

# [202400970824] Machine Id 10576100 SKIP BEARING LUBE

#### Component Bearing Lube

SHELL OMALA S2 G 220 (--- GAL)

RECOMMENDATION
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Resample at the next service interval to monitor.

### WEAR

All component wear rates are normal.

## CONTAMINATION

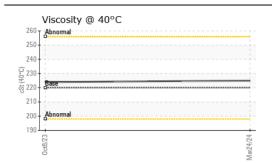
There is no indication of any contamination in the oil.

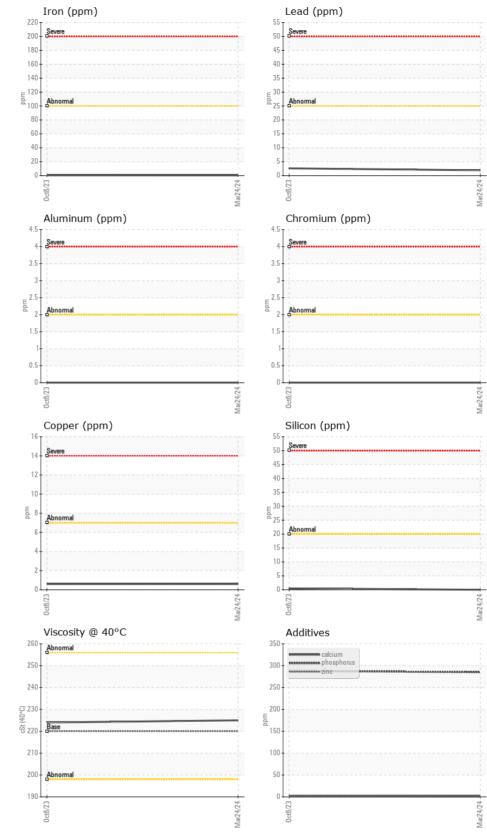
# **FLUID CONDITION**

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0565055	WC0540539	
Sample Date		Client Info		24 Mar 2024	08 Oct 2023	
Machine Age	hrs	Client Info		0	0	
Oil Age	hrs	Client Info		0	0	
Filter Age	hrs	Client Info		0	0	
Oil Changed		Client Info		N/A	N/A	
Filter Changed		Client Info		N/A	N/A	
Sample Status				NORMAL	NORMAL	
			100	 -	4	
Iron	ppm	ASTM D5185(m)	>100	<1	<1	
Chromium	ppm	ASTM D5185(m)	>2	0	0	
Nickel	ppm	ASTM D5185(m)	>2	0	<1	
Titanium Silver	ppm	ASTM D5185(m)		0	0	
	ppm	ASTM D5185(m)	0	0	<1	
Aluminum	ppm	ASTM D5185(m)	>2	0	0	
Lead	ppm	ASTM D5185(m)	>25	2	3	
Copper	ppm	ASTM D5185(m)	>7	<1	<1	
Tin	ppm	ASTM D5185(m)	>10	8	7	
Vanadium	ppm	ASTM D5185(m)	NONE	0	0	
White Metal	scalar	Visual*	NONE	NONE	NONE	
Yellow Metal	scalar					
	Scalai	Visual*	NONE	NONE	NONE	
Silicon	ppm	ASTM D5185(m)	>20	0	<1	
Silicon	ppm	ASTM D5185(m)	>20	0	<1	
Silicon Potassium	ppm	ASTM D5185(m) ASTM D5185(m)	>20 >20	0 <1	<1 0	
Silicon Potassium Water	ppm ppm	ASTM D5185(m) ASTM D5185(m) WC Method	>20 >20 >20 >0.1	0 <1 NEG	<1 0 NEG	
Silicon Potassium Water Silt	ppm ppm scalar	ASTM D5185(m) ASTM D5185(m) WC Method Visual*	>20 >20 >0.1 NONE	0 <1 NEG NONE	<1 0 NEG NONE	  
Silicon Potassium Water Silt Debris	ppm ppm scalar scalar	ASTM D5185(m) ASTM D5185(m) WC Method Visual* Visual*	>20 >20 >0.1 NONE NONE	0 <1 NEG NONE NONE	<1 0 NEG NONE VLITE	  
Silicon Potassium Water Silt Debris Sand/Dirt	ppm ppm scalar scalar scalar	ASTM D5185(m) ASTM D5185(m) WC Method Visual* Visual* Visual*	>20 >20 >0.1 NONE NONE NONE	0 <1 NEG NONE NONE NONE	<1 0 NEG NONE VLITE NONE	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance	ppm ppm scalar scalar scalar scalar	ASTM D5185(m) ASTM D5185(m) WC Method Visual* Visual* Visual* Visual*	>20 >20 >0.1 NONE NONE NONE NORML	0 <1 NEG NONE NONE NONE NORML	<1 0 NEG NONE VLITE NONE NORML	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water	ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185(m) ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* Visual*	>20 >20 >0.1 NONE NONE NONE NORML	0 <1 NEG NONE NONE NORML NORML NEG	<1 0 NEG NONE VLITE NONE NORML NEG	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185(m) ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* Visual* Visual*	>20 >20 >0.1 NONE NONE NORML NORML >0.1	0 <1 NEG NONE NONE NORML NORML NEG <1	<1 0 NEG NONE VLITE 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 gppm	ASTM D5185(m) ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m)	>20 >20 >0.1 NONE NORME NORML >0.1	0 <1 NEG NONE NONE NORML NORML NEG <1 1	<1 0 NEG NONE VLITE NORML NORML NEG <1 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 D5185(m) ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m)	>20 >20 >0.1 NONE NONE NORML NORML >0.1	0 <1 NEG NONE NONE NORML NORML NEG <1 1 0	<1 0 NEG NONE VLITE NONE NORML NORML NEG <1 1 1	
