



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**INTERNATIONAL 1148**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (24 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0870717</b>	WC0706452	WC0447055
Sample Date		Client Info		<b>06 Dec 2023</b>	07 Jun 2022	05 May 2020
Machine Age	mls	Client Info		<b>294280</b>	276151	260405
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	N/A
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	N/A
Sample Status				<b>NORMAL</b>	ABNORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>38</b>	25	24
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>50	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>50	<b>5</b>	5	4
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	1	<1
Copper	ppm	ASTM D5185m	>330	<b>1</b>	2	2
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	0
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

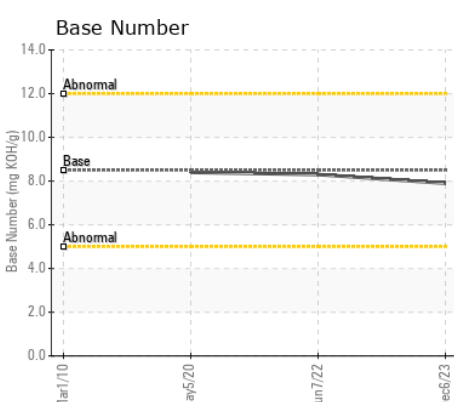
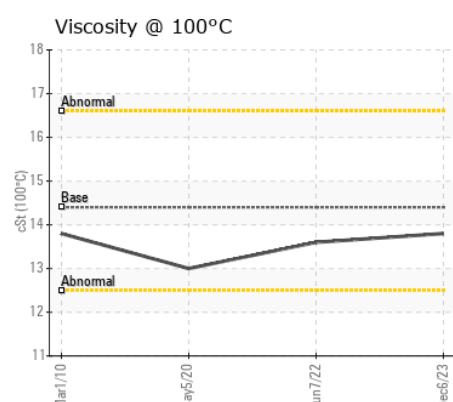
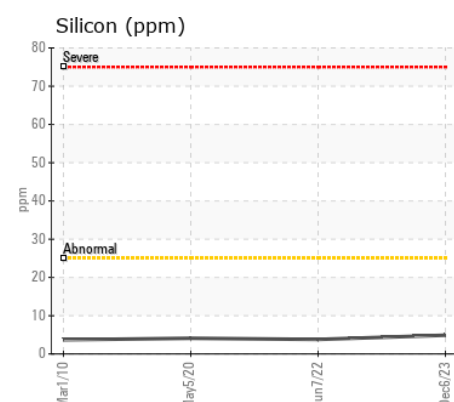
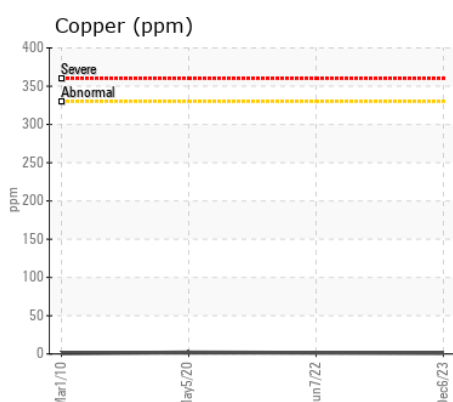
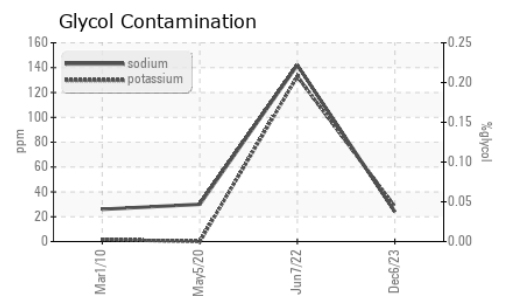
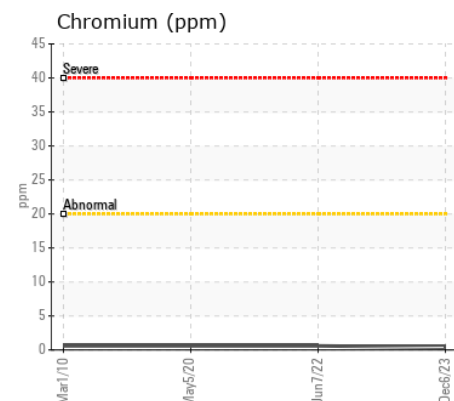
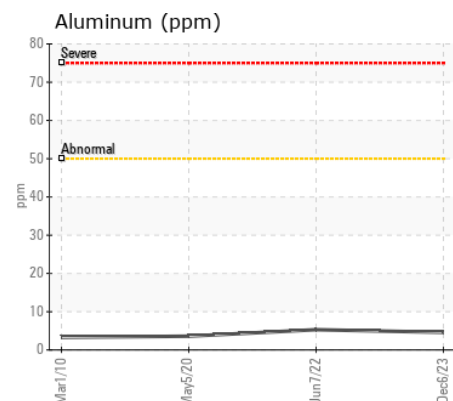
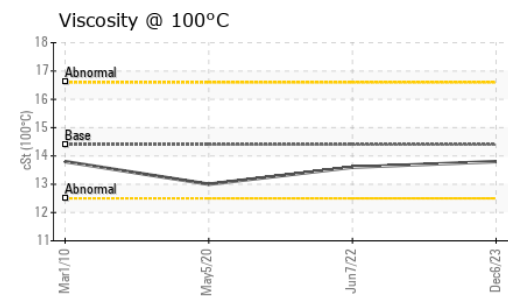
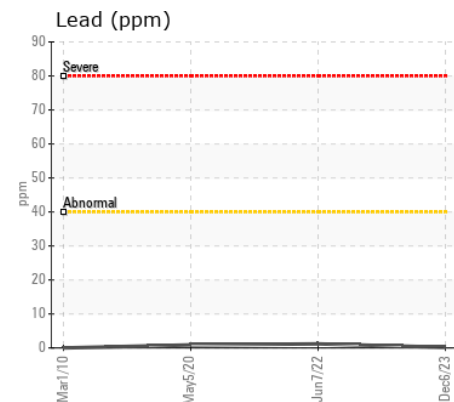
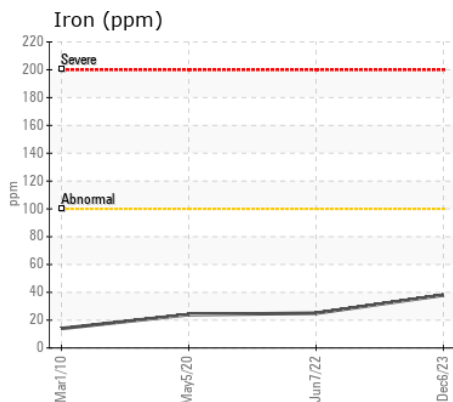
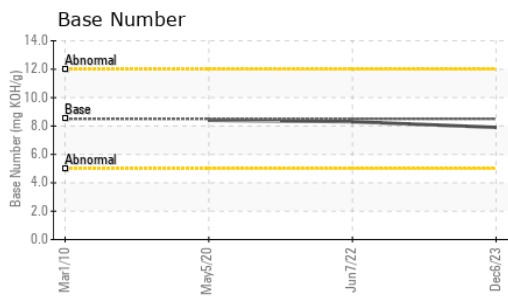
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>5</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>28</b>	▲ 133	0
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	%	*ASTM D2982		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>1.2</b>	1	0.9
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.3</b>	10.2	10.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.6</b>	20.2	20.3
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 condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	<b>24</b>	▲ 142	30
Boron	ppm	ASTM D5185m	250	<b>49</b>	52	36
Barium	ppm	ASTM D5185m	10	<b>3</b>	1	0
Molybdenum	ppm	ASTM D5185m	100	<b>81</b>	92	79
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>115</b>	24	202
Calcium	ppm	ASTM D5185m	3000	<b>1875</b>	2076	2011
Phosphorus	ppm	ASTM D5185m	1150	<b>959</b>	977	964
Zinc	ppm	ASTM D5185m	1350	<b>1128</b>	1180	1110
Sulfur	ppm	ASTM D5185m	4250	<b>3646</b>	3533	2839
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>12.3</b>	13.9	15.4
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>7.9</b>	8.3	8.4
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.8</b>	13.6	13.0



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0870717 **Received** : 12 Jan 2024  
**Lab Number** : 06059816 **Diagnosed** : 16 Jan 2024  
**Unique Number** : 10831198 **Diagnostician** : Don Baldrige  
**Test Package** : MOB 1 ( Additional Tests: Glycol, TBN )

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

Certificate L2367  
 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)