



# OIL ANALYSIS REPORT

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



Area  
**MRS-Gastonia**  
Machine Id  
**1528-113529 LIEBHERR LH60C 1528-113529**  
Component  
**Diesel Engine**  
Fluid  
**LIEBHERR MOTOROIL 5W30 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor. Please note that this is a corrected copy for laboratory data updates to ICP data.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>DJJ0011159</b>	DJJ0011205	DJJ0011092
Sample Date		Client Info		<b>23 Feb 2024</b>	30 Oct 2023	03 Aug 2023
Machine Age	hrs	Client Info		<b>7078</b>	6694	6448
Oil Age	hrs	Client Info		<b>0</b>	0	250
Filter Age	hrs	Client Info		<b>0</b>	0	250
Oil Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Sample Status				<b>ATTENTION</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>10</b>	19	13
Chromium	ppm	ASTM D5185m	>5	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	4	3
Lead	ppm	ASTM D5185m	>30	<b>0</b>	3	0
Copper	ppm	ASTM D5185m	>125	<b>1</b>	3	2
Tin	ppm	ASTM D5185m	>5	<b>0</b>	1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

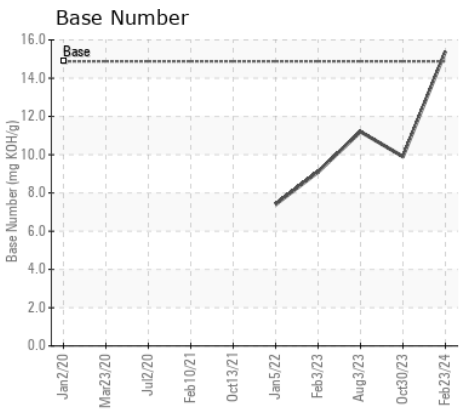
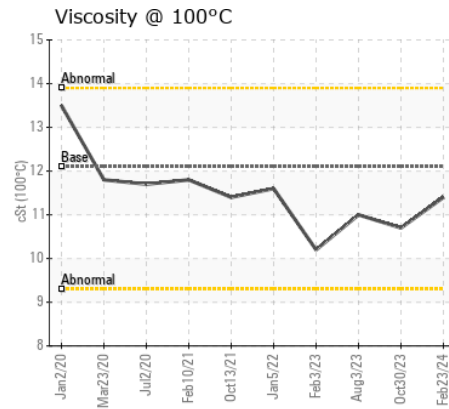
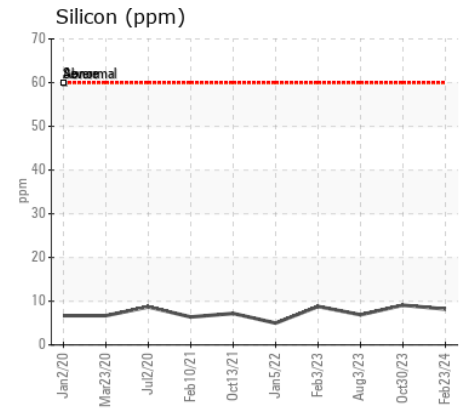
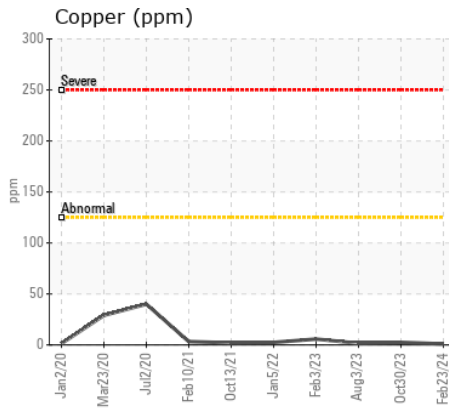
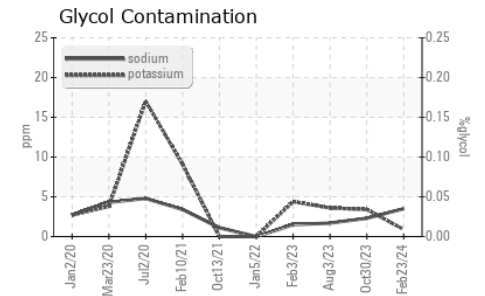
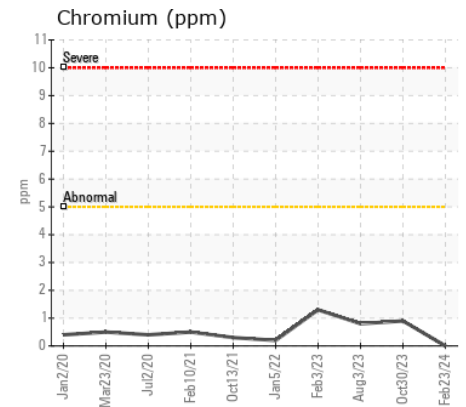
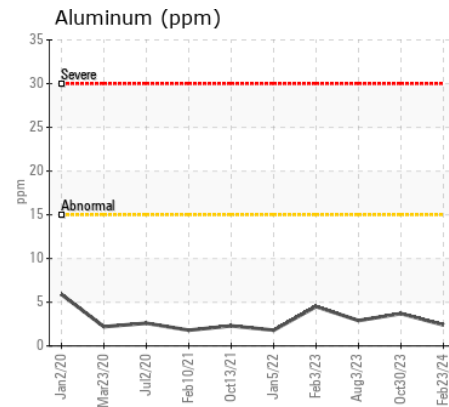
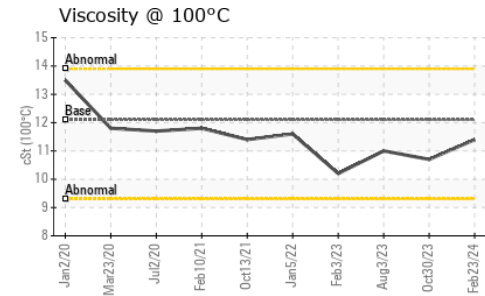
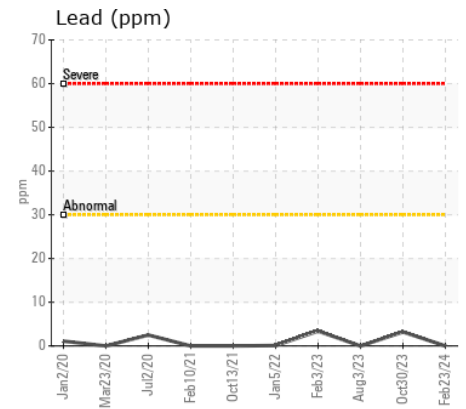
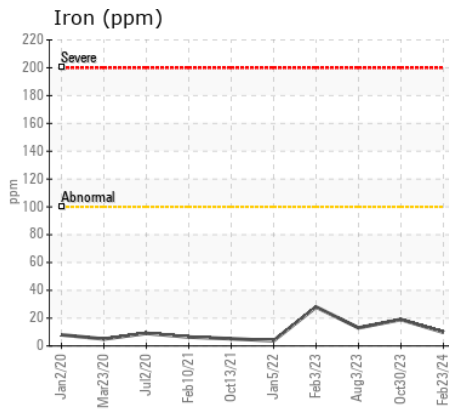
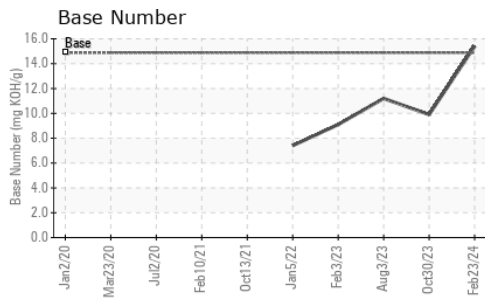
