

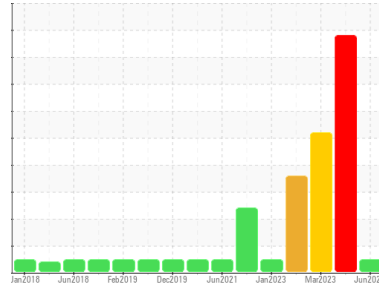


OIL ANALYSIS REPORT



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

Sample Rating Trend



NORMAL



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		DJJ0019898	DJJ0019899	LH05808651
Sample Date	Client Info		29 Jun 2023	03 May 2023	30 Mar 2023
Machine Age	hrs	Client Info	10477	10368	10127
Oil Age	hrs	Client Info	250	250	0
Oil Changed	Client Info		Changed	Changed	N/A
Sample Status			NORMAL	SEVERE	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>100	8	3	2
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>15	2	1	2
Lead	ppm	ASTM D5185m	>30	0	0	0
Copper	ppm	ASTM D5185m	>125	2	<1	<1
Tin	ppm	ASTM D5185m	>5	0	0	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	250	748	824	812
Barium	ppm	ASTM D5185m	10	3	<1	0
Molybdenum	ppm	ASTM D5185m	100	1102	▲ 1146	▲ 1122
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	93	110	107
Calcium	ppm	ASTM D5185m	3000	481	▲ 507	▲ 537
Phosphorus	ppm	ASTM D5185m	1150	11	▲ 17	▲ 16
Zinc	ppm	ASTM D5185m	1350	13	▲ 7	▲ 12
Sulfur	ppm	ASTM D5185m	4250	1976	2638	2856

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>60	16	19	13
Sodium	ppm	ASTM D5185m		2	4	3
Potassium	ppm	ASTM D5185m	>20	416	▲ 432	▲ 413
Glycol	%	*ASTM D2982		NEG	◆ 0.10	▲ 0.06

INFRA-RED

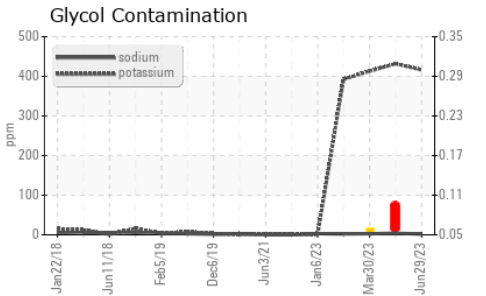
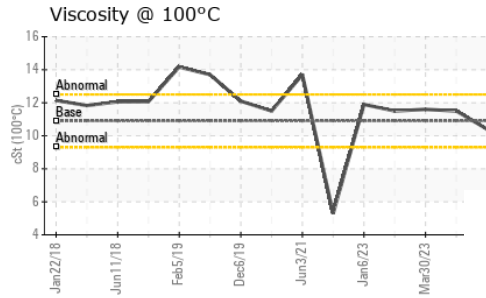
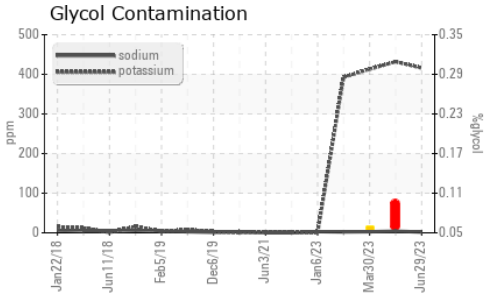
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	0.2	0.2	0.5
Nitration	Abs/cm	*ASTM D7624	>20	7.8	6.8	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.1	23.8	23.8

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.7	23.6	22.7
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	4.1	3.5	3.9



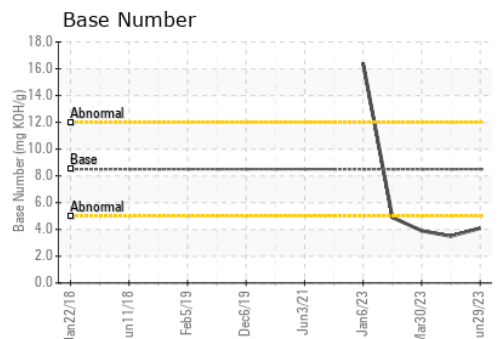
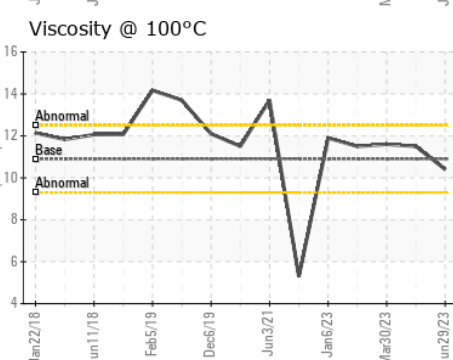
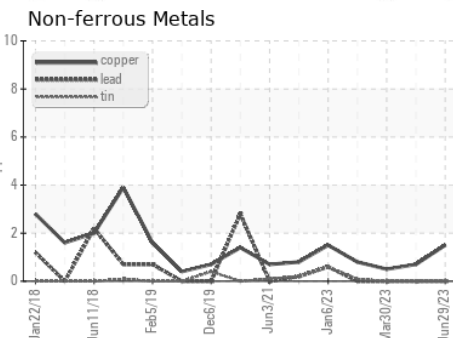
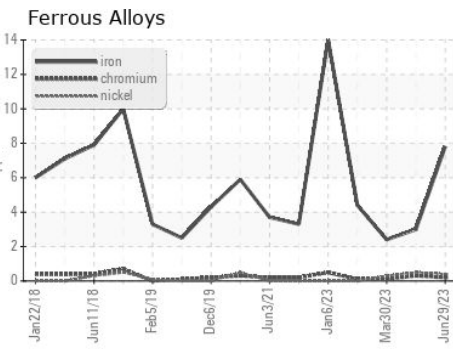
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	10.9	10.4	11.5

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DJJ0019898 **Received** : 17 Jul 2023
Lab Number : 05899676 **Diagnosed** : 19 Jul 2023
Unique Number : 10561032 **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)

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F: