

# WEAR ATTENTION CONTAMINATION ABNORMAL FLUID CONDITION NORMAL

#### Machine Id CR-6607 - 4.2 Component Right Winch Fluid GEAR OIL ISO 220 (--- GAL)

## RECOMMENDATION

We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

#### **WEAR**

All component wear rates are normal.

### CONTAMINATION

Elemental levels of silicon (Si) and aluminum (Al) indicate aluminasilicate (coarse dirt) ingress.

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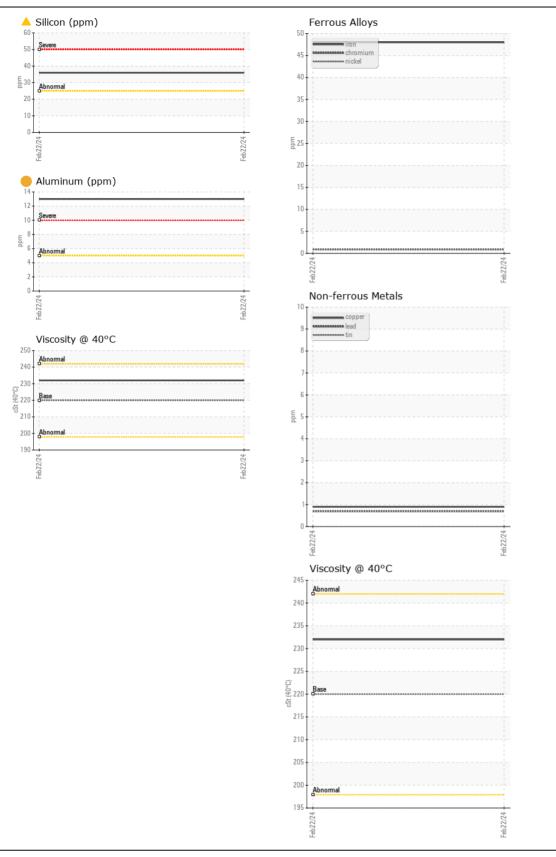
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## FLUID CONDITION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0873328		
Sample Date		Client Info		22 Feb 2024		
Machine Age	mls	Client Info		15138		
Oil Age	mls	Client Info		1397		
Filter Age	mls	Client Info		0		
Oil Changed		Client Info		Changed		
Filter Changed		Client Info		Changed		
Sample Status				ABNORMAL		
			. 150	40		
Iron	ppm	ASTM D5185m	>150	48		
Chromium	ppm	ASTM D5185m	>10	<1		
Nickel	ppm	ASTM D5185m	>10	<1		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	5	0		
Aluminum	ppm	ASTM D5185m	>5	<b>1</b> 3		
Lead	ppm	ASTM D5185m	>15	<1		
Copper	ppm	ASTM D5185m	>80	<1		
Tin	ppm	ASTM D5185m		<1		
Vanadium	ppm	ASTM D5185m		<1		
White Metal	scalar	*Visual	NONE	NONE		
				NONE		
Yellow Metal	scalar	*Visual	NONE	NONE		
Yellow Metal Silicon	scalar ppm	*Visual ASTM D5185m	NONE	NONE 36		
Silicon	ppm	ASTM D5185m	>25	▲ 36		
Silicon Potassium	ppm	ASTM D5185m ASTM D5185m	>25 >20	▲ 36 3		
Silicon Potassium Water	ppm ppm	ASTM D5185m ASTM D5185m WC Method	>25 >20 >0.2	▲ 36 3 NEG		
Silicon Potassium Water Silt	ppm ppm scalar	ASTM D5185m ASTM D5185m WC Method *Visual	>25 >20 >0.2 NONE	A 36 3 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	A 36 3 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	▲ 36 3 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	<ul> <li>36</li> <li>3</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> </ul>		  
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	<ul> <li>36</li> <li>3</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> </ul>		    
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	▲ 36 3 NEG NONE NONE NORE NORML NORML NEG 1		
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	<ul> <li>&gt;25</li> <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> </ul>	<ul> <li>36</li> <li>3</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>1</li> <li>3</li> </ul>		
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	▲ 36 3 NEG NONE NONE NORML NORML NEG 1 3 3		
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	<ul> <li>&gt;25</li> <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> </ul>	▲ 36 3 NEG NONE NONE NORML NORML NEG 1 3 3 1		</th
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual 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>NORME</li> <li>NORML</li> <li>&gt;0.2</li> <li>50</li> <li>15</li> <li>15</li> </ul>	<ul> <li>36</li> <li>3</li> <li>NEG</li> <li>NONE</li> <li>NORE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>1</li> <li>3</li> <li>3</li> <li>1</li> <li>2</li> </ul>		
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 *Visual 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>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> </ul>	<ul> <li>36</li> <li>3</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>1</li> <li>3</li> <li>3</li> <li>1</li> <li>2</li> <li>3</li> </ul>		
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm scalar scalar scalar scalar scalar 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	<ul> <li>&gt;25</li> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>&gt;0.2</li> <li>50</li> <li>50</li> <li>50</li> <li>50</li> <li>50</li> <li>50</li> <li>50</li> <li>50</li> <li>50</li> </ul>	<ul> <li>36</li> <li>3</li> <li>NEG</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>1</li> <li>3</li> <li>3</li> <li>1</li> <li>2</li> <li>3</li> <li>9</li> </ul>		
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm scalar scalar scalar scalar scalar 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	<ul> <li>&gt;25</li> <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>50</li></ul>	<ul> <li>36</li> <li>3</li> <li>NEG</li> <li>NONE</li> <li>NORE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>1</li> <li>3</li> <li>3</li> <li>1</li> <li>2</li> <li>3</li> <li>9</li> <li>133</li> </ul>		
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm scalar scalar scalar scalar scalar 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	<ul> <li>&gt;25</li> <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>50</li> <li>50</li> <li>50</li> <li>50</li> <li>350</li> <li>100</li> </ul>	<ul> <li>36</li> <li>3</li> <li>NEG</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>1</li> <li>3</li> <li>3</li> <li>1</li> <li>2</li> <li>3</li> <li>9</li> <li>133</li> <li>21</li> </ul>		
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm scalar scalar scalar scalar scalar 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	<ul> <li>&gt;25</li> <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>50</li></ul>	<ul> <li>36</li> <li>3</li> <li>NEG</li> <li>NONE</li> <li>NORE</li> <li>NORML</li> <li>NORML</li> <li>NEG</li> <li>1</li> <li>3</li> <li>3</li> <li>1</li> <li>2</li> <li>3</li> <li>9</li> <li>133</li> </ul>		

Contact/Location: MICHAEL LAWSON - BUCGRA



**BUCKNER HEAVY LIFT** Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. : WC0873328 Received : 28 Feb 2024 4732 NC 54 EAST Lab Number : 06103874 GRAHAM, NC Tested : 29 Feb 2024 Unique Number : 10902104 : 01 Mar 2024 - Don Baldridge 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

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