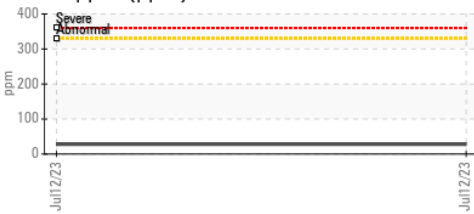
Aluminum (ppm)



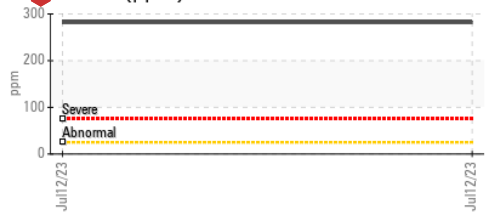
Chromium (ppm)



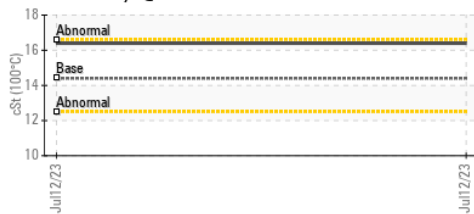
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JCB005588 **Received** : 20 Jul 2023
Lab Number : 05903153 **Diagnosed** : 24 Jul 2023
Unique Number : 10564509 **Diagnostician** : Jonathan Hester
Test Package : MOB 1 (Additional Tests: Glycol, KV40, TBN, VI)

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 STOCKTON, CA
 US 95203
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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)