



Area [CLEVELAND CLIFF] Machine Id LIEBHERR LH60M 119014-1217 Component Front Differential

LIEBHERR GEAR BASIC 90 LS (--- GAL)

RECOMMENDATION	
Resample at the next service interval	to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

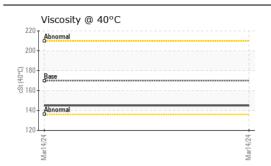
There is no indication of any contamination in the oil.

FLUID CONDITION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0258931		
Sample Date		Client Info		14 Mar 2024		
Machine Age	hrs	Client Info		2268		
Oil Age	hrs	Client Info		1000		
Filter Age	hrs	Client Info		0		
Oil Changed		Client Info		Changed		
Filter Changed		Client Info		N/A		
Sample Status				NORMAL		
Iron	ppm	ASTM D5185m	>150	16		
Chromium	ppm	ASTM D5185m	>5	0		
Nickel	ppm	ASTM D5185m	>10	0		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m		0		
Aluminum	ppm	ASTM D5185m	>5	0		
Lead	ppm	ASTM D5185m	>5	0		
Copper	ppm	ASTM D5185m	>125	9		
Tin	ppm	ASTM D5185m	>5	0		
Vanadium	ppm	ASTM D5185m		0		
White Metal	scalar	*Visual	NONE	NONE		
White Metal Yellow Metal	scalar scalar	*Visual *Visual	NONE NONE	NONE NONE		
	scalar		-	-		
Yellow Metal	scalar ppm	*Visual	NONE	NONE		
Yellow Metal Silicon	scalar	*Visual ASTM D5185m	NONE	NONE		
Yellow Metal Silicon Potassium	scalar ppm	*Visual ASTM D5185m ASTM D5185m	NONE >20 >20	NONE 1 0		
Yellow Metal Silicon Potassium Water	scalar ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method	NONE >20 >20 >0.2	NONE 1 0 NEG		
Yellow Metal Silicon Potassium Water Silt	scalar ppm ppm scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual	NONE >20 >20 >0.2 NONE	NONE 1 0 NEG NONE		
Yellow Metal Silicon Potassium Water Silt Debris	scalar ppm ppm scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual	NONE >20 >20 >0.2 NONE NONE	NONE 1 0 NEG NONE NONE	 	
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt	scalar ppm ppm scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual	NONE >20 >20 >0.2 NONE NONE NONE	NONE 1 0 NEG NONE NONE NONE	 	
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance	scalar ppm ppm scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual	NONE >20 >20 >0.2 NONE NONE NONE NORML	NONE 1 0 NEG NONE NONE NONE		
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor	scalar ppm ppm scalar scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual	NONE >20 >20 >0.2 NONE NONE NORML NORML	NONE 1 0 NEG NONE NONE NONE NONE NORML NORML		
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor	scalar ppm ppm scalar scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	NONE >20 >20 >0.2 NONE NONE NORML NORML	NONE 1 0 NEG NONE NONE NONE NONE NORML NORML		
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	scalar ppm ppm scalar scalar scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	NONE >20 >20 >0.2 NONE NONE NORML NORML	NONE 1 0 NEG NONE NONE NONE NORML NORML NEG		
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	scalar ppm ppm scalar scalar scalar scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	NONE >20 >0.2 NONE NONE NONE NORML NORML >0.2	NONE 1 0 NEG NONE NONE NONE NORML NORML NEG 1		
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	scalar ppm ppm scalar scalar scalar scalar scalar scalar ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	NONE >20 >0.2 NONE NORME NORML >0.2	NONE 1 0 NEG NONE NONE NORML NORML NEG 1		
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	scalar ppm ppm scalar scalar scalar scalar scalar scalar ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	NONE >20 >0.2 NONE NONE NORML NORML >0.2	NONE 1 0 NEG NONE NONE NORML NORML NEG 1		
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	scalar ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	NONE >20 >0.2 NONE NONE NONE NORML >0.2	NONE 1 0 NEG NONE NONE NONE NORML NORML NEG 1		
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	NONE >20 >0.2 NONE NONE NORML NORML >0.2	NONE 1 0 NEG NONE NONE NORML NORML NEG 1		
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	NONE >20 >0.2 NONE NONE NORML NORML >0.2 0 0 0 0 0 0 0 0	NONE 1 0 NEG NONE NONE NONE NORML NORML NEG 1		
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	NONE >20 >20 NONE NONE NONE NONE NORL >0.2	NONE 1 0 NEG NONE NONE NONE NORML NORML NEG 1 1 46 0 0 0 0 6		Image: Control of the sector of the secto
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	NONE >20 >0.2 NONE NONE NORML NORML >0.2 0 0 0 0 0 1 0 2 1 2 143	NONE 1 0 NEG NONE NONE NORML NORML NEG 1 1 46 0 0 0 0 6 6 698		

Contact/Location: TROY MILLER - LEC0033



Ferrous Alloys 16 15 14 nickel 13 12 10 C 0 NC/1 Mar14/24 Var' Non-ferrous Metals 10 maa Mar14/24 Mar14/24 Viscosity @ 40°C 215 210 205 200 195 190 185 () 2000 175 ^ਲੋਂ 170 165 160 155 150 145 140 135 Mar14/24 47 Mar1



FINKBINER EQUIPMENT CO. Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. Received 15 W 400 N FRONTAGE RD : LH0258931 : 11 Apr 2024 Lab Number : 06146824 Tested BURR RIDGE, IL : 12 Apr 2024 Unique Number : 10976902 Diagnosed : 15 Apr 2024 - Sean Felton US 60527 Test Package : CONST Contact: TROY MILLER Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. tmiller@finkbiner.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (630)654-3700 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (630)654-3792

Contact/Location: TROY MILLER - LEC0033 Page 2 of 2