



# OIL ANALYSIS REPORT

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



Machine Id  
**MACK MR688S 122**  
Component  
**Diesel Engine**  
Fluid  
**UNITED OIL DURALENE (--- GAL)**

## 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>DC0016301</b>	DC0016285	DC0016251
Sample Date		Client Info		<b>13 Feb 2024</b>	15 Jan 2023	30 Aug 2022
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	ATTENTION	ABNORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	<b>23</b>	18	11
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>&lt;1</b>	1	1
Lead	ppm	ASTM D5185m	>40	<b>3</b>	2	<1
Copper	ppm	ASTM D5185m	>330	<b>6</b>	4	3
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	1	<1
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

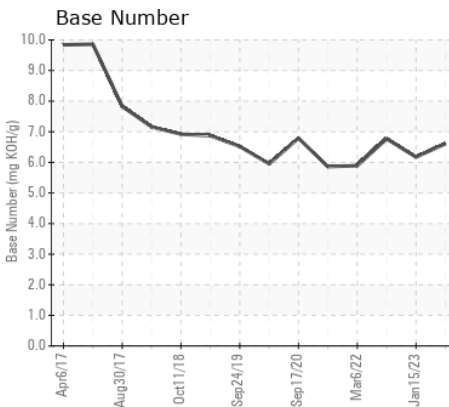
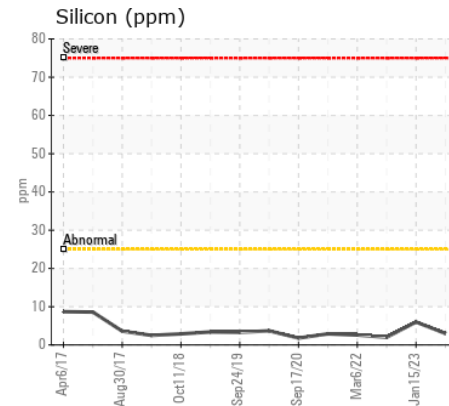
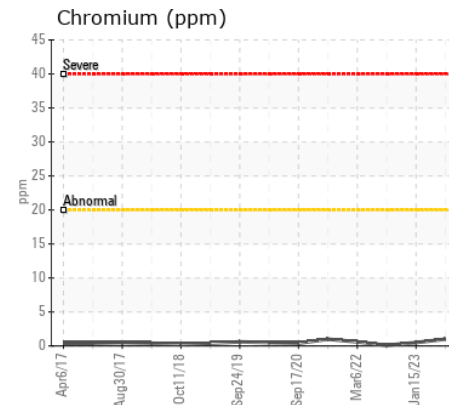
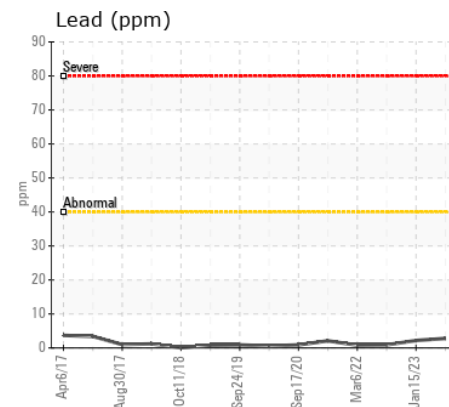
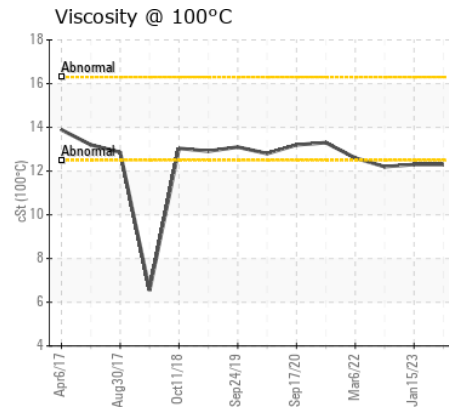
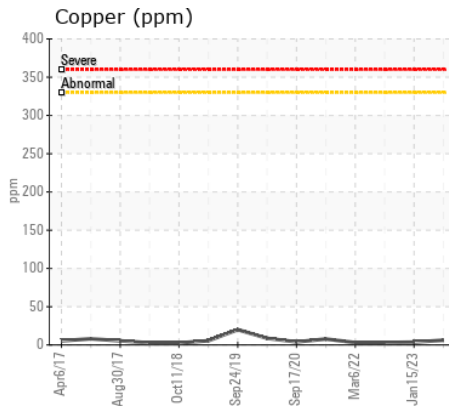
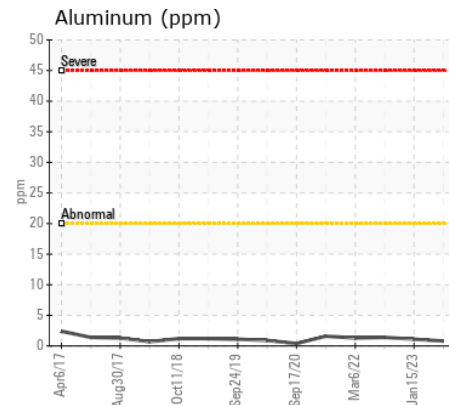
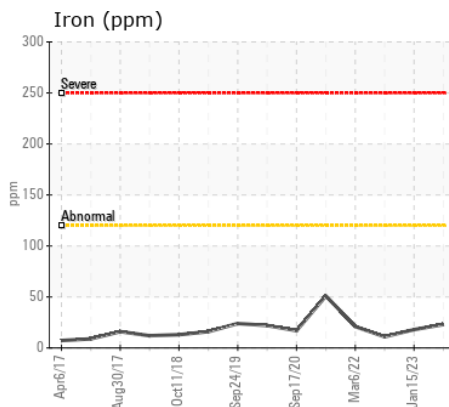
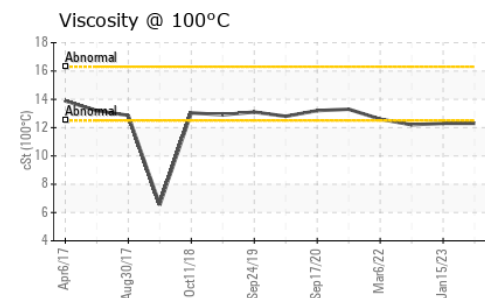
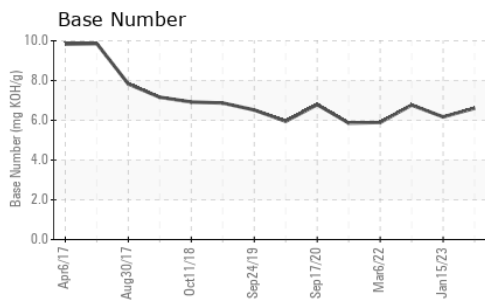
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>3</b>	6	2
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	4
