

#### Machine Id LIEBHERR LR 1600/2 CR 6606 - 4.1 (S/N 074 509) Component Right Winch 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

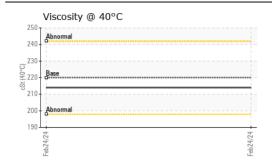
There is no indication of any contamination in the oil.

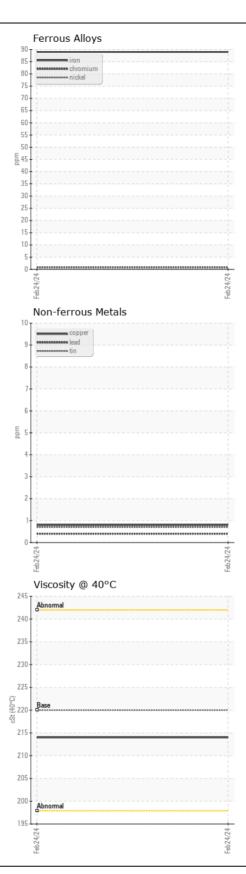
# **FLUID CONDITION**

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0823368		
Sample Date		Client Info		24 Feb 2024		
Machine Age	hrs	Client Info		17237		
Oil Age	hrs	Client Info		0		
Filter Age	hrs	Client Info		0		
Oil Changed		Client Info		Changed		
Filter Changed		Client Info		Not Changd		
Sample Status				NORMAL		
Iron		ASTM D5185m	>150	89		
Chromium	ppm	ASTM D5185m	>10	٥ <del>9</del> <1		
Nickel	ppm	ASTM D5185m	>10	<1 <1		
Titanium	ppm	ASTM D5185m	>10	<1		
Silver	ppm	ASTM D5185m		0		
Aluminum	ppm	ASTM D5185m	>5	1		
Lead	ppm	ASTM D5185m	>0 >15	י <1		
Copper	ppm	ASTM D5185m	>80	<1		
Tin	ppm	ASTM D5185m	>00	<1 <1		
Vanadium	ppm	ASTM D5185m		<1		
White Metal	ppm scalar	*Visual	NONE	NONE		
Yellow Metal	scalar	*Visual	NONE	NONE		
Silicon	ppm	ASTM D5185m	>25	NONE 6		
Silicon	ppm	ASTM D5185m	>25	6		
Silicon Potassium	ppm	ASTM D5185m ASTM D5185m	>25 >20	6 2		
Silicon Potassium Water	ppm ppm	ASTM D5185m ASTM D5185m WC Method	>25 >20 >0.2	6 2 NEG		
Silicon Potassium Water Silt	ppm ppm scalar	ASTM D5185m ASTM D5185m WC Method *Visual	>25 >20 >0.2 NONE	6 2 NEG NONE		    
Silicon Potassium Water Silt Debris	ppm ppm scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual	>25 >20 >0.2 NONE NONE	6 2 NEG NONE NONE		     
Silicon Potassium Water Silt Debris Sand/Dirt	ppm ppm scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual	>25 >20 >0.2 NONE NONE NONE	6 2 NEG NONE NONE NONE		
Silicon Potassium Water Silt Debris Sand/Dirt Appearance	ppm ppm scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual	>25 >20 >0.2 NONE NONE NONE NORML	6 2 NEG NONE NONE NONE NORML		 
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water	ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual	>25 >20 >0.2 NONE NONE NONE NORML NORML	6 2 NEG NONE NONE NORE NORML NEG		    
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>25 >20 >0.2 NONE NONE NORML NORML >0.2	6 2 NEG NONE NONE NORML NORML NEG 0		  
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	ppm ppm scalar scalar scalar scalar scalar scalar gpm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>25 >20 >0.2 NONE NORME NORML >0.2	6 2 NEG NONE NONE NORML NORML NEG 0 6		
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>25 >20 >0.2 NONE NONE NORML NORML >0.2	6 2 NEG NONE NONE NORML NORML NEG 0 6 1		
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	>25 >20 >0.2 NONE NORME NORML >0.2	6 2 NEG NONE NONE NORML NORML NEG 0 6 1 2		
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	ppm ppm scalar scalar scalar scalar scalar gpm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25 >20 >0.2 NONE NORME NORML >0.2 50 15 15	6 2 NEG NONE NONE NORML NORML NEG 0 6 1 2		
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	ppm ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25 >20 >0.2 NONE NONE NORML NORML >0.2 50 15 15	6 2 NEG NONE NONE NORML NORML NEG 0 6 1 <1 2 3		
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Malybdenum Manganese Magnesium	ppm ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25 >20 >0.2 NONE NORML NORML >0.2 50 15 15 50 50 50	6 2 NEG NONE NONE NORML NORML NEG 0 6 1 <1 2 3 11		
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Barium Molybdenum Manganese Magnesium Calcium	ppm ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm	ASTM D5185m 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;25</li> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORML</li> <li>&gt;0.2</li> <li>50</li> <l< th=""><th>6 2 NEG NONE NONE NORML NORML NEG 0 6 1 2 3 11 2 3 11 448</th><th></th><th></th></l<></ul>	6 2 NEG NONE NONE NORML NORML NEG 0 6 1 2 3 11 2 3 11 448		
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25 >20 >0.2 NONE NONE NORML >0.2 50 15 15 50 50 350 100	6 2 NEG NONE NONE NORML NORML NEG 0 6 1 <1 <1 2 3 11 2 3 11 448 28		
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Barium Molybdenum Manganese Magnesium Calcium	ppm ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm	ASTM D5185m 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;25</li> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORML</li> <li>&gt;0.2</li> <li>50</li> <l< th=""><th>6 2 NEG NONE NONE NORML NORML NEG 0 6 1 2 3 11 2 3 11 448</th><th></th><th></th></l<></ul>	6 2 NEG NONE NONE NORML NORML NEG 0 6 1 2 3 11 2 3 11 448		

Contact/Location: MICHAEL LAWSON - BUCGRA



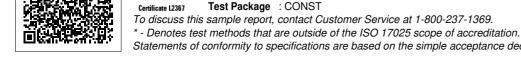


Received

Diagnosed

Tested

**BUCKNER HEAVY LIFT** : WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 28 Feb 2024 4732 NC 54 EAST : 29 Feb 2024 GRAHAM, NC : 29 Feb 2024 - Wes Davis US 27253-9215 Contact: MICHAEL LAWSON michaell@bucknercompanies.com T: (336)376-8888 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (336)376-4090



Certificate L2367

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Laboratory

Sample No.

Lab Number : 06103855

Unique Number : 10902085

: WC0823368

Contact/Location: MICHAEL LAWSON - BUCGRA

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