



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Machine Id
LIEBHERR LH110 1227-155752
Component
Swing Drive
Fluid
SAE 30W (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

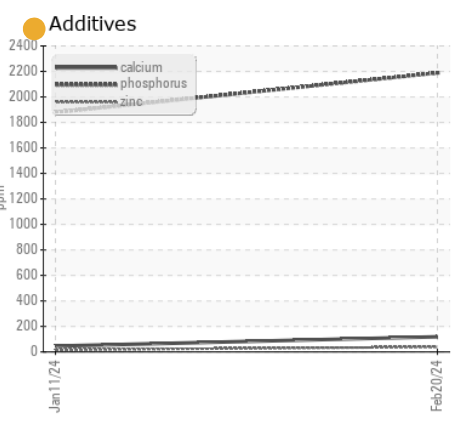
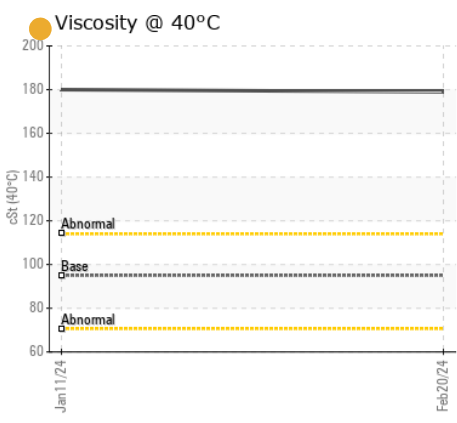
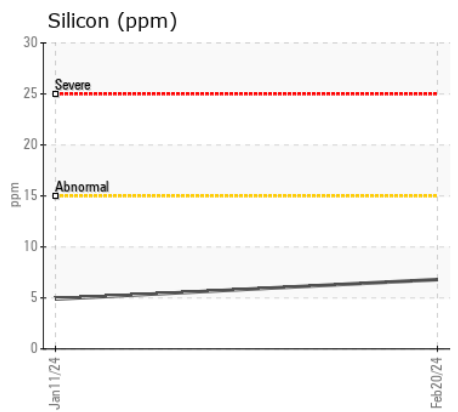
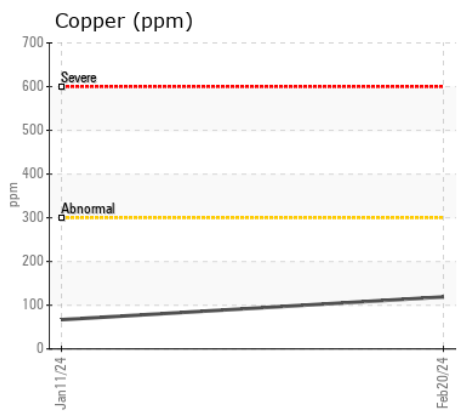
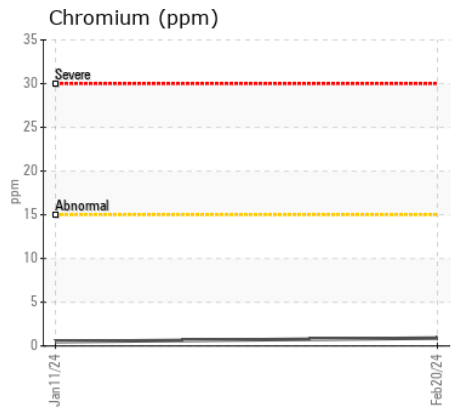
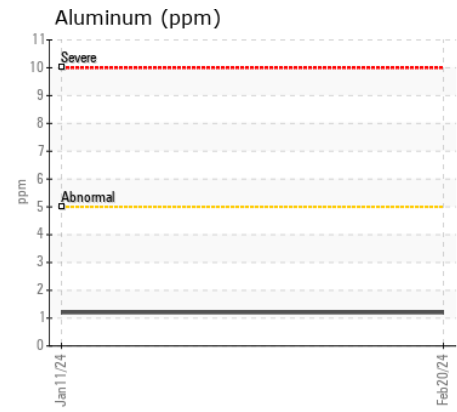
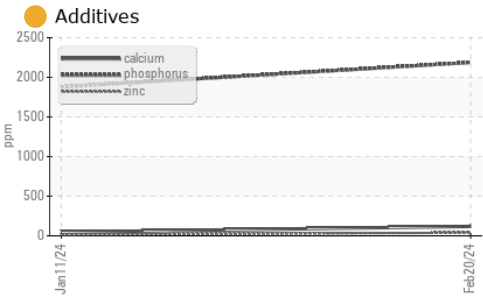
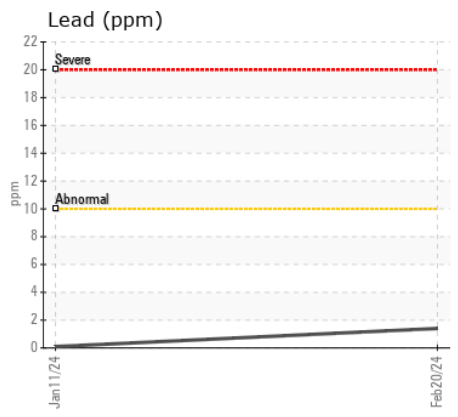
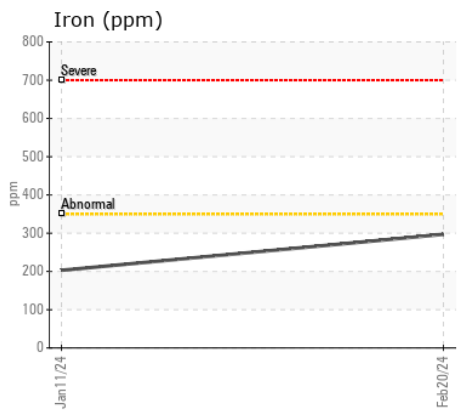
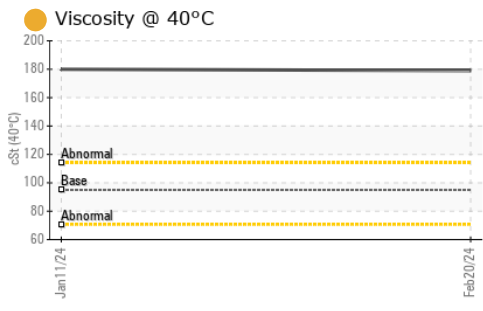
CONTAMINATION

