



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id  
**1492**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- QTS)**

## RECOMMENDATION

We advise that you check the fuel injection system. We advise that you check for the source of the coolant leak. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample.

## WEAR

All component wear rates are normal.

## CONTAMINATION

Test for glycol is positive. There is a high amount of fuel present in the oil. There is a high concentration of glycol present in the oil. Tests confirm the presence of fuel in the oil.

## 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.

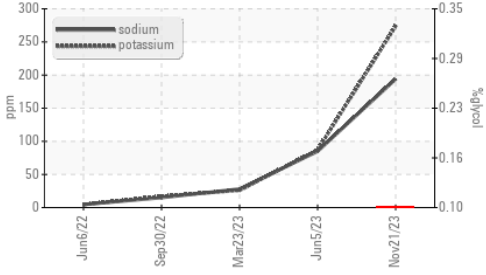
Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0870697</b>	WC0821374	WC0792843
Sample Date		Client Info		<b>21 Nov 2023</b>	05 Jun 2023	23 Mar 2023
Machine Age	mls	Client Info		<b>229234</b>	219162	214305
Oil Age	mls	Client Info		<b>0</b>	0	0
Filter Age	mls	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Changed</b>	Not Changd	Not Changd
Sample Status				<b>SEVERE</b>	SEVERE	SEVERE

Iron	ppm	ASTM D5185m	>100	<b>22</b>	21	11
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	1	<1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>6</b>	6	4
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	1	0
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

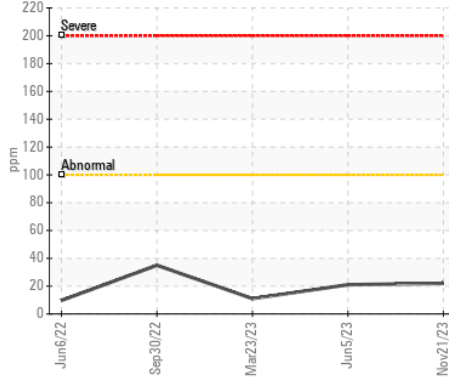
Silicon	ppm	ASTM D5185m	>25	<b>5</b>	5	4
Potassium	ppm	ASTM D5185m	>20	<b>274</b>	87	26
Fuel	%	ASTM D3524	>5	<b>8.4</b>	9.7	8.2
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	%	*ASTM D2982		<b>0.10</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>1</b>	0.9	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.6</b>	12.6	10.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.6</b>	23.9	19.7
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

Sodium	ppm	ASTM D5185m	>158	<b>194</b>	85	28
Boron	ppm	ASTM D5185m	250	<b>17</b>	21	35
Barium	ppm	ASTM D5185m	10	<b>4</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>99</b>	81	78
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>145</b>	115	119
Calcium	ppm	ASTM D5185m	3000	<b>1672</b>	2042	2037
Phosphorus	ppm	ASTM D5185m	1150	<b>859</b>	887	965
Zinc	ppm	ASTM D5185m	1350	<b>1044</b>	1083	1241
Sulfur	ppm	ASTM D5185m	4250	<b>3212</b>	3705	3917
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.0</b>	22.2	16.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>8.1</b>	6.3	6.9
Visc @ 100°C	cSt	ASTM D445	14.4	<b>11.7</b>	11.5	11.9

