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

Machine Id 1497 Component

Diesel Engine							
Fluid							
DIESEL ENGINE OIL SAE 15W40 ( QTS)							
RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
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 Number		Client Info		WC0948997	WC0821328	WC0761172
	Sample Date		Client Info		25 Jun 2024	24 Jul 2023	01 Dec 2022
	Machine Age	mls	Client Info		233294	214060	204071
	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	NORMAL	NORMAL
WEAR	Iron	ppm	ASTM D5185m		64	12	18
All component wear rates are normal.	Chromium	ppm	ASTM D5185m		6	<1	<1
	Nickel	ppm	ASTM D5185m	>4	0	0	<1
	Titanium	ppm	ASTM D5185m		0	<1	0
	Silver	ppm	ASTM D5185m		0	0	0
	Aluminum	ppm	ASTM D5185m		4	5	7
	Lead	ppm	ASTM D5185m		1	0	<1
	Copper	ppm	ASTM D5185m		52	<1	2
	Tin	ppm	ASTM D5185m	>15	0	0	<1
	Vanadium	ppm	ASTM D5185m	NONE	0	0	<1
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
CONTAMINATION  There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.	Silicon	ppm	ASTM D5185m	>25	14	6	6
	Potassium	ppm	ASTM D5185m		4	4	2
	Fuel	%	ASTM D3524		<b>24.4</b>	<1.0	<1.0
	Water		WC Method	>0.2	NEG	NEG	NEG
	Glycol		WC Method		NEG	NEG	NEG
	Soot %	%	*ASTM D7844	>3	0.8	0.9	1.4
	Nitration	Abs/cm	*ASTM D7624	>20	11.4	9.1	11.2
	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.2	19.1	21.1
	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	· · · · · · · · · · · · · · · · · · ·		AOTM DEGOE	450			
FLUID CONDITION	Sodium	ppm	ASTM D5185m		2	2	3
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		34	44	31
	Barium Molybdenum	ppm	ASTM D5185m		0	6	2 81
	•	ppm	ASTM D5185m ASTM D5185m	100	64	105 0	
	Magnesium	ppm		150	<1 160		<1 40
	Magnesium Calcium	ppm	ASTM D5185m ASTM D5185m		160 1390	161 2642	2084
	Phosphorus	ppm	ASTM D5185m			1256	960
	Zinc	ppm	ASTM D5185m		654 879	1502	1176
	Sulfur	ppm	ASTM D5185m		2346	5283	4035
	Oxidation	ppm Abe/1mm	*ASTM D7414		2346 19.7	13.5	15.1
	Oxidation	Abs/.1mm	A31W1D/414	>20	18.7	13.5	10.1

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

Visc @ 100°C cSt

ASTM D445 14.4

8.2

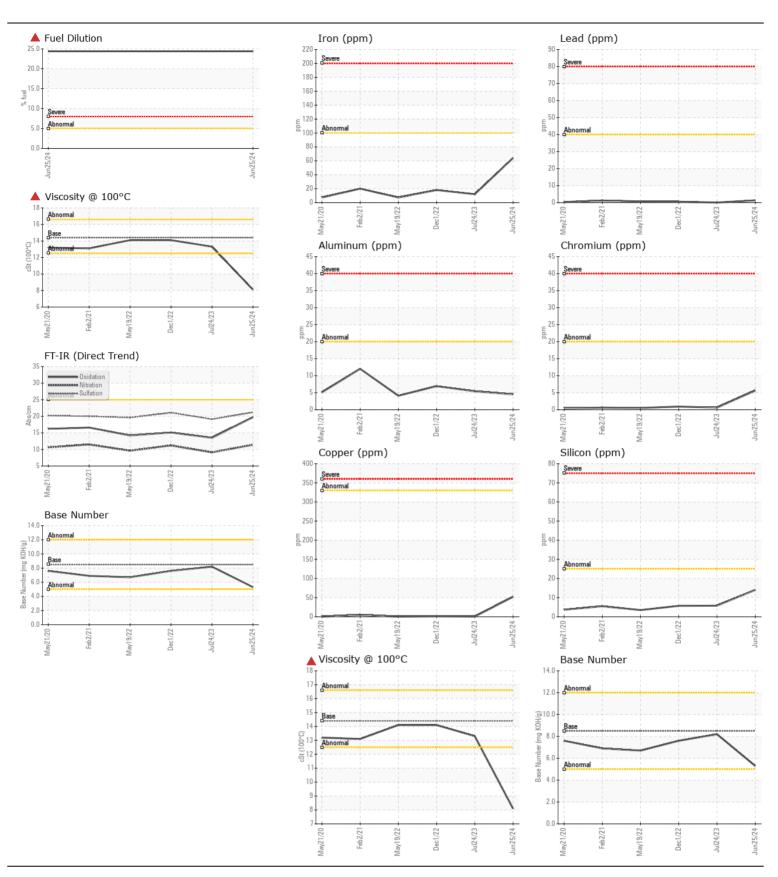
13.3

5.3

**8.1** 

7.6

14.1





Sample No.

Laboratory

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Lab Number : 06220951

: WC0948997

**Tested** Unique Number: 11099148

Received : 26 Jun 2024 : 01 Jul 2024 Diagnosed Test Package: MOB 1 (Additional Tests: FuelDilution, PercentFuel, TBN)

: 01 Jul 2024 - Wes Davis

1551 ROCK QUARRY ROAD RALEIGH, NC US 27610

WAKE COUNTY PUBLIC SCHOOL SYSTEM

Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. Contact: DEVIN WEBER dweber@wcpss.net T: (919)856-8076

\* - 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)

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