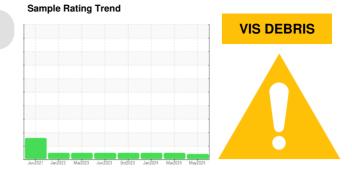


## **OIL ANALYSIS REPORT**





Machine Id 120556-1216 LIEBHERR LH50M 120556-1216 Component Swing Drive

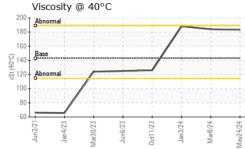
GEAR OIL SAE 80W90 (--- GAL)

	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Recommendation	Sample Number		Client Info		DJJ0022478	DJJ0022505	DJJ0022512
No corrective action is recommended at this time.	Sample Date		Client Info		24 May 2024	08 Mar 2024	03 Jan 2024
Resample at the next service interval to monitor.	Machine Age	hrs	Client Info		9944	9578	9096
Wear	Oil Age	hrs	Client Info		0	0	500
All component wear rates are normal.	Oil Changed		Client Info		N/A	N/A	N/A
Contamination	Sample Status				ABNORMAL	NORMAL	NORMAL
Moderate concentration of visible dirt/debris present in the oil.	CONTAMINATION	١	method	limit/base	current	history1	history2
Fluid Condition	Water		WC Method	>0.2	NEG	NEG	NEG
The condition of the oil is acceptable for the time in service.	WEAR METALS		method	limit/base	current	history1	history2
service.	Iron	ppm	ASTM D5185m	>1200	495	505	457
	Chromium	ppm	ASTM D5185m	>15	4	4	3
	Nickel	ppm	ASTM D5185m	>5	<1	<1	<1
	Titanium	ppm	ASTM D5185m	>5	<1	0	<1
	Silver	ppm	ASTM D5185m		0	0	0
	Aluminum	ppm	ASTM D5185m	>5	2	2	2
	Lead	ppm	ASTM D5185m	>8	0	0	0
	Copper	ppm	ASTM D5185m	>325	62	75	78
	Tin	ppm	ASTM D5185m	>15	2	2	2
	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	31	27	20
	Barium	ppm	ASTM D5185m	200	0	0	0
	Molybdenum	ppm	ASTM D5185m	12	0	<1	<1
	Manganese	ppm	ASTM D5185m		4	4	4
	Magnesium	ppm	ASTM D5185m	12	5	4	3
						4	
	Calcium	ppm	ASTM D5185m	150	23	39	46
	-	ppm ppm		150 1650	23 2219		
	Calcium			1650		39	46
	Calcium Phosphorus	ppm	ASTM D5185m	1650 125	2219	39 1982	46 2265
	Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m	1650 125	2219 36	39 1982 39	46 2265 10
	Calcium Phosphorus Zinc Sulfur	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1650 125 22500 limit/base	2219 36 25903	39 1982 39 27552	46 2265 10 29572
	Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m method	1650 125 22500 limit/base >10	2219 36 25903 current	39 1982 39 27552 history1	46 2265 10 29572 history2
	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	1650 125 22500 limit/base >10 >170	2219 36 25903 current 4	39 1982 39 27552 history1 2	46 2265 10 29572 history2 2
	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	1650 125 22500 limit/base >10 >170	2219 36 25903 current 4 0	39 1982 39 27552 history1 2 <1	46 2265 10 29572 history2 2 0 2
	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	1650 125 22500 limit/base >10 >170 >20	2219 36 25903 current 4 0 2	39 1982 39 27552 history1 2 <1 1	46 2265 10 29572 history2 2 0 2
	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL	ppm ppm ppm ppm ppm ppm scalar	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	1650 125 22500 limit/base >10 >170 >20 limit/base	2219 36 25903 current 4 0 2 2 current	39 1982 39 27552 history1 2 <1 1 history1	46 2265 10 29572 history2 2 0 2 2 history2
	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal	ppm ppm ppm ppm ppm ppm scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual	1650 125 22500 iimit/base >10 >170 >20 iimit/base NONE	2219 36 25903 current 4 0 2 2 current NONE	39 1982 39 27552 history1 2 <1 1 1 history1 NONE	46 2265 10 29572 history2 2 0 2 2 history2 NONE
	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal	ppm ppm ppm ppm ppm ppm scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> *Visual	1650 125 22500 Iimit/base >10 >170 >20 Iimit/base NONE NONE	2219 36 25903 current 4 0 2 2 current NONE NONE	39 1982 39 27552 history1 2 <1 1 1 history1 NONE NONE	46 2265 10 29572 history2 2 0 2 0 2 history2 NONE NONE
	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate	ppm ppm ppm ppm ppm ppm scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual	1650 125 22500 limit/base >10 >170 >20 limit/base NONE NONE NONE	2219 36 25903 current 4 0 2 2 current NONE NONE NONE NONE	39 1982 39 27552 history1 2 <1 1 1 history1 NONE NONE NONE NONE	46 2265 10 29572 <u>history2</u> 2 0 2 0 2 <u>history2</u> NONE NONE NONE NONE
	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt	ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual	1650 125 22500 >10 >170 >20 limit/base NONE NONE NONE NONE	2219 36 25903 current 4 0 2 2 current NONE NONE NONE NONE NONE	39 1982 39 27552 history1 2 <1 1 1 <u>history1</u> NONE NONE NONE NONE LIGHT	46 2265 10 29572 <u>history2</u> 2 0 2 <u>history2</u> NONE NONE NONE NONE NONE
	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris	ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual	1650 125 22500 >10 >170 >20 limit/base NONE NONE NONE NONE NONE NONE	2219 36 25903 current 4 0 2 2 current NONE NONE NONE NONE NONE NONE	39 1982 39 27552 history1 2 <1 1 NONE NONE NONE NONE LIGHT NONE	46 2265 10 29572 2 0 2 0 2 NONE NONE NONE NONE NONE NONE NONE NO
	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt	ppm ppm ppm ppm ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual	1650 125 22500 imit/base >10 >170 >20 imit/base NONE NONE NONE NONE NONE NONE NONE	2219 36 25903 current 4 0 2 2 current NONE NONE NONE NONE NONE NONE NONE NON	39 1982 39 27552 history1 2 <1 1 1 NONE NONE NONE LIGHT NONE LIGHT NONE NONE	46 2265 10 29572 history2 2 0 2 0 2 2 NONE NONE NONE NONE NONE NONE NONE
	Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance	ppm ppm ppm ppm ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	1650 125 22500 >10 >170 >20 limit/base NONE NONE NONE NONE NONE NONE NONE NON	2219 36 25903 current 4 0 2 2 current NONE NONE NONE NONE NONE NONE NONE NON	39 1982 39 27552 history1 2 <1 1 NONE NONE NONE LIGHT NONE NONE NONE NONE NONE NONE	46 2265 10 29572 2 0 2 2 0 2 2 NONE NONE NONE NONE NONE NONE NONE

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## **OIL ANALYSIS REPORT**



	FLUID PROPER	TIES	method	limit/base	current	history1	history2
	Visc @ 40°C	cSt	ASTM D445	143	183	184	188
	SAMPLE IMAGE	S	method	limit/base	current	history1	history2
	Color				no image	no image	no image
Mar8/24	Bottom				no image	no image	no image
	GRAPHS Ferrous Alloys						
	Soo	Jun6/23 Jun6/23 Oct 1/23 Oct 1/23 Oct 1/23	Jan3/24 Jan3/24 Jan3/24 Mar8/2/24 Mar8/24 Mar8/2	May24/24 May24/24 May24/24			
Laboratory Sample No. Lab Number Unique Number Test Package		01 Madiso Recei Teste Diagn	ved : 20 d : 21	, NC 27513 Jun 2024 Jun 2024 Jun 2024 - Dor			DECATUR FACILITY /ERSON BLVD TRINITY, AL US 35673 NRY BARBER



Certificate L2367

\* - 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) Report Id: RIVTRI [WUSCAR] 06216186 (Generated: 06/23/2024 14:42:21) Rev: 1 Contact/Location: LAI

Test Package : CONST

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Contact/Location: LARRY BARBER - RIVTRI

T:

F:

Contact: LARRY BARBER

larry.barber@rmrecycling.com