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	ASTM D5185(m) ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20 >20 >0.1 NONE NORME NORML >0.1	0 <1 NEG NONE NONE NORML NORML NEG <1 1 0 0	<1 0 NEG NONE VLITE NORML NORML NEG <1 1 1 <1 0	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	ppm ppm scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20 >20 >0.1 NONE NORME NORML >0.1	0 <1 NEG NONE NONE NORML NORML NEG <1 1 0 0 0	<1 0 NEG NONE VLITE NORML NORML NEG <1 1 1 <1 0 0 0	
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 D5185(m) ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20 >20 >0.1 NONE NONE NORML >0.1 4.4 0.0 0	0 <1 NEG NONE NONE NORML NORML NEG <1 1 0 0 0 0 2	<1 0 NEG NONE VLITE NONE NORML NORML NORML 1 C 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
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 ppm	ASTM D5185(m) ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20 >20 >0.1 NONE NORML NORML >0.1 4.4 0.0 0 0	0 <1 NEG NONE NONE NORML NORML NEG <1 1 0 0 0 0 <1 <1	<1 0 NEG NONE VLITE NORML NORML NEG <1 1 ( 1 ( 1 ( 1 0 0 0 0 1	
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	ASTM D5185(m) ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20 >20 >0.1 NONE NORME NORML >0.1 4.4 0.0 0 0 0 215	0 <1 NEG NONE NONE NORML NORML NEG <1 1 0 0 0 0 <1 <1 285	<1 0 NEG NONE VLITE NORML NORML NEG <1 1 ( 1 ( 1 ( 1 ( 1 ( 0) 0 ( 0 ( 0) 1 ( 288	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Malybdenum Manganese Magnesium Calcium	ppm ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20 >20 >0.1 NONE NONE NORML >0.1 4.4 0.0 0 0 0 215 0	0 <1 NEG NONE NONE NORML NORML NEG <1 1 0 0 0 0 <1 <1 <1 285 3	<1 0 NEG NONE VLITE NONE NORML NORML NEG <1 1 ( 1 ( 1 0 0 0 0 0 1 288 3	
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	ASTM D5185(m) ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20 >20 >0.1 NONE NORME NORML >0.1 4.4 0.0 0 0 0 215	0 <1 NEG NONE NONE NORML NORML NEG <1 1 0 0 0 0 <1 <1 285	<1 0 NEG NONE VLITE NORML NORML NEG <1 1 ( 1 ( 1 ( 1 ( 1 ( 0) 0 ( 0 ( 0) 1 ( 288	

Contact/Location: Igor Bozhyk - INCCRE





Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Vale - Creighton Mine CALA Sample No. : 28 Mar 2024 CREIGHTON MINE MNTCE. (PLANT 17) : WC0565055 Received Lab Number : 02625399 : 28 Mar 2024 COPPER CLIFF, ON Tested ISO 17025:2017 Accredited Unique Number : 5750518 : 28 Mar 2024 - Wes Davis CA POM 1N0 Diagnosed Laboratory Test Package : MOB 1 Contact: Igor Bozhyk To discuss this sample report, contact Customer Service at 1-800-268-2131. igor.bozhyk@vale.com ñ T: (705)682-7009 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied. F: x:

Contact/Location: Igor Bozhyk - INCCRE Page 2 of 2