



# OIL ANALYSIS REPORT

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



Machine Id  
**MACK 202305**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- 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>WC0898711</b>	WC0843104	WC0812432
Sample Date		Client Info		<b>10 Jan 2024</b>	09 Aug 2023	26 Apr 2023
Machine Age	mls	Client Info		<b>41470</b>	37100	32988
Oil Age	mls	Client Info		<b>4370</b>	4112	3842
Filter Age	mls	Client Info		<b>4370</b>	4112	3842
Oil Changed		Client Info		<b>N/A</b>	Changed	Changed
Filter Changed		Client Info		<b>N/A</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>120	<b>10</b>	11	8
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>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	2	<1
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	1	0
Copper	ppm	ASTM D5185m	>330	<b>1</b>	<1	<1
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

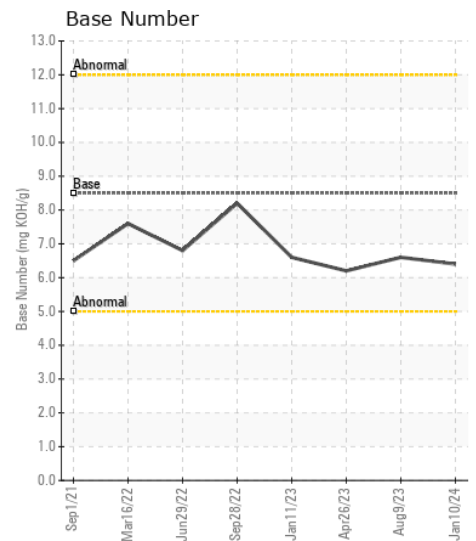
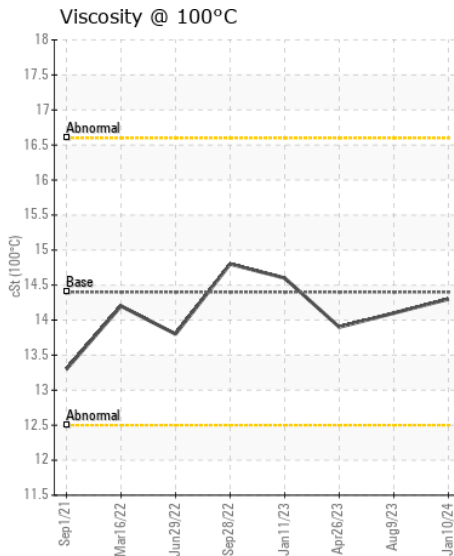
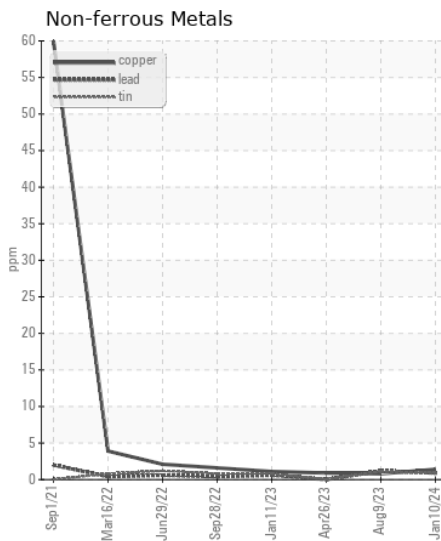
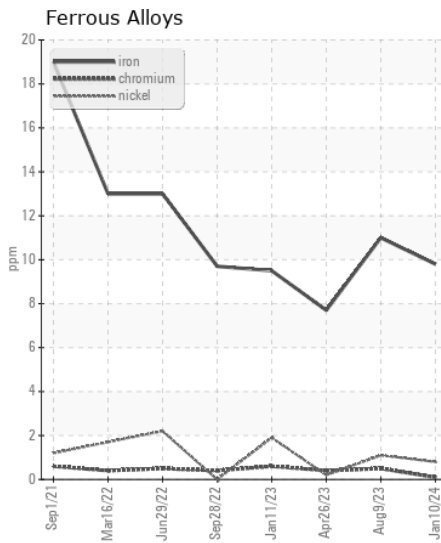
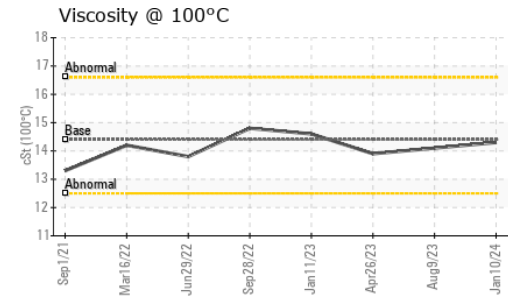
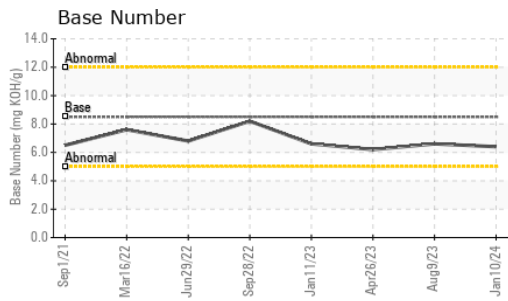
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>7</b>	5	4
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	2	0
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>0.9</b>	0.8	0.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.3</b>	10.2	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.4</b>	21.6	20.0
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>3</b>	3	3
Boron	ppm	ASTM D5185m	250	<b>21</b>	24	28
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>51</b>	54	52
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>757</b>	840	795
Calcium	ppm	ASTM D5185m	3000	<b>1187</b>	1263	1207
Phosphorus	ppm	ASTM D5185m	1150	<b>704</b>	720	653
Zinc	ppm	ASTM D5185m	1350	<b>921</b>	951	890
Sulfur	ppm	ASTM D5185m	4250	<b>2302</b>	2832	2662
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>19.8</b>	19.0	18.0
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>6.4</b>	6.6	6.2
Visc @ 100°C	cSt	ASTM D445	14.4	<b>14.3</b>	14.1	13.9



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0898711 **Received** : 17 Jan 2024  
**Lab Number** : 06063435 **Diagnosed** : 18 Jan 2024  
**Unique Number** : 10834817 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**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: