



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Machine Id
LIEBHERR LH30M 1200-72683
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (8 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		LH06062318	LH0235763	LH0217614
Sample Date		Client Info		12 Jan 2024	27 Sep 2023	23 Mar 2023
Machine Age	hrs	Client Info		14822	14249	13667
Oil Age	hrs	Client Info		0	0	1000
Filter Age	hrs	Client Info		0	0	1000
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ATTENTION	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>66	17	9	13
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>8	3	0	5
Lead	ppm	ASTM D5185m	>10	<1	1	0
Copper	ppm	ASTM D5185m	>74	3	10	2
Tin	ppm	ASTM D5185m	>4	<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

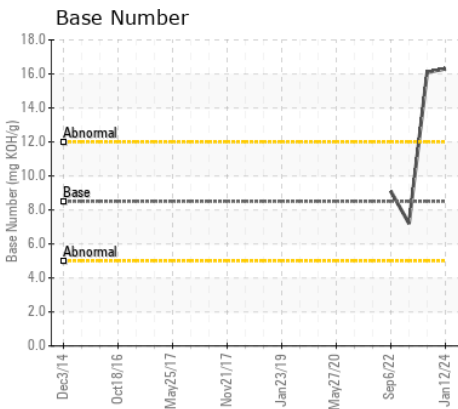
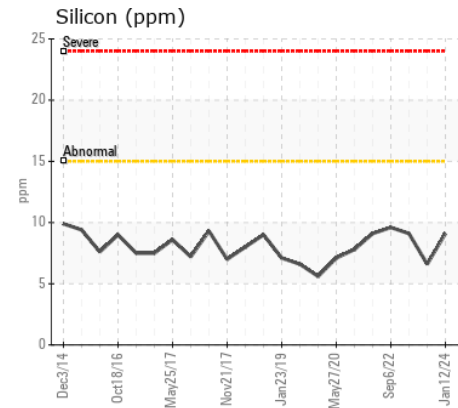
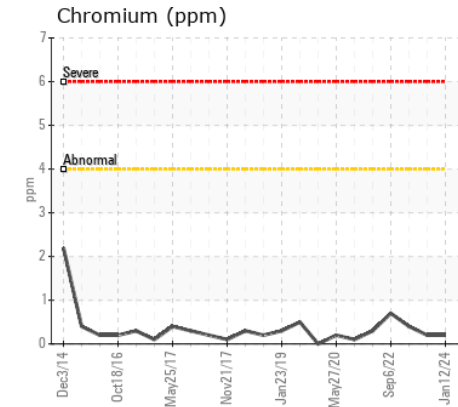
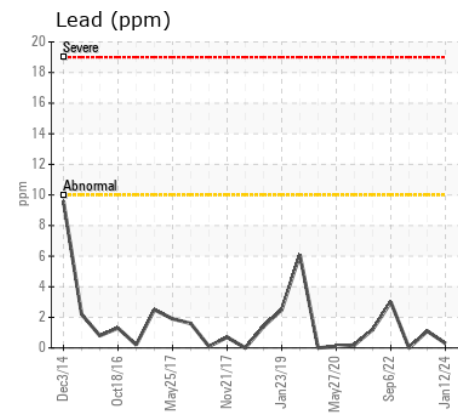
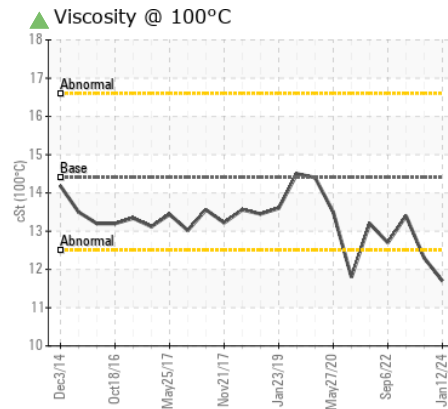
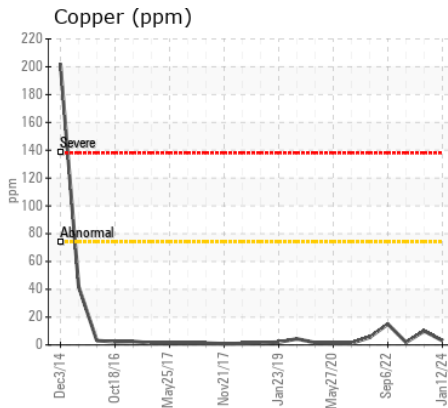
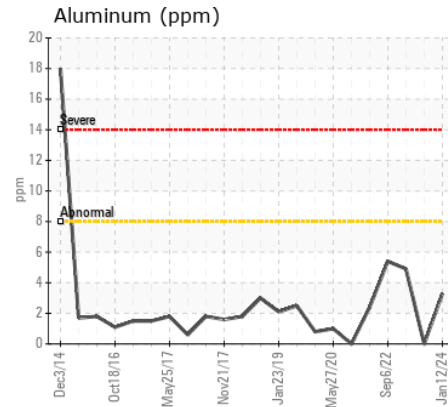
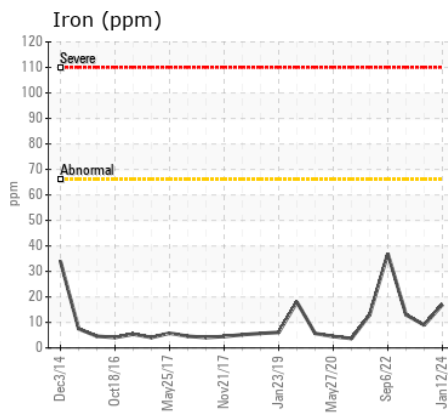
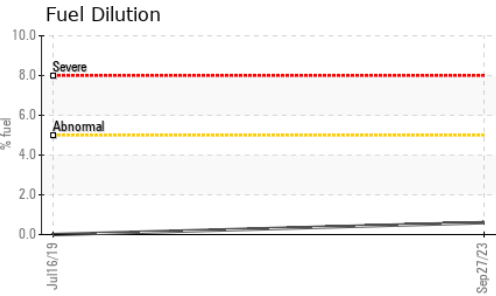
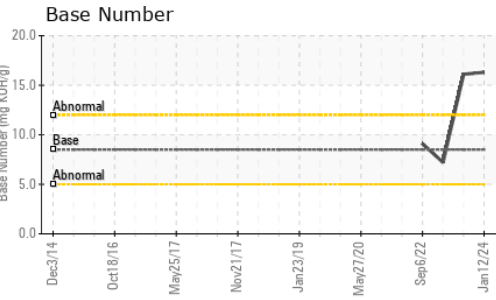
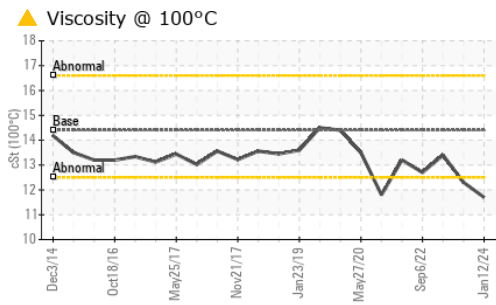
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>15	9	7	9
Potassium	ppm	ASTM D5185m	>20	2	0	4
Fuel	%	ASTM D3524	>5	<1.0	0.6	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	11.7	9.8	10.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.3	14.8	19.6
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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m	>158	14	5	18
Boron	ppm	ASTM D5185m	250	232	234	82
Barium	ppm	ASTM D5185m	10	0	0	2
Molybdenum	ppm	ASTM D5185m	100	3	10	82
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	31	111	53
Calcium	ppm	ASTM D5185m	3000	4408	3768	2327
Phosphorus	ppm	ASTM D5185m	1150	1071	1028	1016
Zinc	ppm	ASTM D5185m	1350	1218	1219	1183
Sulfur	ppm	ASTM D5185m	4250	2894	3004	4446
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.8	10.8	15.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	16.3	16.1	7.2
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 11.7	12.3	13.4



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH06062318 **Received** : 17 Jan 2024
Lab Number : 06062318 **Diagnosed** : 18 Jan 2024
Unique Number : 10833700 **Diagnostician** : Don Baldridge
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, TBN)

SPARTAN RECYCLING
 3071 HOWARD ST
 SPARTANBURG, SC
 US 29303
 Contact: SERVICE MANAGER

Certificate L2367
 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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