



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id  
**1639**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- QTS)**

## RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0870716</b>	WC0821356	WC0706443
Sample Date		Client Info		<b>06 Dec 2023</b>	15 May 2023	10 Jun 2022
Machine Age	mls	Client Info		<b>204230</b>	199248	184223
Oil Age	mls	Client Info		<b>0</b>	0	0
Filter Age	mls	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Sample Status				<b>ABNORMAL</b>	SEVERE	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	<b>11</b>	10	42
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	2
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	4	14
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	<1	2
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

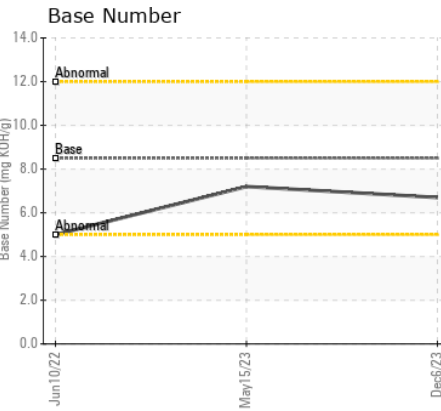
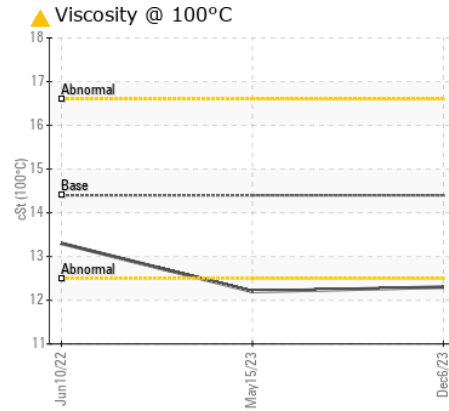
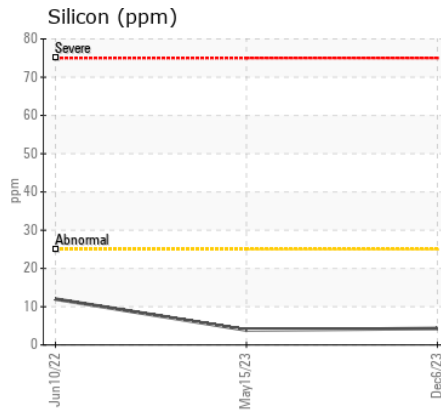
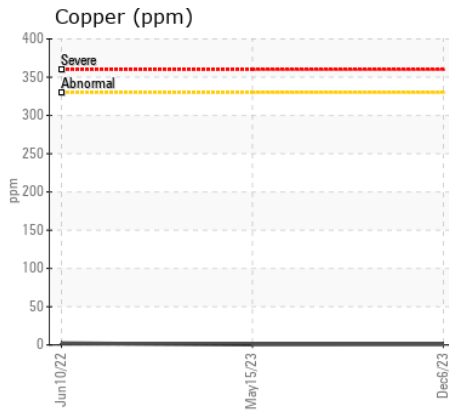
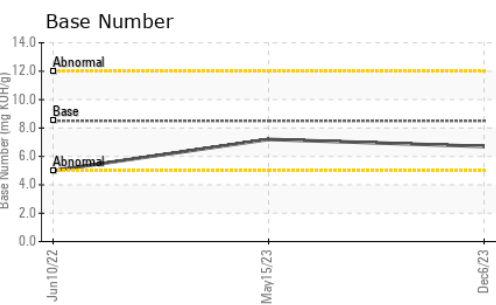
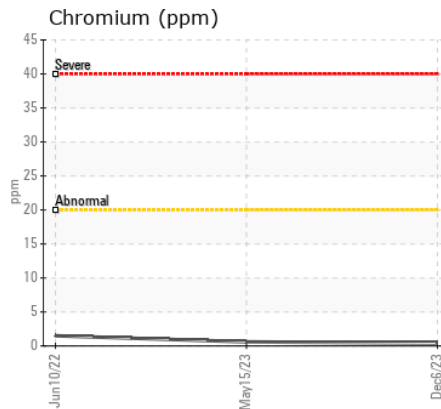
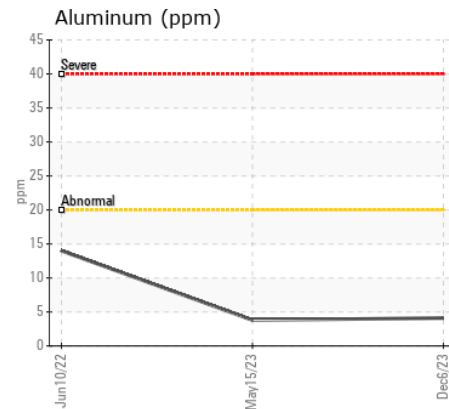
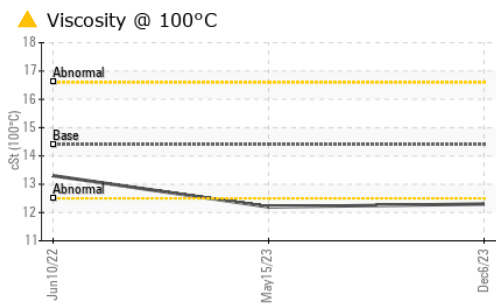
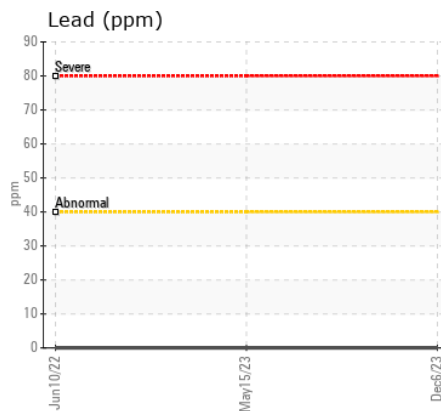
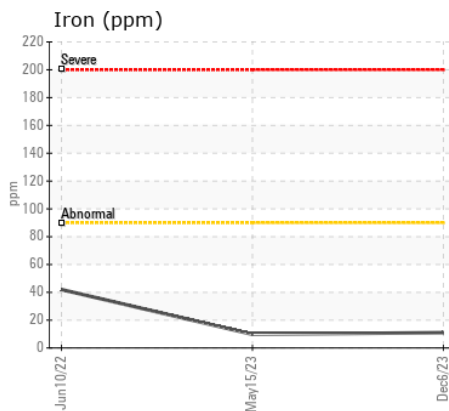
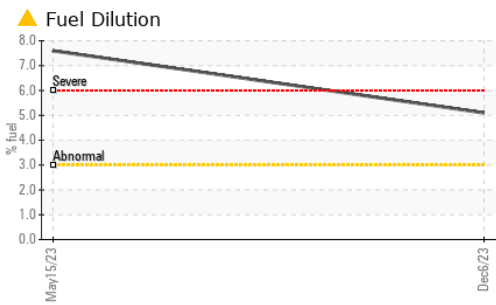
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	4	12
Potassium	ppm	ASTM D5185m	>20	<b>6</b>	4	12
