



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
120556-1216 LIEBHERR LH50M 120556-1216
Component
Diesel Engine
Fluid
LIEBHERR MOTOROIL 5W30 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DJJ0022499	DJJ0022449	DJJ0022501
Sample Date		Client Info		08 Feb 2024	19 Jan 2024	03 Jan 2024
Machine Age	hrs	Client Info		9388	9227	9096
Oil Age	hrs	Client Info		38	131	250
Filter Age	hrs	Client Info		38	131	250
Oil Changed		Client Info		Not Chngd	Not Chngd	Changed
Filter Changed		Client Info		Not Chngd	Not Chngd	Changed
Sample Status				NORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	2	2	3
Chromium	ppm	ASTM D5185m	>5	<1	<1	0
Nickel	ppm	ASTM D5185m	>5	<1	1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>15	<1	9	6
Lead	ppm	ASTM D5185m	>30	<1	<1	0
Copper	ppm	ASTM D5185m	>125	<1	2	7
Tin	ppm	ASTM D5185m	>5	<1	0	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

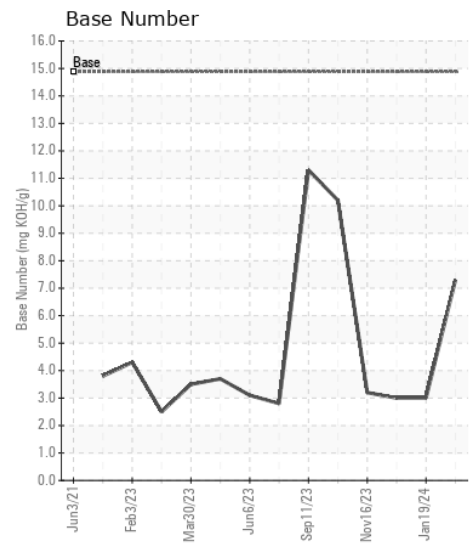
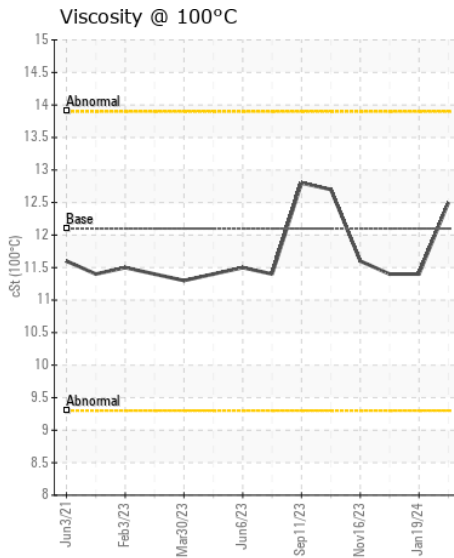
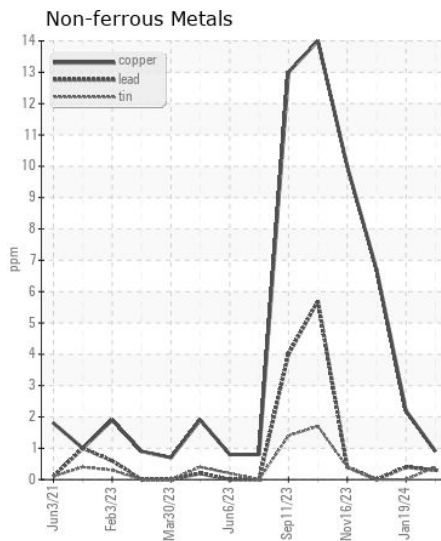
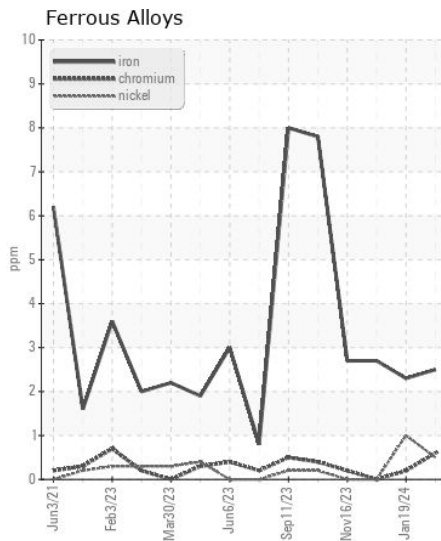
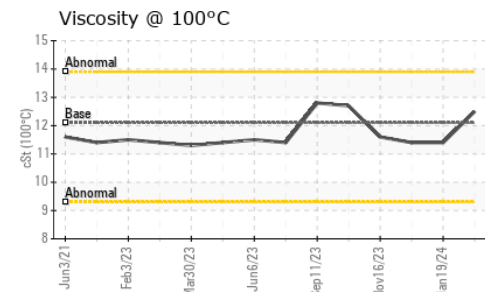
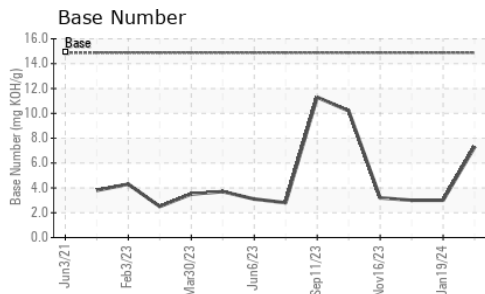
No evidence of coolant present in the oil. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>60	9	20	17
Potassium	ppm	ASTM D5185m	>20	35	▲ 473	▲ 471
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	6.7	6.5	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.0	23.0	21.8
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	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		0	0	4
Boron	ppm	ASTM D5185m	236	160	831	713
Barium	ppm	ASTM D5185m	0	0	6	0
Molybdenum	ppm	ASTM D5185m	0	76	1131	1107
Manganese	ppm	ASTM D5185m	<1	<1	<1	0
Magnesium	ppm	ASTM D5185m	25	688	103	86
Calcium	ppm	ASTM D5185m	4298	1262	445	462
Phosphorus	ppm	ASTM D5185m	1020	731	20	10
Zinc	ppm	ASTM D5185m	1164	792	10	10
Sulfur	ppm	ASTM D5185m	2460	2964	2015	1904
Oxidation	Abs/.1mm	*ASTM D7414	>25	12.8	23.1	25.5
Base Number (BN)	mg KOH/g	ASTM D2896	14.88	7.3	▲ 3.0	▲ 3.0
Visc @ 100°C	cSt	ASTM D445	12.1	12.5	11.4	11.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DJJ0022499 **Received** : 09 Feb 2024
Lab Number : 06085243 **Tested** : 12 Feb 2024
Unique Number : 10872688 **Diagnosed** : 13 Feb 2024 - 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)

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F: