



LIEBHERR

OIL ANALYSIS REPORT



Area
RMR-Newport
 Machine Id
1217-97851 LIEBHERR LH60M 1217-97851
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 5W30 (--- GAL)

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0244701	DJJ0017596	DJJ0016511
Sample Date		Client Info		13 Mar 2024	20 Oct 2023	31 Jan 2023
Machine Age	hrs	Client Info		13914	13117	11593
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Changed	Changed
Filter Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

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

CONTAMINATION

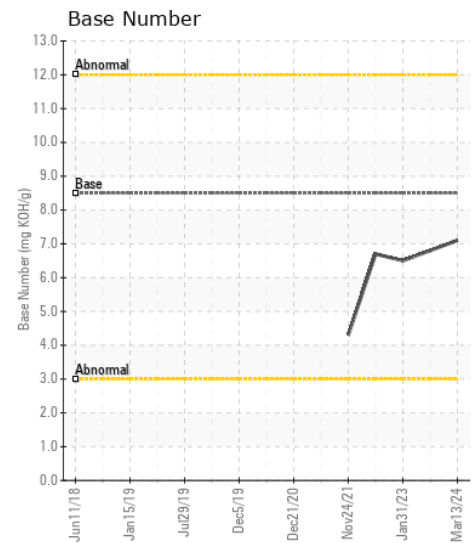
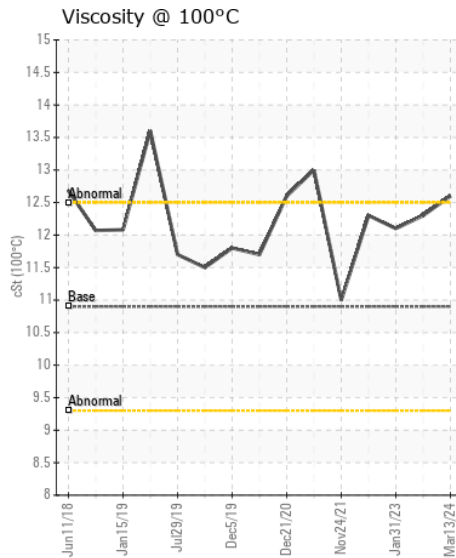
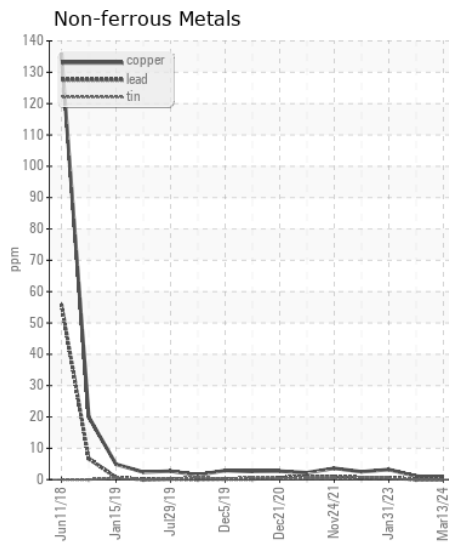
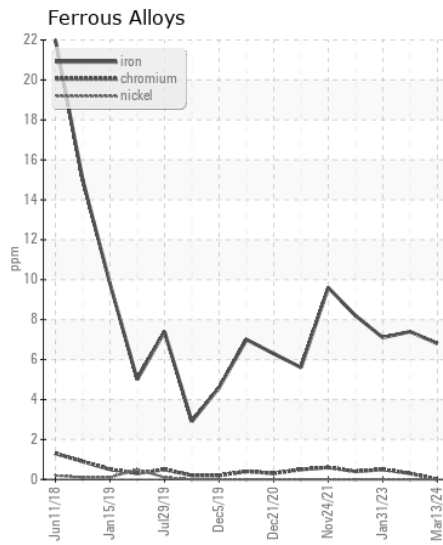
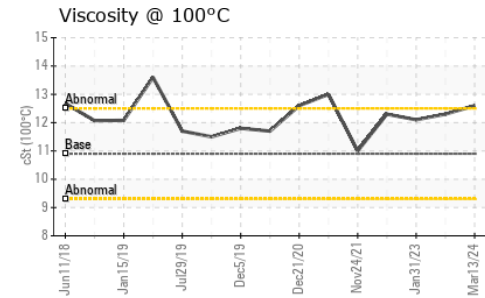
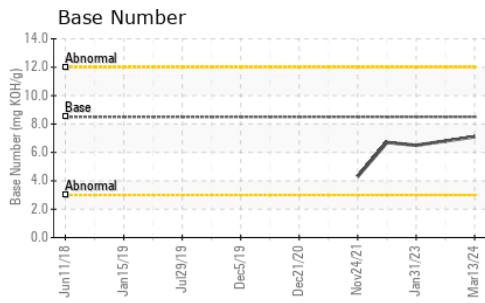
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>60	4	6	6
Potassium	ppm	ASTM D5185m	>20	1	<1	0
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	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	12.7	14.2	14.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.6	22.7	23.4
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		<1	1	<1
Boron	ppm	ASTM D5185m	250	64	65	67
Barium	ppm	ASTM D5185m	10	0	4	0
Molybdenum	ppm	ASTM D5185m	100	50	48	48
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m	450	681	837	899
Calcium	ppm	ASTM D5185m	3000	1676	1212	1340
Phosphorus	ppm	ASTM D5185m	1150	855	755	627
Zinc	ppm	ASTM D5185m	1350	1030	850	843
Sulfur	ppm	ASTM D5185m	4250	3506	2031	2557
Oxidation	Abs/.1mm	*ASTM D7414	>25	24.6	28.2	29.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.1	6.8	6.5
Visc @ 100°C	cSt	ASTM D445	10.9	12.6	12.3	12.1



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0244701
Lab Number : 06123311
Unique Number : 10937462
Test Package : CONST (Additional Tests: TBN)

RIVER METALS RECYCLING - NEWPORT
P.O. BOX 72-220
NEWPORT, KY
US 41072
Contact: RYAN BOWDEN

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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