**WEAR CONTAMINATION FLUID CONDITION**  **NORMAL SEVERE SEVERE** 

Machine Id 1537 Component

Diesel Engine							
Fluid							
DIESEL ENGINE OIL SAE 15W40 ( QTS)							
RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
TESSIMIERS ATION	Sample Number		Client Info		WC0949006	WC0906213	WC0821301
We advise that you check the fuel injection system. 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. Please specify the component make and model with your next sample.	Sample Date		Client Info		18 Jun 2024	08 Mar 2024	24 May 2023
	Machine Age	mls	Client Info		0	184313	174056
	Oil Age	mls	Client Info		0	0	0
	Filter Age	mls	Client Info		0	0	0
	Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
	Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
	Sample Status				SEVERE	SEVERE	NORMAL
WEAR	Iron	ppm	ASTM D5185m	>100	74	19	39
All component wear rates are normal.	Chromium	ppm	ASTM D5185m	>20	6	1	<1
	Nickel	ppm	ASTM D5185m	>4	<1	<1	<1
	Titanium	ppm	ASTM D5185m		0	<1	0
	Silver	ppm	ASTM D5185m		0	<1	0
	Aluminum	ppm	ASTM D5185m		7	6	5
	Lead	ppm	ASTM D5185m		0	<1	0
	Copper	ppm	ASTM D5185m		2	1	<1
	Tin	ppm	ASTM D5185m	>15	0	<1	0
	Vanadium	ppm	ASTM D5185m		0	<1	<1
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	10	8	6
CONTAMINATION	Potassium	ppm	ASTM D5185m		6	4	2
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.	Fuel	%	ASTM D3524		▲ 23.4	<u>▲</u> 9.5	<1.0
	Water	, -	WC Method		NEG	NEG	NEG
	Glycol		WC Method		NEG	NEG	NEG
	Soot %	%	*ASTM D7844	>3	0.9	0.9	0.5
	Nitration	Abs/cm	*ASTM D7624		12.4	11.3	9.8
	Sulfation	Abs/.1mm	*ASTM D7415	>30	24.5	20.9	19.7
	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	NEG
ELUID CONDITION	0 "		40TH DE 10E	4=0			
FLUID CONDITION	Sodium	ppm	ASTM D5185m		2	3	2
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.	Boron	ppm	ASTM D5185m		22	19	32
	Barium	ppm	ASTM D5185m		0	0	0
	Monganosa	ppm	ASTM D5185m	100	66	76	80
	Manganese	ppm	ASTM D5185m	150	0	0	<1
	Magnesium Calcium	ppm	ASTM D5185m		81 1562	98	141 2222
	Phosphorus	ppm	ASTM D5185m ASTM D5185m		1562 716	1768 837	1076
	Zinc	ppm	ASTM D5185m		716 970	1042	1327
	ZITIC	ppm					
	Sulfur	ppm	ASTM D5185m	1250	2515	3148	4550

Oxidation

Visc @ 100°C cSt

Abs/.1mm \*ASTM D7414 >25

ASTM D445 14.4

Base Number (BN) mg KOH/g ASTM D2896 8.5

17.5

6.0

11.3

23.6

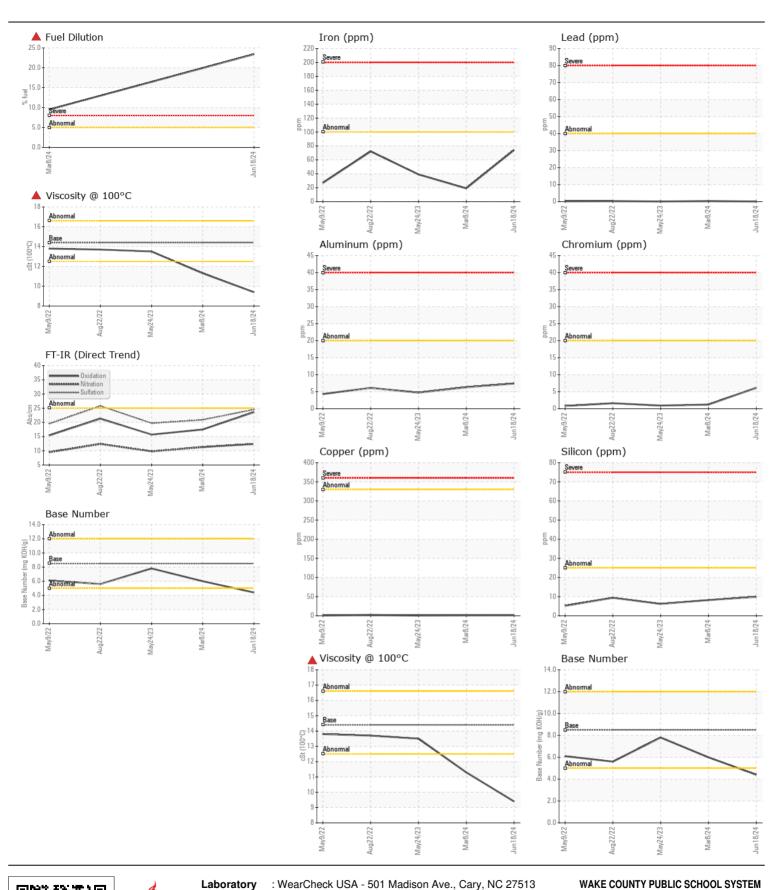
4.4

9.4

15.7

7.8

13.5





Certificate L2367

Laboratory Sample No.

: WC0949006 Lab Number : 06220927

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

Received **Tested** Unique Number : 11099124

Diagnosed Test Package : MOB 1 (Additional Tests: PercentFuel, TBN)

: 01 Jul 2024 - Wes Davis

: 01 Jul 2024

: 26 Jun 2024

1551 ROCK QUARRY ROAD RALEIGH, NC US 27610

> Contact: DEVIN WEBER dweber@wcpss.net T: (919)856-8076

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)

F: x:

Contact/Location: DEVIN WEBER - WCPRAL