



WEAR	SEVERE
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area
[W31861]
Machine Id
CASE JAF0295245
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

RECOMMENDATION

We recommend that you drain the oil and perform a filter service on this component if not already done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0174172	---	---
Sample Date		Client Info		04 Dec 2023	---	---
Machine Age	hrs	Client Info		2957	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Not Chngd	---	---
Filter Changed		Client Info		Not Chngd	---	---
Sample Status				SEVERE	---	---

WEAR

Piston, ring and cylinder wear is indicated. Bearing and/or bushing wear is indicated.

Iron	ppm	ASTM D5185m	>100	▲ 231	---	---
Chromium	ppm	ASTM D5185m	>20	▲ 36	---	---
Nickel	ppm	ASTM D5185m	>4	0	---	---
Titanium	ppm	ASTM D5185m		1	---	---
Silver	ppm	ASTM D5185m	>3	0	---	---
Aluminum	ppm	ASTM D5185m	>20	▲ 65	---	---
Lead	ppm	ASTM D5185m	>40	▲ 47	---	---
Copper	ppm	ASTM D5185m	>330	210	---	---
Tin	ppm	ASTM D5185m	>15	12	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

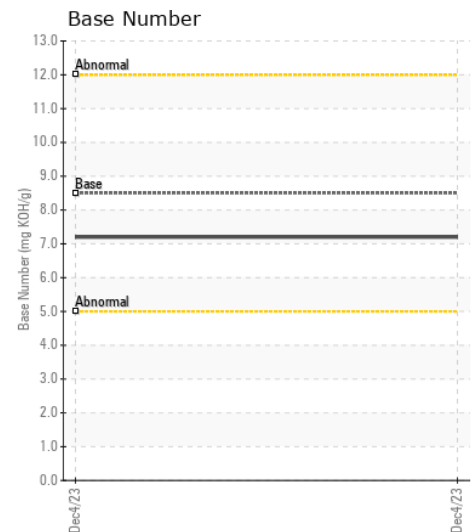
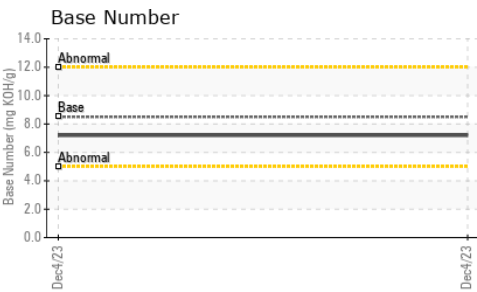
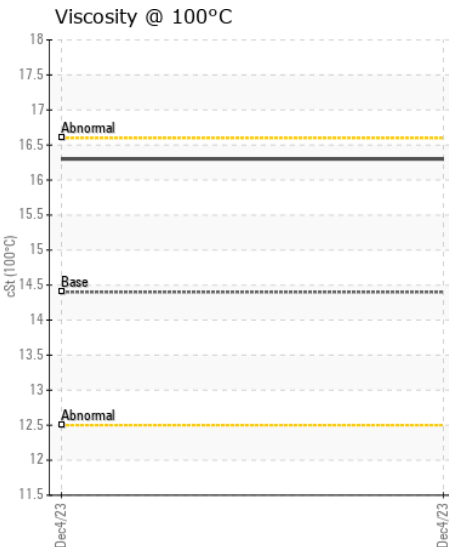
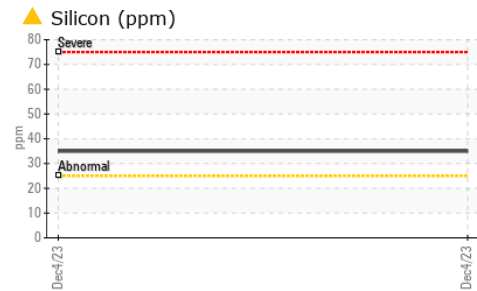
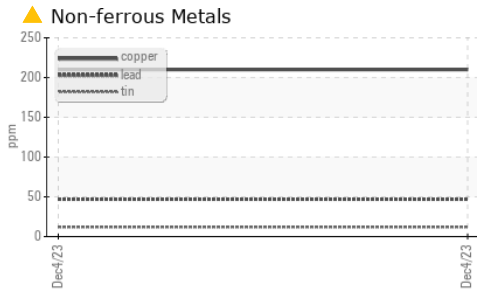
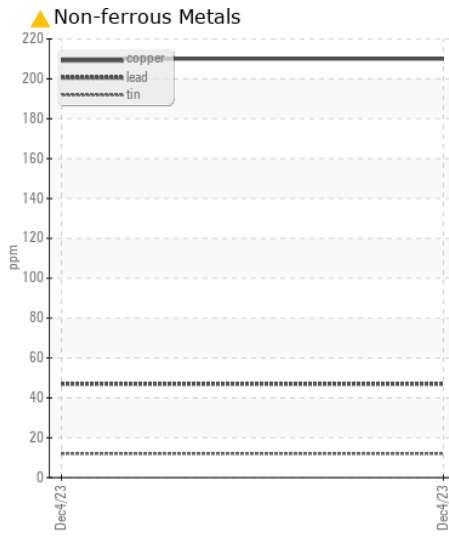
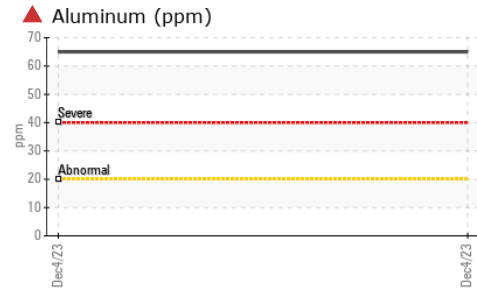
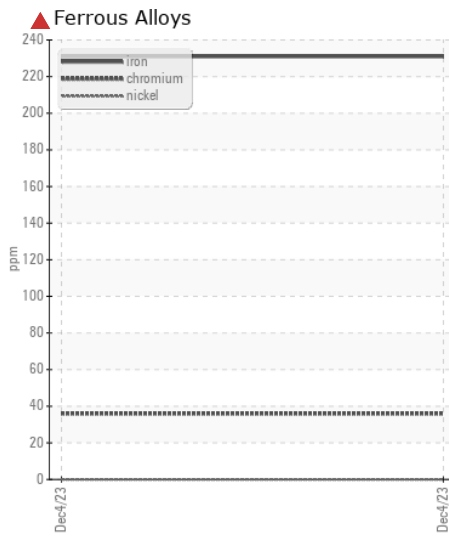
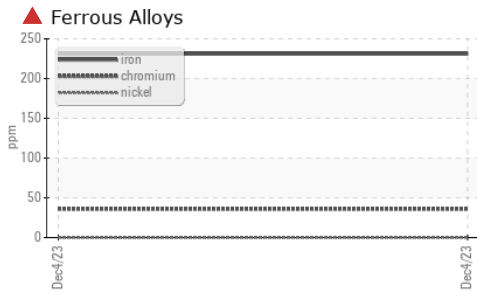
Elemental level of silicon (Si) above normal.