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	▲ 2.7
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	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.4</b>	7.3	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.2</b>	18.5	19.0
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 acceptable for the time in service.

Sodium	ppm	ASTM D5185m		<b>&lt;1</b>	2	0
Boron	ppm	ASTM D5185m		<b>2</b>	3	5
Barium	ppm	ASTM D5185m		<b>0</b>	0	2
Molybdenum	ppm	ASTM D5185m		<b>3</b>	4	3
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>39</b>	56	48
Calcium	ppm	ASTM D5185m		<b>2085</b>	2398	2098
Phosphorus	ppm	ASTM D5185m		<b>769</b>	902	825
Zinc	ppm	ASTM D5185m		<b>1037</b>	1056	997
Sulfur	ppm	ASTM D5185m		<b>3348</b>	4441	3326
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>10.9</b>	10.5	10.9
Base Number (BN)	mg KOH/g	ASTM D2896		<b>6.61</b>	6.17	6.77
Visc @ 100°C	cSt	ASTM D445		<b>12.3</b>	▲ 12.3	▲ 12.2



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DC0016301 **Received** : 14 Feb 2024  
**Lab Number** : 06089025 **Tested** : 15 Feb 2024  
**Unique Number** : 10876470 **Diagnosed** : 15 Feb 2024 - Sean Felton  
**Test Package** : MOB 2

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Certificate L2367  
 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)