LIEBHERR

OIL ANALYSIS REPORT

Sample Rating Trend





LIEBHERR LH50M 110225-1216

Component

Swing Drive
Fluid

GEAR OIL SAE 80W90 (--- GAL)

DIAGNOSIS

Recommendation

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

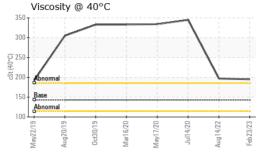
Fluid Condition

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

(GAL)		May2019 Aug2019 Oct2019 Mar2020 May2020 Jul2020 Aug2022 Feb2023							
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2			
Sample Number		Client Info		LH05776956	LH05617410	LHMC163630			
Sample Date		Client Info		23 Feb 2023	14 Jul 2020				
Machine Age	hrs	Client Info		11995	2023 14 Aug 2022 14 Ju 11011 7927				
Oil Age	hrs	Client Info		0	0	0			
Oil Changed		Client Info		Changed	Changed	Changed			
Sample Status				NORMAL	NORMAL	NORMAL			
WEAR METALS		method	limit/base	current	history1	history2			
Iron	ppm	ASTM D5185m	>1450	282	108	28			
Chromium	ppm	ASTM D5185m	>11	3	<1	<1			
Nickel	ppm	ASTM D5185m	>3	<1	0	0			
Titanium	ppm	ASTM D5185m		0	0	0			
Silver	ppm	ASTM D5185m		<1	<1	<1			
Aluminum	ppm	ASTM D5185m	>4	1	1	0			
Lead	ppm	ASTM D5185m	>4	0	0	0			
Copper	ppm	ASTM D5185m	>542	54	30	8			
Tin	ppm		>38	5	<1	0			
Antimony	ppm	ASTM D5185m	>5			0			
Vanadium	ppm	ASTM D5185m		0	0	0			
Cadmium	ppm	ASTM D5185m		0	0	0			
ADDITIVES		method	limit/base	current	history1	history2			
Boron	ppm	ASTM D5185m	400	3	10	147			
Barium	ppm	ASTM D5185m	200	<1	2	0			
Molybdenum	ppm	ASTM D5185m	12	<1	<1	0			
Manganese	ppm	ASTM D5185m		2	1	<1			
Magnesium	ppm	ASTM D5185m	12	<1	<1	2			
Calcium	ppm	ASTM D5185m	150	10	15	4			
Phosphorus	ppm	ASTM D5185m	1650	2099	2233	816			
Zinc	ppm	ASTM D5185m	125	18	17	11			
Sulfur	ppm	ASTM D5185m	22500	31508	27829	11230			
CONTAMINANTS		method	limit/base	current	history1	history2			
Silicon	ppm	ASTM D5185m	>15	1	3	<1			
Sodium	ppm	ASTM D5185m	>170	2	<1	0			
Potassium	ppm	ASTM D5185m	>20	<1	<1	<1			
VISUAL		method	limit/base	current	history1	history2			
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE			
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE			
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE			
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	0.2%	NEG			
Free Water	scalar	*Visual		NEG	NEG	NEG			

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OIL ANALYSIS REPORT



FLUID PROPERTIES		method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	143	195	197	345	
SAMPLE IMAGI	ES	method	limit/base	current	history1	history2	
Color				no image	no image	no image	
Bottom				no image	no image	no image	
GRAPHS							

GRAPHS Iron (ppm) S00 T Severe				Lead (pp	m)			
Severe Severe				10 T :				
000				8 - Severe				
500 Abnormal	-			Abnormal				
000				4+0				
500				2				
May22/19 -	Mar16/20 - May17/20 -	Jul14/20 -	Feb23/23 -	May22/19	Oct30/19	Mar1 6/20 -	Jul14/20	Aug14/22.
	Mar May	Jul	Feb			May	lπ	Aug
Aluminum (ppm)				Chromiur 25 T 3 3	n (ppm)			
6 - Severe	 			20 - Severe		-		
Abnormal				Abnormal				
3				Abnormal				
1				5				
0 10 10 10 10 10 10 10 10 10 10 10 10 10	/20	720	123	0 49	119	/20	/20	722
May22/19 Aug20/19 Oct30/19	Mar16/20 -	Jul14/20 Aug14/22	Feb23/23	May22/19 Aug20/19	Oct30/19	Mar16/20	Jul14/20	Aug14/22
Copper (ppm)				Silicon (p	pm)			
Severe Severe				Severe				
600 - Abnormal				20				
100				Abnormal				
200				5				
				0				_
May22/19 Aug20/19 Oct30/19	Mar16/20 May17/20	Jul14/20 Aug14/22	Feb23/23	May22/19 Aug20/19	Oct30/19	May17/20	Jul14/20	Aug14/22 .
∑ ₹ ŏ Viscosity @ 40°C	M M	Ju Au	프	≅ ₹ Additives	ŏ :	M ₅	ō	Au
VISCOSITY @ 40°C		_		2500				
300				2000 + management ph				1
250 - Abnormal		\		1500 Zin	c			
				1500	STATE STREET, SQUARE,	Description of Sec.	_/	
150 Base Abnormal				500				
100	720+	720 +	73	0 6 6	19	. 02/	- 02/	722
1ay22/19 mg20/19 0ct30/19	//ar16/20 //ay17/20	Jul14/20 ·	-eb23/23	1ay22/19 wg20/19	Oct30/19	//ar16/20 //ay17/20	Jul14/20	/ug14/22





Laboratory Sample No. Lab Number Unique Number : 10351573 Test Package : MOB 1

: LH05776956 : 05776956

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 24 Feb 2023 Diagnosed : 27 Feb 2023

Diagnostician : Wes Davis

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)

VERSO CORP - QUINNESEC MILL

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