



# OIL ANALYSIS REPORT

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



Machine Id  
**120556-1216 LIEBHERR LH50M 120556-1216**

Component  
**Diesel Engine**

Fluid  
**DIESEL ENGINE OIL SAE 10W30 (--- GAL)**

## RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>DJJ0022501</b>	DJJ0022510	DJJ0022526
Sample Date		Client Info		<b>03 Jan 2024</b>	16 Nov 2023	11 Oct 2023
Machine Age	hrs	Client Info		<b>9096</b>	8743	8542
Oil Age	hrs	Client Info		<b>250</b>	225	250
Filter Age	hrs	Client Info		<b>250</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	ABNORMAL	ATTENTION

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>3</b>	3	8
Chromium	ppm	ASTM D5185m	>5	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	1
Aluminum	ppm	ASTM D5185m	>15	<b>6</b>	7	6
Lead	ppm	ASTM D5185m	>30	<b>0</b>	<1	6
Copper	ppm	ASTM D5185m	>125	<b>7</b>	10	14
Tin	ppm	ASTM D5185m	>5	<b>0</b>	<1	2
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

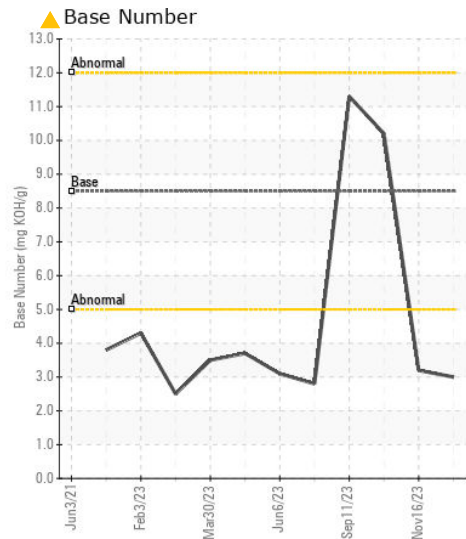
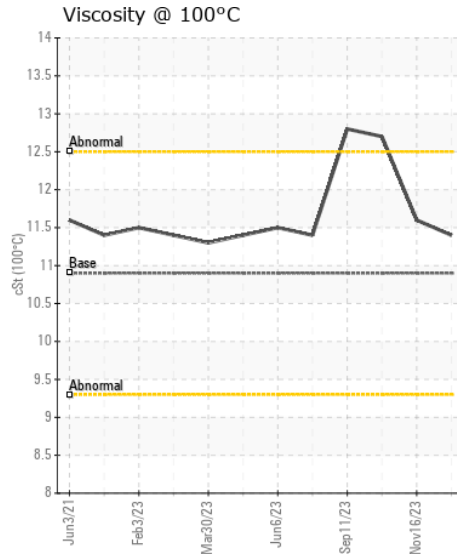
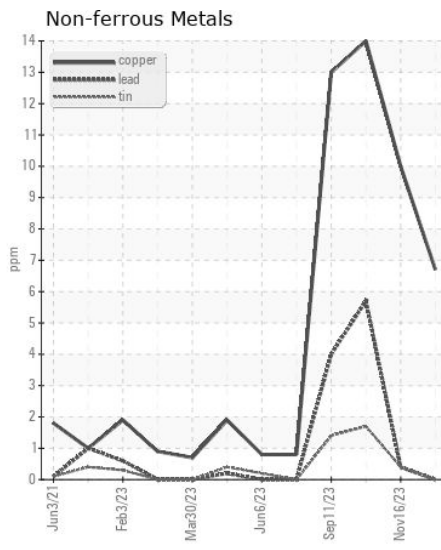
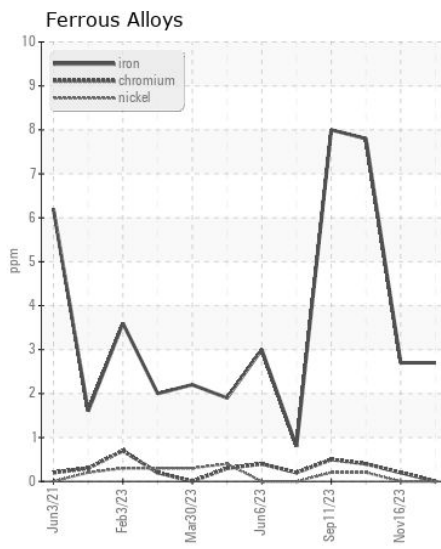
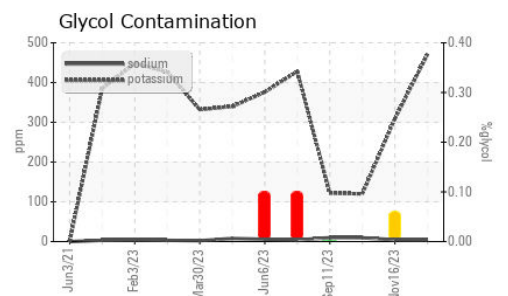
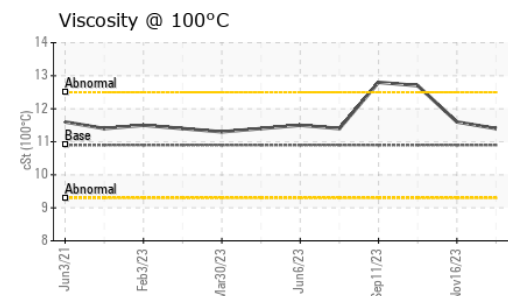
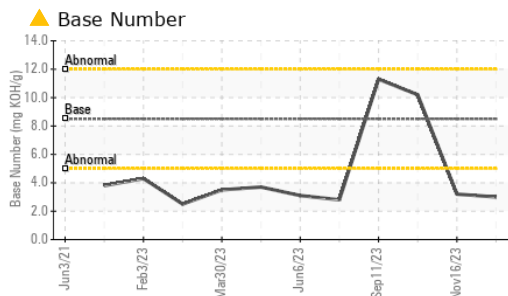
Sodium and/or potassium levels remain high.