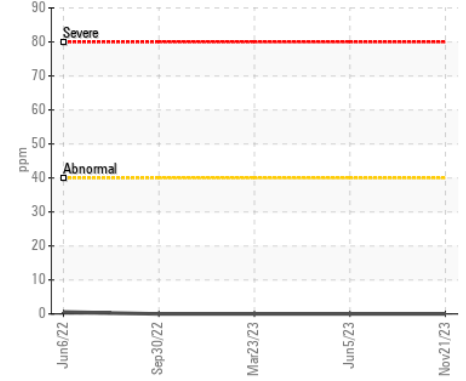
**Glycol Contamination**



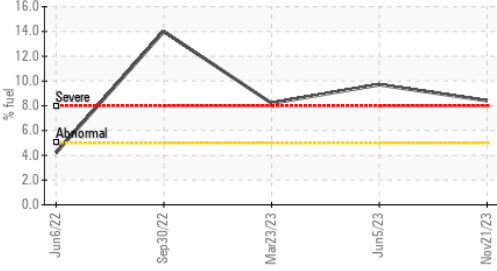
**Iron (ppm)**



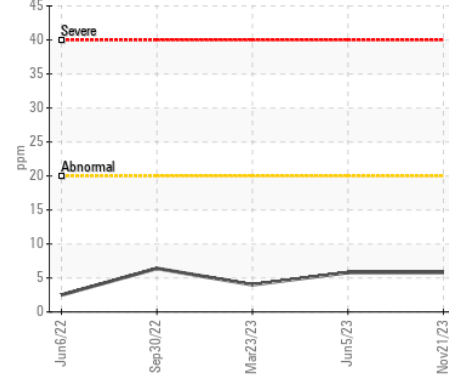
**Lead (ppm)**



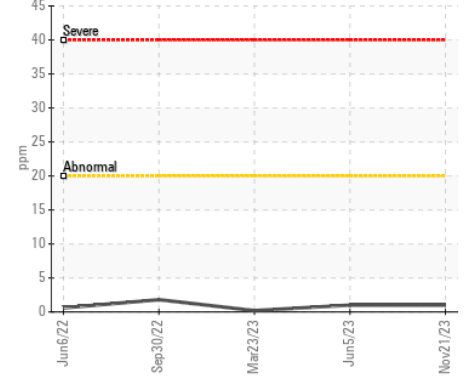
**Fuel Dilution**



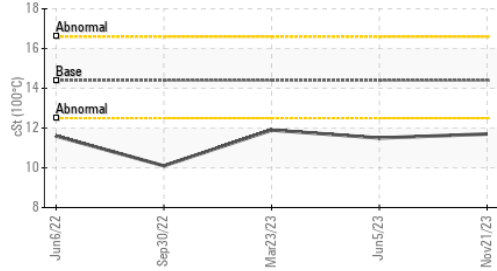
**Aluminum (ppm)**



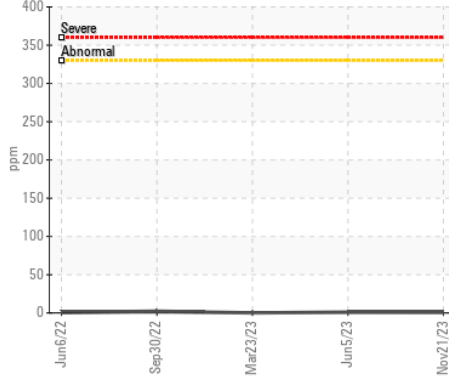
**Chromium (ppm)**



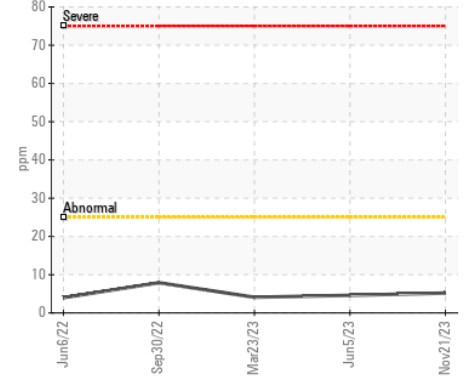
**Viscosity @ 100°C**



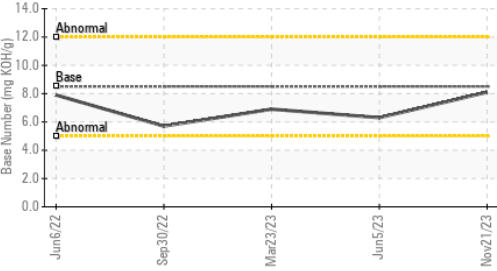
**Copper (ppm)**



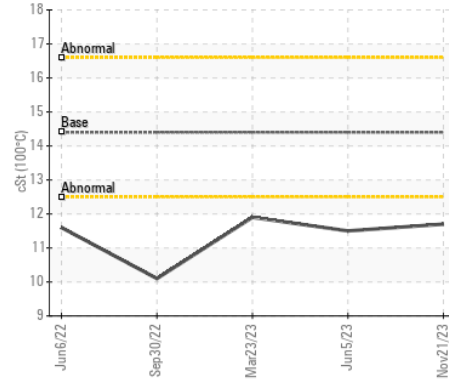
**Silicon (ppm)**



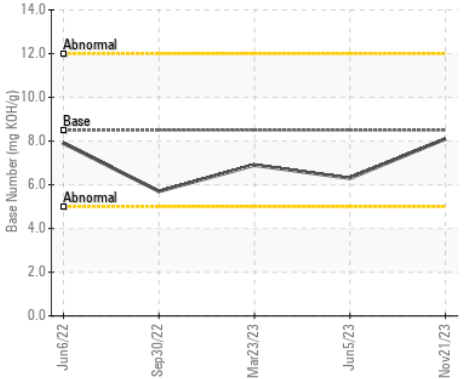
**Base Number**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0870697 **Received** : 12 Jan 2024  
**Lab Number** : 06059786 **Diagnosed** : 16 Jan 2024  
**Unique Number** : 10831168 **Diagnostician** : Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: Glycol, PercentFuel, TBN )

**WAKE COUNTY PUBLIC SCHOOL SYSTEM**  
 1551 ROCK QUARRY ROAD  
 RALEIGH, NC  
 US 27610  
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 dweber@wcpss.net  
 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)