

Area

WEAR **ABNORMAL** CONTAMINATION **ABNORMAL** NORMAL FLUID CONDITION

## [MH-11]

LIEBHERR LH-60 MH11 (S/N 1212-92011)

Swing Drive

DURALENE Posi-Traction 80W90 (11 LTR)

RECOMMENDATION

We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

**WEAR** 

Gear wear is indicated.

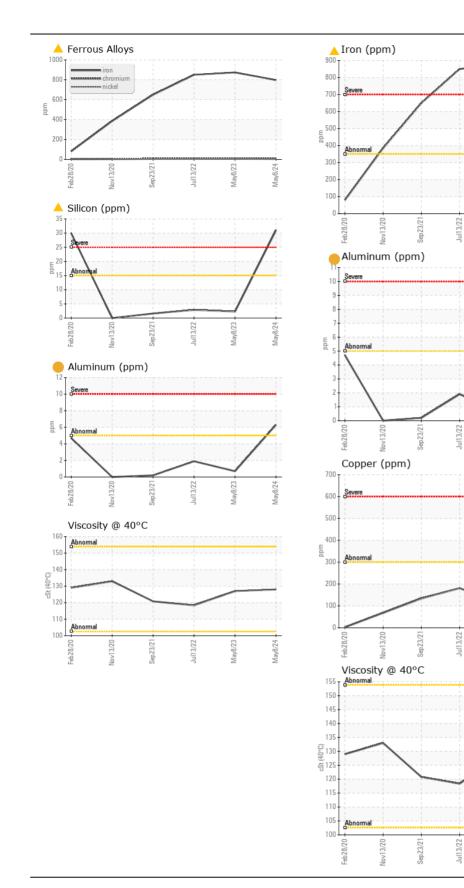
## CONTAMINATION

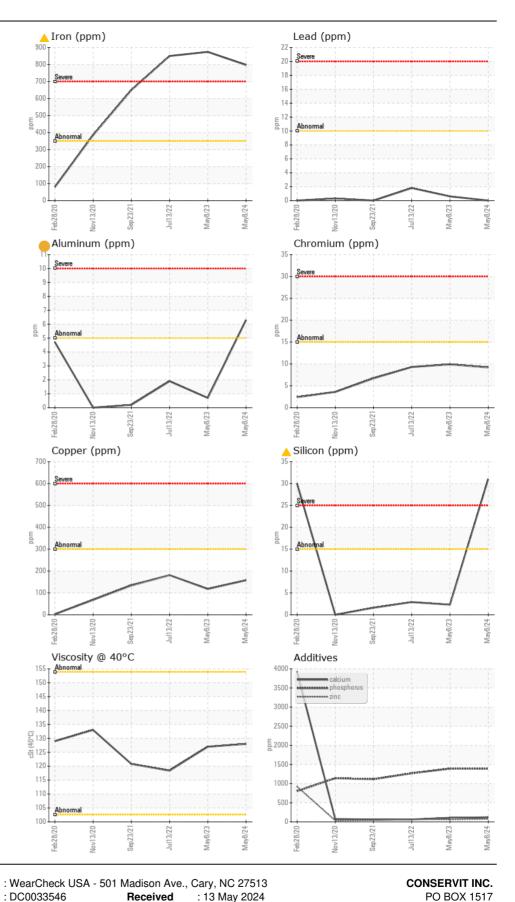
Elemental levels of silicon (Si) and aluminum (AI) indicate aluminasilicate (coarse dirt) ingress.

## **FLUID CONDITION**

The condition of the oil is acceptable for the time in service.

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Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DC0033546	DC0021534	DC0021505
Sample Date		Client Info		08 May 2024	08 May 2023	13 Jul 2022
Machine Age	hrs	Client Info		11359	9696	8362
Oil Age	hrs	Client Info		1663	1334	1000
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>350	A 797	▲ 874	▲ 850
Chromium	ppm	ASTM D5185m	>15	9	10	9
Nickel	ppm	ASTM D5185m	>5	2	4	3
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	_	0	0	2
Aluminum	ppm	ASTM D5185m	>5	6	<1	2
Lead	ppm	ASTM D5185m	>10	0	<1	2
Copper	ppm	ASTM D5185m	>300	158	118	181
Tin	ppm	ASTM D5185m	>15	2	2	3
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>15	<b>4</b> 31	2	3
Potassium	ppm	ASTM D5185m	>20	3	2	0
Water		WC Method	>0.2	NEG	NEG	NEG
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 scalar	*Visual *Visual	NORML >0.2			NORML NEG
Emulsified Water Sodium				NORML	NORML	
	scalar ppm	*Visual		NORML	NORML NEG	NEG
Sodium	scalar	*Visual ASTM D5185m		NORML NEG 2	NORML NEG 1	NEG <1
Sodium Boron	scalar ppm ppm	*Visual ASTM D5185m ASTM D5185m		NORML NEG 2 102	NORML NEG 1 107	NEG <1 54
Sodium Boron Barium	scalar ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m ASTM D5185m		NORML NEG 2 102 1	NORML NEG 1 107 0	NEG <1 54 0
Sodium Boron Barium Molybdenum	scalar ppm ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		NORML NEG 2 102 1 0	NORML NEG 1 107 0 3	NEG <1 54 0 2
Sodium Boron Barium Molybdenum Manganese	scalar ppm ppm ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		NORML NEG 2 102 1 0 6	NORML NEG 1 107 0 3 6	NEG <1 54 0 2 5
Sodium Boron Barium Molybdenum Manganese Magnesium	scalar ppm ppm ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		NORML NEG 2 102 1 0 6 27	NORML NEG 1 107 0 3 6 18	NEG <1 54 0 2 5 16
Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	scalar ppm ppm ppm ppm ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		NORML NEG 2 102 1 0 6 27 119	NORML NEG 1 107 0 3 6 18 18	NEG <1 54 0 2 5 16 63
Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	scalar ppm ppm ppm ppm ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		NORML NEG 2 102 1 0 6 27 119 1389	NORML NEG 1 107 0 3 6 18 105 1391	NEG <1 54 0 2 5 16 63 1269
Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	scalar ppm ppm ppm ppm ppm ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		NORML NEG 2 102 1 0 6 27 119 1389 75	NORML NEG 1 107 0 3 6 18 105 1391 60	NEG <1 54 0 2 5 16 63 1269 71





Sample No. : DC0033546 Received : 13 May 2024 Lab Number : 06177956 HAGERSTOWN, MD Tested : 14 May 2024 : 15 May 2024 - Sean Felton Unique Number : 11029282 Diagnosed Test Package : MOB 1 Contact: DON LONG 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. T: (301)791-0100

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Laboratory

Submitted By: DON LONG Page 2 of 2

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