



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

AMR-12th Street

Machine Id

484145 LIEBHERR LH60 116360

Component

Diesel Engine

Fluid

LIEBHERR MOTOROIL 10W-40 LOW ASH (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DJJ0023294	DJJ0020064	DJJ0018350
Sample Date		Client Info		14 Jun 2024	02 Jan 2024	21 Sep 2023
Machine Age	hrs	Client Info		9959	9493	9000
Oil Age	hrs	Client Info		250	0	0
Filter Age	hrs	Client Info		250	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	8	5	6
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	2	3
Lead	ppm	ASTM D5185m	>40	1	<1	0
Copper	ppm	ASTM D5185m	>330	<1	<1	0
Tin	ppm	ASTM D5185m	>15	0	1	1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

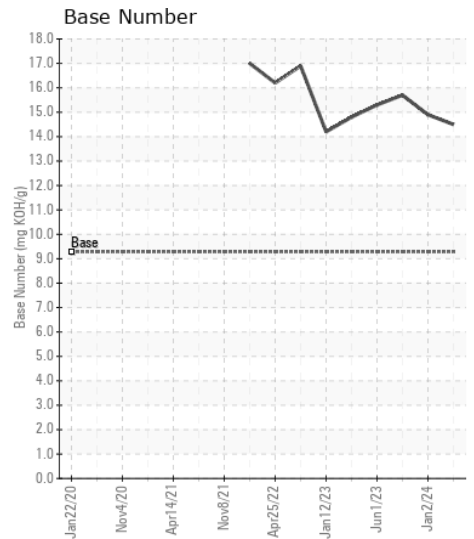
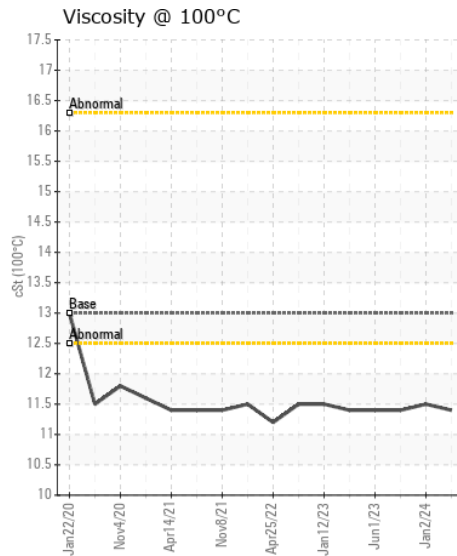
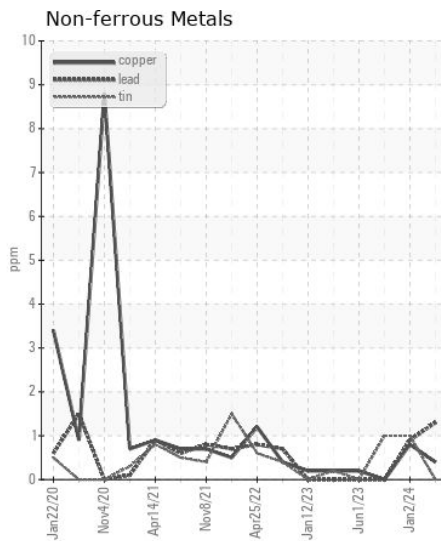
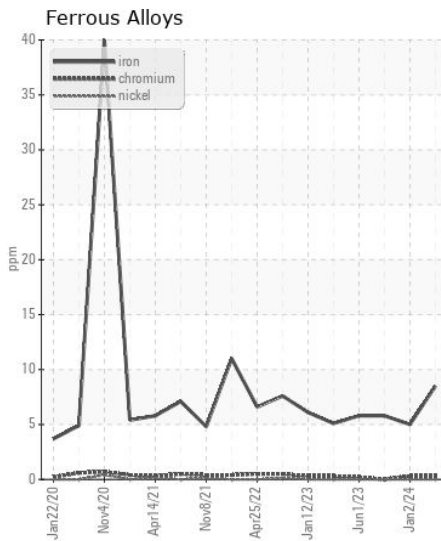
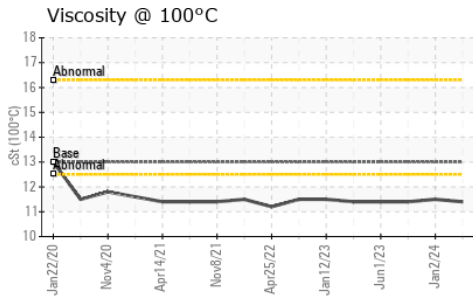
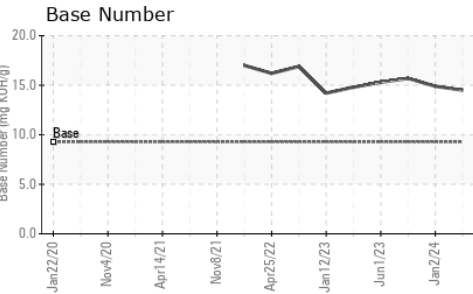
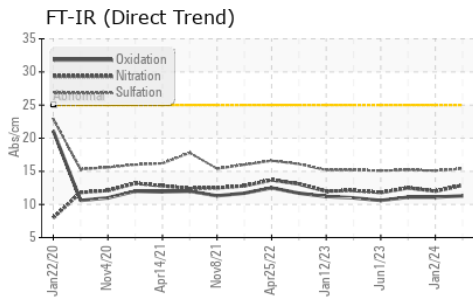
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	10	8	8
Potassium	ppm	ASTM D5185m	>20	4	1	8
Fuel	%	ASTM D3524	>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	12.9	12.0	12.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.4	15.1	15.2
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		6	3	5
Boron	ppm	ASTM D5185m	169	242	230	275
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	2	<1	2	3
Manganese	ppm	ASTM D5185m	<1	<1	<1	0
Magnesium	ppm	ASTM D5185m	724	43	44	47
Calcium	ppm	ASTM D5185m	1323	4705	4049	4187
Phosphorus	ppm	ASTM D5185m	678	1128	1032	1023
Zinc	ppm	ASTM D5185m	776	1300	1112	1165
Sulfur	ppm	ASTM D5185m	2859	3664	2825	2885
Oxidation	Abs/.1mm	*ASTM D7414	>25	11.3	11.1	11.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.28	14.5	14.9	15.7
Visc @ 100°C	cSt	ASTM D445	13.0	11.4	11.5	11.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DJJ0023294
Lab Number : 06215582
Unique Number : 11088446
Test Package : CONST (Additional Tests: FuelDilution, TBN)

ADVANTAGE METALS RECYCLING - 12 STREET
 1153 S. 12TH STREET
 KANSAS CITY, KS
 US 66105
 Contact: JOHN PEEK
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 T: (660)424-9134
 F: (913)621-2766

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)