Silicon	ppm	ASTM D5185m	>60	<b>17</b>	14	17
Potassium	ppm	ASTM D5185m	>20	<b>▲ 471</b>	▲ 309	▲ 120
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>	▲ 0.06	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.5</b>	7.2	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.8</b>	21.6	18.8
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	▲ MODER	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 level is low.

Sodium	ppm	ASTM D5185m		<b>4</b>	5	10
Boron	ppm	ASTM D5185m	250	<b>713</b>	628	390
Barium	ppm	ASTM D5185m	10	<b>0</b>	11	95
Molybdenum	ppm	ASTM D5185m	100	<b>1107</b>	911	346
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	2
Magnesium	ppm	ASTM D5185m	450	<b>86</b>	136	186
Calcium	ppm	ASTM D5185m	3000	<b>462</b>	628	2474
Phosphorus	ppm	ASTM D5185m	1150	<b>10</b>	105	707
Zinc	ppm	ASTM D5185m	1350	<b>10</b>	122	796
Sulfur	ppm	ASTM D5185m	4250	<b>1904</b>	2283	3040
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>25.5</b>	22.1	16.4
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>▲ 3.0</b>	▲ 3.2	10.2
Visc @ 100°C	cSt	ASTM D445	10.9	<b>11.4</b>	11.6	12.7



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DJJ0022501 **Received** : 16 Jan 2024  
**Lab Number** : 06060666 **Diagnosed** : 17 Jan 2024  
**Unique Number** : 10832048 **Diagnostician** : Jonathan Hester  
**Test Package** : CONST ( Additional Tests: TBN )

**RIVER METALS RECYCLING - DECATUR FACILITY**  
 4301 IVERSON BLVD  
 TRINITY, AL  
 US 35673  
 Contact: LARRY BARBER  
 larry.barber@rmrecycling.com

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)