

#### Machine Id LIEBHERR LR 1600/2 CR 6606 (S/N 074 509) Component Gearbox Fluid GEAR OIL ISO 220 (--- GAL)

# RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

### **WEAR**

All component wear rates are normal.

### CONTAMINATION

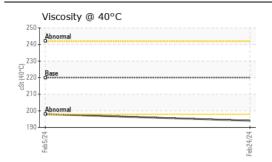
There is no indication of any contamination in the oil.

## 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		WC0823367	WC0873445	
Sample Date		Client Info		24 Feb 2024	05 Feb 2024	
Machine Age	hrs	Client Info		17237	17237	
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		Not Changd	Not Changd	
Sample Status				NORMAL	NORMAL	
Iron			. 000	E 4	04	
Iron	ppm	ASTM D5185m	>200	51	81	
Chromium	ppm	ASTM D5185m	>10	<1	<1	
Nickel	ppm	ASTM D5185m	>10	<1	0	
Titanium	ppm	ASTM D5185m		<1	0	
Silver	ppm	ASTM D5185m	. 05	0	0	
Aluminum	ppm	ASTM D5185m	>25	5	8	
Lead	ppm	ASTM D5185m	>50	<1	0	
Copper	ppm	ASTM D5185m	>200	3	1	
Tin	ppm	ASTM D5185m	>10	<1	<1	
Vanadium	ppm	ASTM D5185m	NONE	<1	0	
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Silicon	ppm	ASTM D5185m	>50	6	7	
Silicon Potassium	ppm ppm	ASTM D5185m ASTM D5185m	>50 >20			
				6	7	
Potassium		ASTM D5185m	>20	6 2	7 0	
Potassium Water	ppm	ASTM D5185m WC Method	>20 >0.2	6 2 NEG	7 0 NEG	
Potassium Water Silt	ppm scalar	ASTM D5185m WC Method *Visual	>20 >0.2 NONE	6 2 NEG NONE	7 0 NEG NONE	
Potassium Water Silt Debris	ppm scalar scalar	ASTM D5185m WC Method *Visual *Visual	>20 >0.2 NONE NONE	6 2 NEG NONE NONE	7 0 NEG NONE LIGHT	
Potassium Water Silt Debris Sand/Dirt	ppm scalar scalar scalar	ASTM D5185m WC Method *Visual *Visual *Visual	>20 >0.2 NONE NONE NONE	6 2 NEG NONE NONE NONE	7 0 NEG NONE LIGHT NONE	
Potassium Water Silt Debris Sand/Dirt Appearance	ppm scalar scalar scalar scalar	ASTM D5185m WC Method *Visual *Visual *Visual *Visual	>20 >0.2 NONE NONE NONE	6 2 NEG NONE NONE NONE NORML	7 0 NEG NONE LIGHT NONE NORML	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water	ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual	>20 >0.2 NONE NONE NORML NORML	6 2 NEG NONE NONE NORE NORML NORML NEG	7 0 NEG NONE LIGHT NONE NORML NORML NEG	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	ppm scalar scalar scalar scalar scalar scalar ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>20 >0.2 NONE NONE NORML NORML >0.2	6 2 NEG NONE NONE NORML NORML NEG 0	7 0 NEG NONE LIGHT NORML NORML NEG 0	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	ppm scalar scalar scalar scalar scalar scalar ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	<ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORML</li> <li>&gt;0.2</li> <li>50</li> </ul>	6 2 NEG NONE NONE NORML NORML NEG 0 15	7 0 NEG NONE LIGHT NORML NORML NORML NEG 0 12	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	ppm scalar scalar scalar scalar scalar scalar ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	<ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>&gt;0.2</li> <li>50</li> <li>15</li> </ul>	6 2 NEG NONE NONE NORML NORML NEG 0 15 1	7 0 NEG NONE LIGHT NONE NORML NORML NEG 0 12 <1	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum	ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	<ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORML</li> <li>&gt;0.2</li> <li>50</li> </ul>	6 2 NEG NONE NONE NORML NORML NEG 0 15 1 1	7 0 NEG NONE LIGHT NORML NORML NEG 0 12 <1 0	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	ppm scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	<ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORME</li> <li>NORML</li> <li>&gt;0.2</li> <li>50</li> <li>15</li> <li>15</li> </ul>	6 2 NEG NONE NONE NORML NORML NEG 0 15 1 1 1 1	7 0 NEG NONE LIGHT NORML NORML NEG 0 12 <1 0 <1	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	<ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>&gt;0.2</li> <li>50</li> <li>15</li> <li>15</li> <li>50</li> </ul>	6 2 NEG NONE NONE NORML NORML NEG 0 15 1 1 1 1 1 2	7 0 NEG NONE LIGHT NONE NORML NORML NEG 0 12 <1 0 <1 0 <1 0	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Malybdenum Manganese Magnesium Calcium	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	<ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>&gt;0.2</li> <li>50</li> <li>15</li> <li>50</li> <li>50</li> <li>50</li> <li>50</li> </ul>	6 2 NEG NONE NONE NORML NORML NEG 0 15 1 1 1 1 1 2 13	7 0 NEG NONE LIGHT NORML NORML NORML NEG 0 12 <1 0 <1 0 <1 0 8	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Barium Malybdenum Manganese Magnesium Calcium	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	<ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORME</li> <li>NORML</li> <li>&gt;0.2</li> <li>50</li> <li>15</li> <li>15</li> <li>50</li> <li>50</li> <li>50</li> <li>50</li> <li>350</li> </ul>	6 2 NEG NONE NONE NORML NORML NEG 0 15 1 1 1 1 1 2 13 202	7 0 NEG NONE LIGHT NORML NORML NEG 0 12 <1 0 <1 0 <1 0 <1 0 8 193	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Boron Barium Malybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	<ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>&gt;0.2</li> <li>50</li> <li>15</li> <li>15</li> <li>50</li> <li>50</li> <li>50</li> <li>350</li> <li>100</li> </ul>	6 2 NEG NONE NONE NORML NORML NEG 0 15 1 1 1 1 1 2 1 3 202 7	7 0 NEG NONE LIGHT NONE NORML NORML NEG 0 12 <1 0 <1 0 <1 0 <1 0 8 193	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Barium Malybdenum Manganese Magnesium Calcium	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	<ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORME</li> <li>NORML</li> <li>&gt;0.2</li> <li>50</li> <li>15</li> <li>15</li> <li>50</li> <li>50</li> <li>50</li> <li>50</li> <li>350</li> </ul>	6 2 NEG NONE NONE NORML NORML NEG 0 15 1 1 1 1 1 2 1 3 202	7 0 NEG NONE LIGHT NORML NORML NEG 0 12 <1 0 <1 0 <1 0 <1 0 8 193	

Contact/Location: MICHAEL LAWSON - BUCGRA





**BUCKNER HEAVY LIFT** Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. : WC0823367 Received 4732 NC 54 EAST : 28 Feb 2024 Lab Number : 06103868 : 29 Feb 2024 GRAHAM, NC Tested Unique Number : 10902098 : 29 Feb 2024 - Wes Davis US 27253-9215 Diagnosed Test Package : CONST Contact: MICHAEL LAWSON Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. michaell@bucknercompanies.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (336)376-8888 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (336)376-4090

Contact/Location: MICHAEL LAWSON - BUCGRA

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