



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Machine Id  
**MACK 222396**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (40 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0956992</b>	WC0907646	WC0887346
Sample Date		Client Info		<b>10 Jul 2024</b>	28 Feb 2024	13 Dec 2023
Machine Age	mls	Client Info		<b>29853</b>	24561	20451
Oil Age	mls	Client Info		<b>5292</b>	4110	0
Filter Age	mls	Client Info		<b>5292</b>	4110	0
Oil Changed		Client Info		<b>Changed</b>	Changed	N/A
Filter Changed		Client Info		<b>Changed</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>120	<b>20</b>	14	14
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	1
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>1</b>	2	1
Lead	ppm	ASTM D5185m	>40	<b>0</b>	3	0
Copper	ppm	ASTM D5185m	>330	<b>2</b>	1	3
Tin	ppm	ASTM D5185m	>15	<b>1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

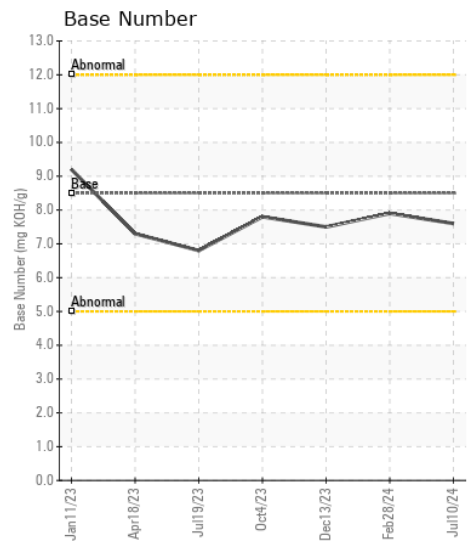
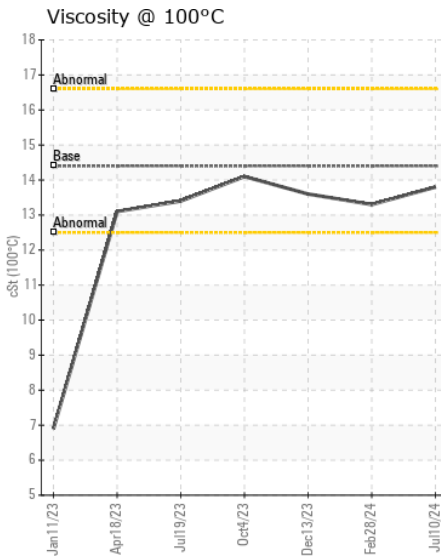
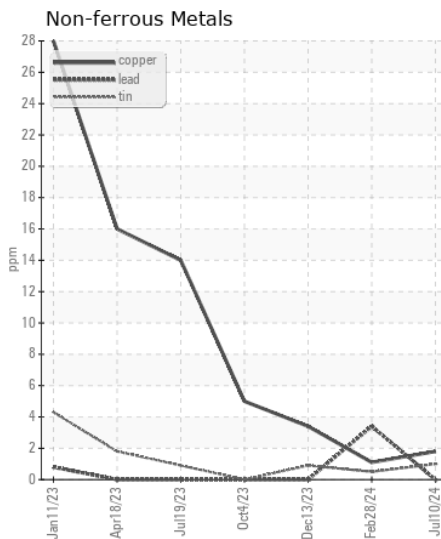
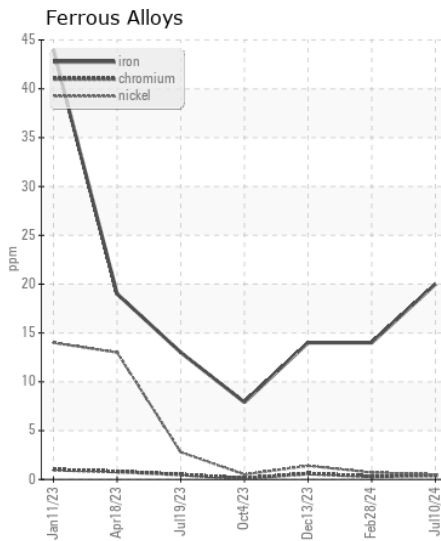
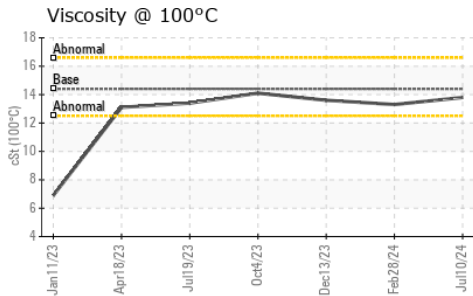
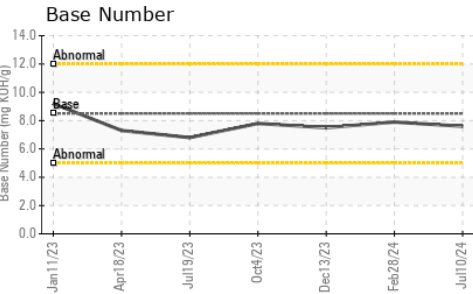
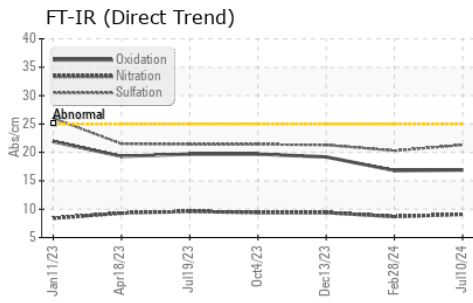
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	4	6
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	2	2
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>4	<b>0.7</b>	0.5	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.1</b>	8.7	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.3</b>	20.3	21.3
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>2</b>	2	<1
Boron	ppm	ASTM D5185m	250	<b>9</b>	19	36
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>57</b>	58	53
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>905</b>	1004	800
Calcium	ppm	ASTM D5185m	3000	<b>1062</b>	1207	1144
Phosphorus	ppm	ASTM D5185m	1150	<b>950</b>	960	692
Zinc	ppm	ASTM D5185m	1350	<b>1182</b>	1164	913
Sulfur	ppm	ASTM D5185m	4250	<b>3082</b>	2975	2616
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.9</b>	16.8	19.2
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>7.6</b>	7.9	7.5
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.8</b>	13.3	13.6



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0956992  
**Lab Number** : 06239656  
**Unique Number** : 11128490  
**Test Package** : FLEET  
**Received** : 17 Jul 2024  
**Tested** : 18 Jul 2024  
**Diagnosed** : 18 Jul 2024 - Wes Davis

**CITY OF GREENSBORO**  
 401 PATTON AVE - BUILDING H  
 GREENSBORO, NC  
 US 27406  
 Contact: JERRY GUNTER  
 jerry.gunter@greensboro-nc.gov

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)

T: x:  
F: x: