



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Machine Id
LIEBHERR LH60 107905-1217
Component
Diesel Engine
Fluid
LIEBHERR MOTOROIL 5W-30 LOW ASH (--- GAL)

RECOMMENDATION

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0286365	LHMC103814	LHMC102899
Sample Date		Client Info		02 Feb 2024	05 Aug 2020	14 Aug 2019
Machine Age	hrs	Client Info		9168	3681	2009
Oil Age	hrs	Client Info		0	1680	1000
Filter Age	hrs	Client Info		0	1680	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		N/A	Changed	Changed
Sample Status				ATTENTION	ABNORMAL	ABNORMAL

WEAR

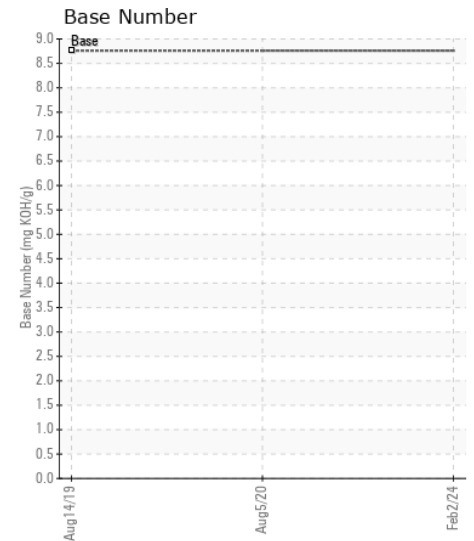
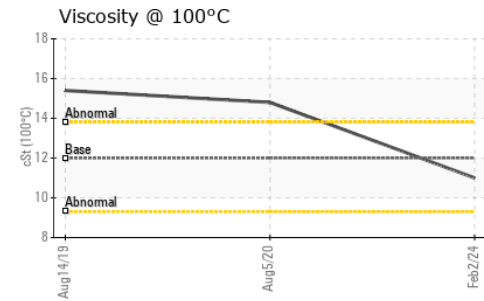
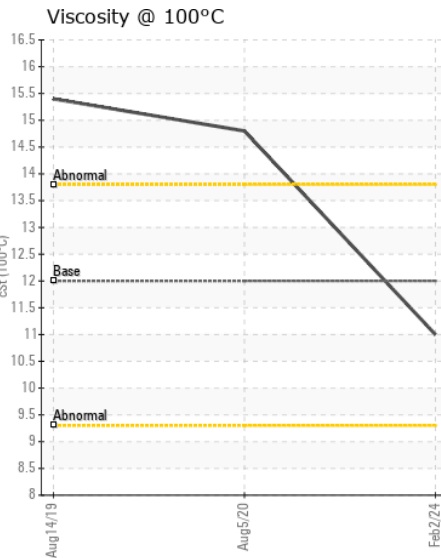
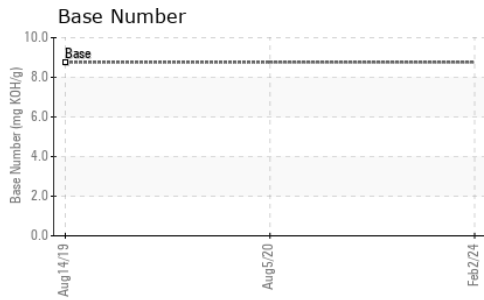
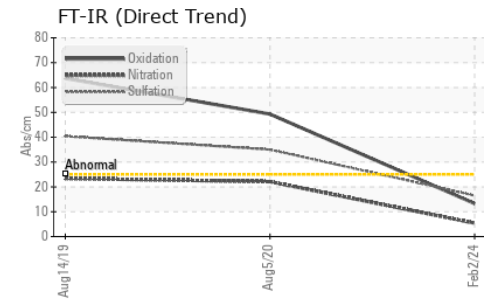
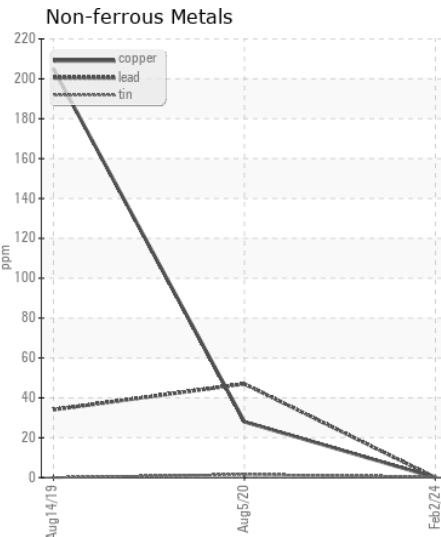
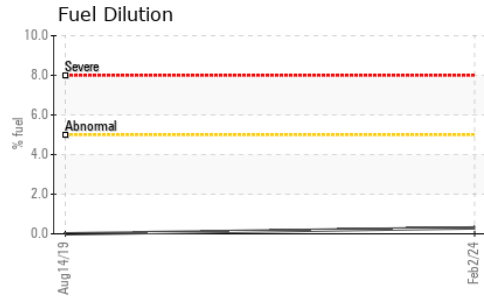
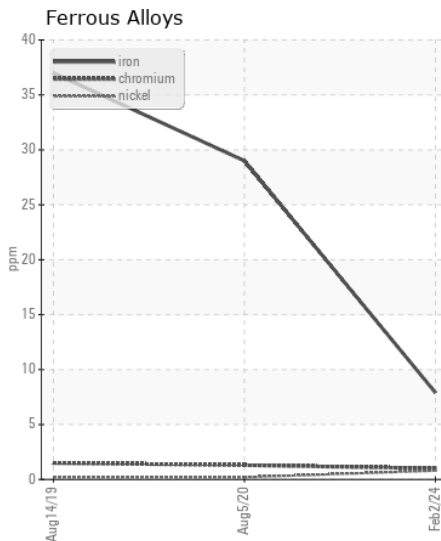
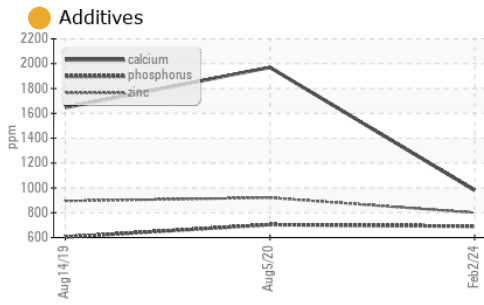
Iron	ppm	ASTM D5185m	>100	8	29	37
Chromium	ppm	ASTM D5185m	>5	1	1	2
Nickel	ppm	ASTM D5185m	>5	<1	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>15	2	2	4
Lead	ppm	ASTM D5185m	>30	0	▲ 47	▲ 34
Copper	ppm	ASTM D5185m	>125	0	28	▲ 205
Tin	ppm	ASTM D5185m	>5	<1	2	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Silicon	ppm	ASTM D5185m	>60	8	10	10