There is no indication of any contamination in the oil.

FLUID CONDITION

The oil viscosity is higher than normal. This plus the additive levels indicates the addition of a different brand, or type of oil. Confirm oil type.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0280575	LH0280564	---
Sample Date		Client Info		20 Feb 2024	11 Jan 2024	---
Machine Age	hrs	Client Info		1022	507	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	Not Changd	---
Filter Changed		Client Info		None	N/A	---
Sample Status				ATTENTION	NORMAL	---
<hr/>						
Iron	ppm	ASTM D5185m	>350	297	203	---
Chromium	ppm	ASTM D5185m	>15	<1	<1	---
Nickel	ppm	ASTM D5185m	>5	0	<1	---
Titanium	ppm	ASTM D5185m		0	0	---
Silver	ppm	ASTM D5185m		0	0	---
Aluminum	ppm	ASTM D5185m	>5	1	1	---
Lead	ppm	ASTM D5185m	>10	1	<1	---
Copper	ppm	ASTM D5185m	>300	119	67	---
Tin	ppm	ASTM D5185m	>15	8	5	---
Vanadium	ppm	ASTM D5185m		<1	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---
<hr/>						
Silicon	ppm	ASTM D5185m	>15	7	5	---
Potassium	ppm	ASTM D5185m	>20	<1	2	---
Water		WC Method	>0.2	NEG	NEG	---
Silt	scalar	*Visual	NONE	LIGHT	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	---
<hr/>						
Sodium	ppm	ASTM D5185m		3	4	---
Boron	ppm	ASTM D5185m		6	5	---
Barium	ppm	ASTM D5185m		3	4	---
Molybdenum	ppm	ASTM D5185m		0	0	---
Manganese	ppm	ASTM D5185m		2	2	---
Magnesium	ppm	ASTM D5185m		<1	2	---
Calcium	ppm	ASTM D5185m		119	46	---
Phosphorus	ppm	ASTM D5185m		2188	1879	---
Zinc	ppm	ASTM D5185m		39	16	---
Sulfur	ppm	ASTM D5185m		23842	21786	---
Visc @ 40°C	cSt	ASTM D445	95.0	179	180	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0280575
Lab Number : 06100516
Unique Number : 10898746
Test Package : MOBCE
Received : 26 Feb 2024
Tested : 27 Feb 2024
Diagnosed : 28 Feb 2024 - Don Baldrige

KINDER MORGAN
 4301 IVERSON
 TRINITY, AL
 US 35601
 Contact: CHIP OAKES

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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