Fuel	%	ASTM D3524	>3.0	<b>5.1</b>	7.6	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>6	<b>0.4</b>	0.6	1.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.0</b>	10.1	13.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.9</b>	19.9	29.5
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

## 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.

Sodium	ppm	ASTM D5185m	>158	<b>6</b>	2	3
Boron	ppm	ASTM D5185m	250	<b>38</b>	25	21
Barium	ppm	ASTM D5185m	10	<b>3</b>	0	1
Molybdenum	ppm	ASTM D5185m	100	<b>78</b>	80	85
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>96</b>	136	11
Calcium	ppm	ASTM D5185m	3000	<b>1818</b>	2134	2098
Phosphorus	ppm	ASTM D5185m	1150	<b>929</b>	1029	938
Zinc	ppm	ASTM D5185m	1350	<b>1080</b>	1262	1156
Sulfur	ppm	ASTM D5185m	4250	<b>3572</b>	4334	3129
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.7</b>	15.8	26.7
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>6.7</b>	7.2	5.0
Visc @ 100°C	cSt	ASTM D445	14.4	<b>12.3</b>	12.2	13.3



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0870716 **Received** : 12 Jan 2024  
**Lab Number** : 06059815 **Diagnosed** : 16 Jan 2024  
**Unique Number** : 10831197 **Diagnostician** : Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: PercentFuel, TBN )

**WAKE COUNTY PUBLIC SCHOOL SYSTEM**  
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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)