



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
RMR-Trinity
Machine Id
1216-96585 LIEBHERR LH50M 1216-96585
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 10W30 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DJJ0022511	DJJ0019884	DJJ0019887
Sample Date		Client Info		29 Dec 2023	02 Nov 2023	21 Aug 2023
Machine Age	hrs	Client Info		11348	11072	10694
Oil Age	hrs	Client Info		250	500	7
Filter Age	hrs	Client Info		250	500	0
Oil Changed		Client Info		Changed	Changed	Not Changed
Filter Changed		Client Info		Changed	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	5	4	2
Chromium	ppm	ASTM D5185m	>5	0	<1	0
Nickel	ppm	ASTM D5185m	>5	0	<1	0
Titanium	ppm	ASTM D5185m		1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>15	5	8	2
Lead	ppm	ASTM D5185m	>30	0	1	<1
Copper	ppm	ASTM D5185m	>125	2	2	<1
Tin	ppm	ASTM D5185m	>5	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

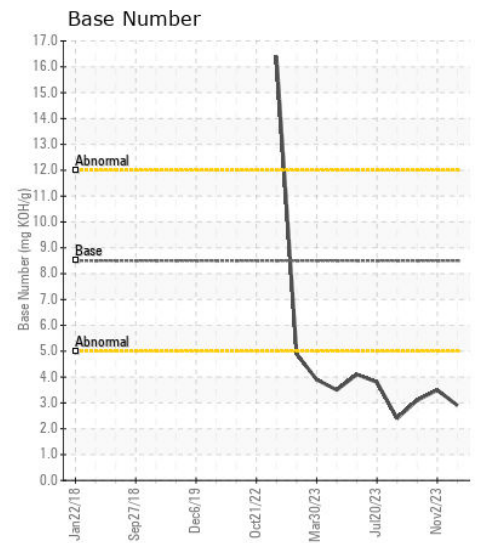
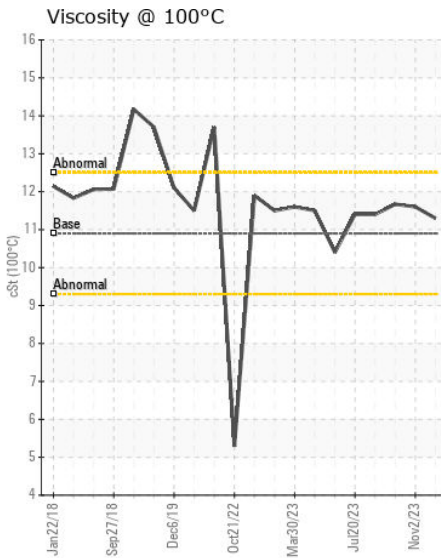
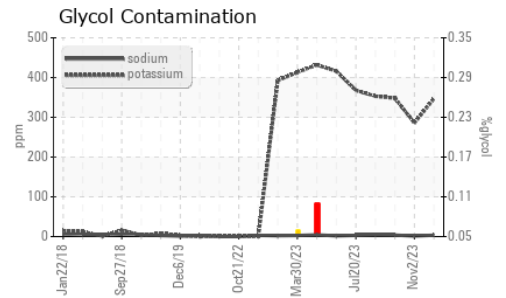
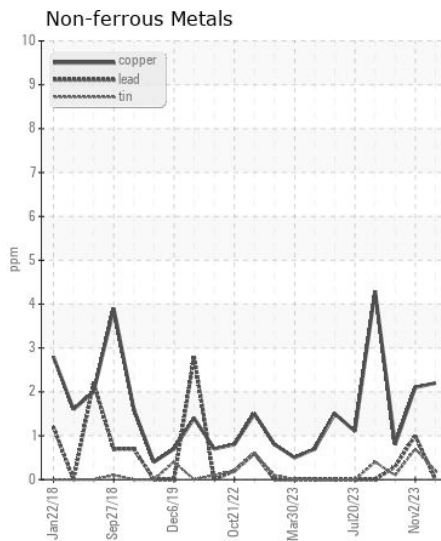
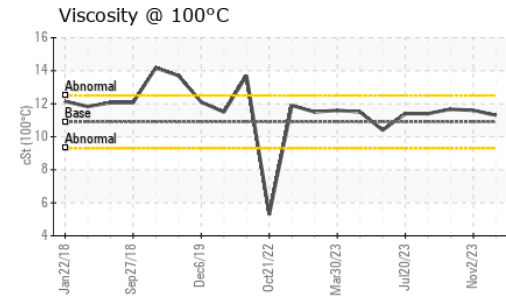
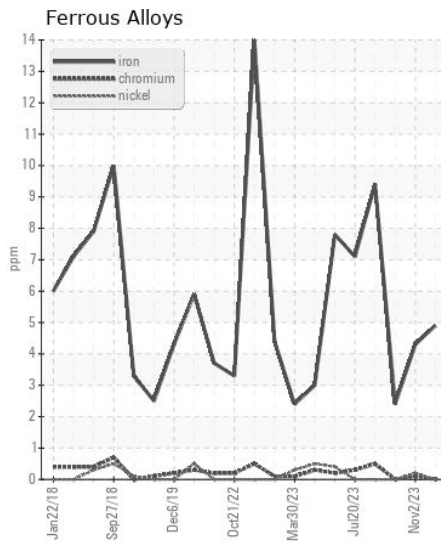
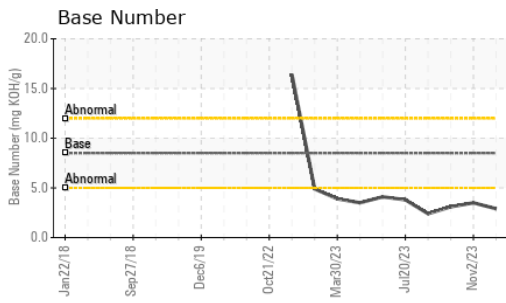
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>60	15	14	14
Potassium	ppm	ASTM D5185m	>20	347	286	348
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	8.2	8.7	4.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.9	20.6	22.0
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 level is low. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		3	2	4
Boron	ppm	ASTM D5185m	250	609	572	778
Barium	ppm	ASTM D5185m	10	0	1	0
Molybdenum	ppm	ASTM D5185m	100	981	864	1017
Manganese	ppm	ASTM D5185m		0	<1	0
Magnesium	ppm	ASTM D5185m	450	95	91	108
Calcium	ppm	ASTM D5185m	3000	493	913	501
Phosphorus	ppm	ASTM D5185m	1150	53	163	48
Zinc	ppm	ASTM D5185m	1350	50	177	23
Sulfur	ppm	ASTM D5185m	4250	2181	2333	3104
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.8	22.5	19.0
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	2.9	3.5	3.1
Visc @ 100°C	cSt	ASTM D445	10.9	11.3	11.6	11.67



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DJJ0022511 **Received** : 16 Jan 2024
Lab Number : 06060665 **Diagnosed** : 17 Jan 2024
Unique Number : 10832047 **Diagnostician** : Jonathan Hester
Test Package : CONST (Additional Tests: Glycol, 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: