



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ATTENTION

Machine Id  
**1849**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- QTS)**

## RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0870712	---	---
Sample Date		Client Info		14 Dec 2023	---	---
Machine Age	mls	Client Info		4245	---	---
Oil Age	mls	Client Info		0	---	---
Filter Age	mls	Client Info		0	---	---
Oil Changed		Client Info		Not Chngd	---	---
Filter Changed		Client Info		Not Chngd	---	---
Sample Status				ABNORMAL	---	---

## WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>100	43	---	---
Chromium	ppm	ASTM D5185m	>20	1	---	---
Nickel	ppm	ASTM D5185m	>4	<1	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>3	0	---	---
Aluminum	ppm	ASTM D5185m	>20	7	---	---
Lead	ppm	ASTM D5185m	>40	0	---	---
Copper	ppm	ASTM D5185m	>330	41	---	---
Tin	ppm	ASTM D5185m	>15	<1	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

## CONTAMINATION

Sodium and/or potassium levels are high. Light fuel dilution occurring. Test for glycol is negative.

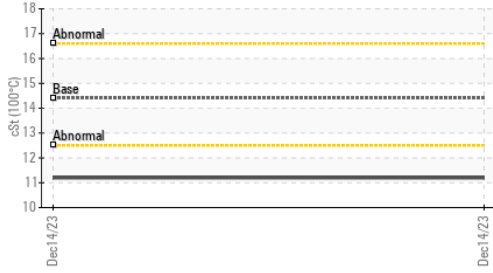
Silicon	ppm	ASTM D5185m	>25	23	---	---
Potassium	ppm	ASTM D5185m	>20	▲ 198	---	---
Fuel	%	ASTM D3524	>5	▲ 2.1	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol	%	*ASTM D2982		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.4	---	---
Nitration	Abs/cm	*ASTM D7624	>20	9.8	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.7	---	---
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

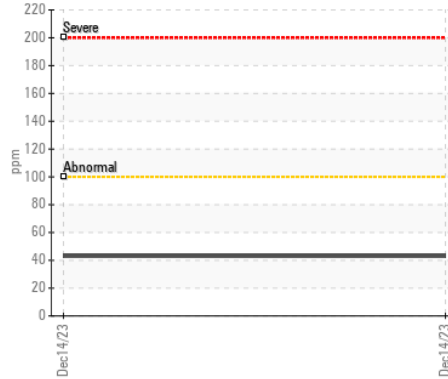
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m	>158	14	---	---
Boron	ppm	ASTM D5185m	250	21	---	---
Barium	ppm	ASTM D5185m	10	10	---	---
Molybdenum	ppm	ASTM D5185m	100	46	---	---
Manganese	ppm	ASTM D5185m		5	---	---
Magnesium	ppm	ASTM D5185m	450	767	---	---
Calcium	ppm	ASTM D5185m	3000	1114	---	---
Phosphorus	ppm	ASTM D5185m	1150	728	---	---
Zinc	ppm	ASTM D5185m	1350	856	---	---
Sulfur	ppm	ASTM D5185m	4250	2222	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.1	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.2	---	---
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 11.2	---	---

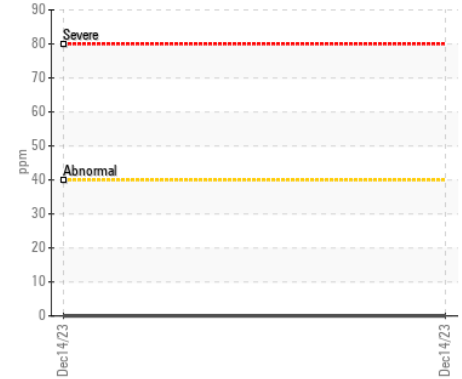
▲ Viscosity @ 100°C



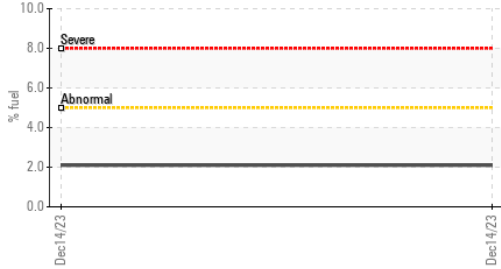
Iron (ppm)



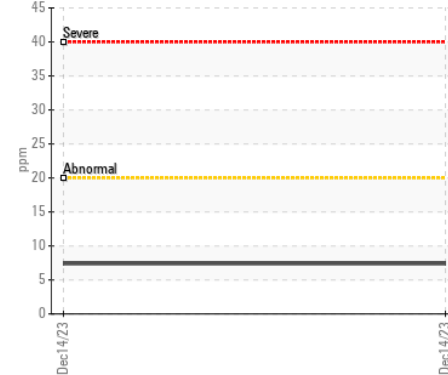
Lead (ppm)