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>60	<b>8</b>	9	7
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	3	4
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	%	*ASTM D2982		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>13.4</b>	17.1	14.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>15.9</b>	20.4	18.3
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		<b>4</b>	2	2
Boron	ppm	ASTM D5185m	236	<b>273</b>	168	179
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	0	<b>0</b>	0	<1
Manganese	ppm	ASTM D5185m	<1	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	25	<b>21</b>	25	27
Calcium	ppm	ASTM D5185m	4298	<b>4718</b>	4224	3909
Phosphorus	ppm	ASTM D5185m	1020	<b>1190</b>	994	920
Zinc	ppm	ASTM D5185m	1164	<b>1399</b>	1231	1132
Sulfur	ppm	ASTM D5185m	2460	<b>3308</b>	2404	2806
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>11.7</b>	17.2	14.3
Base Number (BN)	mg KOH/g	ASTM D2896	14.88	<b>15.4</b>	9.9	11.2
Visc @ 100°C	cSt	ASTM D445	12.1	<b>11.4</b>	10.7	11.0



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DJJ0011159 **Received** : 27 Feb 2024  
**Lab Number** : 06101302 **Tested** : 04 Mar 2024  
**Unique Number** : 10899532 **Diagnosed** : 04 Mar 2024 - Jonathan Hester  
**Test Package** : MOBCE ( Additional Tests: Glycol, TBN )

**METAL RECYCLING SERVICES - GASTONIA**  
 5401 S YORK HWY  
 GASTONIA, NC  
 US 28052  
 Contact: RYAN BOWDEN

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)

T:  
 F: (704)864-9863