Silicon	ppm	ASTM D5185m	>25	▲ 35	---	---
Potassium	ppm	ASTM D5185m	>20	5	---	---
Fuel		WC Method	>5	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.1	---	---
Nitration	Abs/cm	*ASTM D7624	>20	7.9	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.4	---	---
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 oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185m	>216	2	---	---
Boron	ppm	ASTM D5185m	250	118	---	---
Barium	ppm	ASTM D5185m	10	2	---	---
Molybdenum	ppm	ASTM D5185m	100	63	---	---
Manganese	ppm	ASTM D5185m		2	---	---
Magnesium	ppm	ASTM D5185m	450	28	---	---
Calcium	ppm	ASTM D5185m	3000	2273	---	---
Phosphorus	ppm	ASTM D5185m	1150	900	---	---
Zinc	ppm	ASTM D5185m	1350	1138	---	---
Sulfur	ppm	ASTM D5185m	4250	3525	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.4	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.2	---	---
Visc @ 100°C	cSt	ASTM D445	14.4	16.3	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : JR0174172

Lab Number : 06026137

Unique Number : 10775928

Test Package : CONST (Additional Tests: TBN)

Received : 06 Dec 2023

Tested : 07 Dec 2023

Diagnosed : 07 Dec 2023 - Don Baldrige

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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