

GREASE ANALYSIS

Area [4100882474] **SOUTH MINE SHELL GADUS GREASE**

Component

SHELL GADUS S2 V100 (--- GAL)

Sample Rating Trend



Recommendation

This is a baseline read-out on the submitted sample.

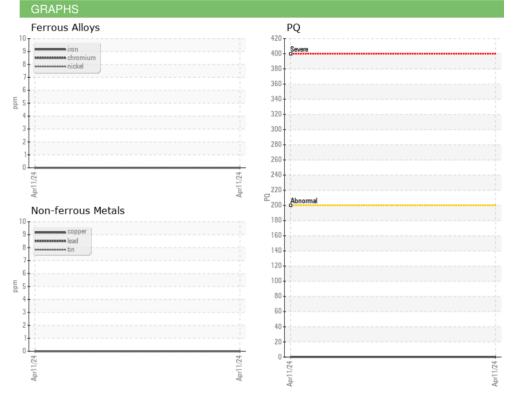
				Apr2024		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PP		
Sample Date		Client Info		11 Apr 2024		
Machine Age	hrs	Client Info		0		
Grease Age	hrs	Client Info		0		
Grease Serviced		Client Info		N/A		
Sample Status				NORMAL		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG		
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*	>200	0		
Iron	ppm	ASTM D5185(m)	>250	0		
Chromium	ppm	ASTM D5185(m)	>10	0		
Nickel	ppm	ASTM D5185(m)	>5	0		
Cadmium	ppm	ASTM D5185(m)		0		
Titanium	ppm	ASTM D5185(m)		0		
Vanadium	ppm	ASTM D5185(m)		0		
Lead	ppm	ASTM D5185(m)	>25	0		
Copper	ppm	ASTM D5185(m)	>75	0		
Tin	ppm	ASTM D5185(m)	>5	0		
Silver	ppm	ASTM D5185(m)	>5	0		
ADDITIVES		method				history2
Boron	ppm	ASTM D5185(m)	0	<1		
Boron Magnesium	ppm ppm	ASTM D5185(m) ASTM D5185(m)	0	<1 <1		
Magnesium		. ,				
Magnesium Manganese	ppm	ASTM D5185(m)	0	<1		
Magnesium Manganese	ppm ppm	ASTM D5185(m) ASTM D5185(m)	0	<1 0		
Magnesium Manganese Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0	<1 0 0		
Magnesium Manganese Molybdenum Phosphorus	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0	<1 0 0 0		
Magnesium Manganese Molybdenum Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0	<1 0 0 0 0 <1		
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 0	<1 0 0 0 0 <1 0		
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/	ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	0 0 0 0 0 0 0 0	<1 0 0 0 0 <1 0	 history1	
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m)	0 0 0 0 0 0 0 0 Imit/base	<1 0 0 0 0 <1 0 current	 history1	 history2
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) METHOD ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 0 0 0 0 timit/base	<1 0 0 0 0 <1 0 current 0	 history1	 history2
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) METHOD ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 0 0 0 0 0	<1 0 0 0 0 <1 0 current 0 <1 0	 history1	 history2
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Sodium	ppm	ASTM D5185(m) METHOD ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 0 0 0 0 0 0 0 0 0	<1 0 0 0 0 <1 0 current 0 <1 0	history1	history2
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Sodium Lithium	ppm	ASTM D5185(m)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<1 0 0 0 0 <1 0 current 0 <1 0 <1 273	history1	history2
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Sodium Lithium Sulfur	ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) METHOD ASTM D5185(m)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<1 0 0 0 <1 0 current 0 <1 0 <1 273 918	history1	history2
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/Aluminum Barium Calcium Sodium Lithium Sulfur CONTAMINANTS	ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) MASTM D5185(m) MASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 0 0 0 0 0 limit/base 0 0 0 0 275 900	<1 0 0 0 0 <1 0 current 0 <1 0 <1 273 918 current	history1 history1	history2 history2
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SOA Aluminum Barium Calcium Sodium Lithium Sulfur CONTAMINANTS Silicon	ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) METHOD ASTM D5185(m)	0 0 0 0 0 0 0 limit/base 0 0 0 0 275 900	<1 0 0 0 0 <1 0 current 0 <1 0 <1 273 918 current 0	history1 history1 history1	history2 history2 history2
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Sodium Lithium Sulfur CONTAMINANTS Silicon Potassium	ppm	ASTM D5185(m)	0 0 0 0 0 0 0 0 0 0 0 0 275 900 limit/base	<1 0 0 0 0 <1 0 current 0 <1 0 <1 273 918 current 0 <1	history1 history1 history1	history2 history2 history2
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Sodium Lithium Sulfur CONTAMINANTS Silicon Potassium GREASE CONDI	ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) METHOD ASTM D5185(m) METHOD ASTM D5185(m) METHOD	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<1 0 0 0 0 <1 0 current 0 <1 0 <1 273 918 current 0 <1 current	history1 history1 history1 history1	history2 history2 history2 history2
Magnesium Manganese Molybdenum Phosphorus Zinc Antimony THICKENER/SO/ Aluminum Barium Calcium Sodium Lithium Sulfur CONTAMINANTS Silicon Potassium GREASE CONDI	ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) METHOD ASTM D5185(m) METHOD METHOD Visual*	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<1 0 0 0 0 <1 0 current 0 <1 0 <1 273 918 current 0 <1 current Amber	history1 history1 history1 history1	history2 history2 history2 history2

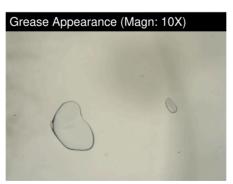


GREASE ANALYSIS











CALA ISO 17025:2017 Accredited Laboratory

Report Id: INCOCCSMR [WCAMIS] 02628626 (Generated: 04/15/2024 22:54:03) Rev: 1

Sample No.

Laboratory

: PP Lab Number : 02628626 Unique Number : 5761758 Test Package : GRS 1 (Additional Tests: BottomAnalysis)

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Received : 12 Apr 2024

Tested Diagnosed

: 15 Apr 2024 : 15 Apr 2024 - Bill Quesnel

Vale - Copper Cliff Smelter COPPER CLIFF SMELTER WAREHOUSE, 155 BALSAM ST. COPPER CLIFF, ON

CA P0M 1N0 Contact: Andy Kozachanko andrew.kozachanko@vale.com T: (705)682-6687

F: (705)682-6939

To discuss this sample report, contact Customer Service at 1-800-268-2131. 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.