Potassium	ppm	ASTM D5185m	>20	4	5	8
Fuel	%	ASTM D3524	>5	0.3	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.1	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	5.4	22.1	23.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	16.5	35	40.4
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

Sodium	ppm	ASTM D5185m		2	4	5
Boron	ppm	ASTM D5185m	2	139	82	72
Barium	ppm	ASTM D5185m	0	0	3	31
Molybdenum	ppm	ASTM D5185m	<1	0	12	26
Manganese	ppm	ASTM D5185m	<1	<1	<1	2
Magnesium	ppm	ASTM D5185m	12	593	396	672
Calcium	ppm	ASTM D5185m	2224	● 981	1970	1647
Phosphorus	ppm	ASTM D5185m	635	● 691	704	604
Zinc	ppm	ASTM D5185m	718	● 800	921	894
Sulfur	ppm	ASTM D5185m	1694	● 3672	1884	1873
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.3	49.3	63.7
Base Number (BN)	mg KOH/g	ASTM D2896	8.76	6.8	---	---
Visc @ 100°C	cSt	ASTM D445	12.0	11.0	● 14.8	● 15.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0286365 **Received** : 11 Apr 2024
Lab Number : 06146319 **Tested** : 16 Apr 2024
Unique Number : 10976397 **Diagnosed** : 16 Apr 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

EVRAZ RECYCLING
 5601 YORK ST
 DENVER, CO
 US 80216
 Contact: RYAN

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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