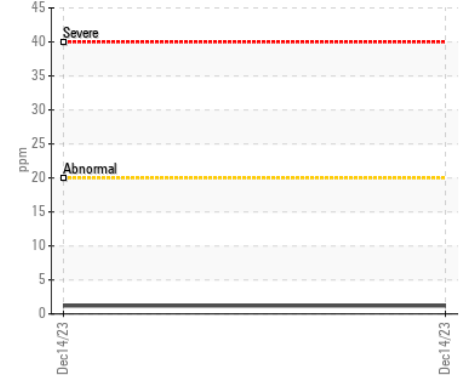
▲ Fuel Dilution



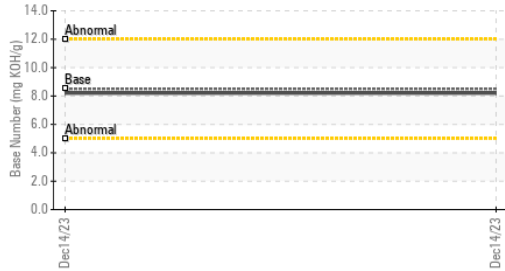
Aluminum (ppm)



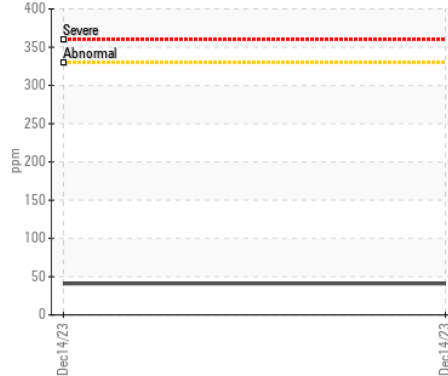
Chromium (ppm)



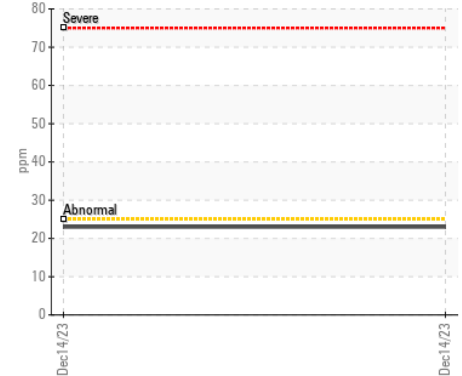
Base Number



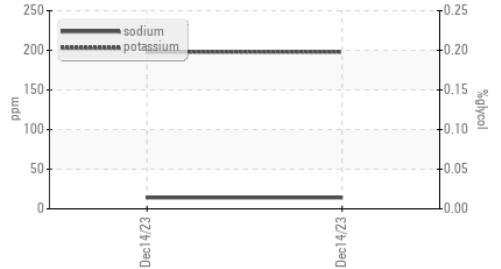
Copper (ppm)



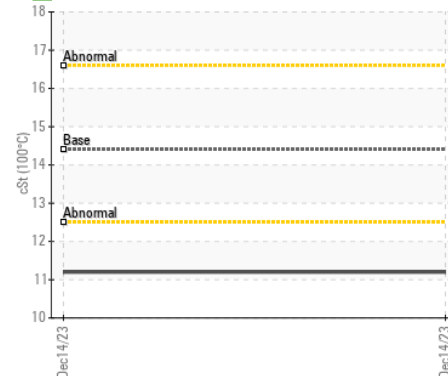
Silicon (ppm)



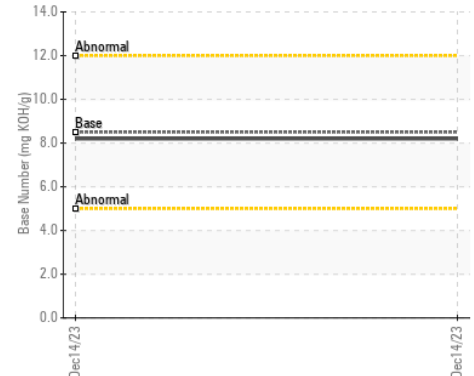
Glycol Contamination



▲ Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0870712 **Received** : 12 Jan 2024  
**Lab Number** : 06059807 **Diagnosed** : 18 Jan 2024  
**Unique Number** : 10831189 **Diagnostician** : Jonathan Hester  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, Glycol, PercentFuel, TBN )

**WAKE COUNTY PUBLIC SCHOOL SYSTEM**  
 1551 ROCK QUARRY ROAD  
 RALEIGH, NC  
 US 27610  
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 T: (919)856-8076  
 F: x:

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)