



# OIL ANALYSIS REPORT

Sample Rating Trend

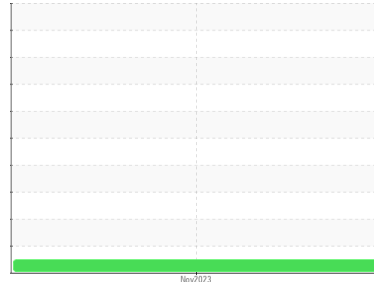
**NORMAL**



## Machine Id **BM-3 DSICHARGE END TRUNION OIL**

Component  
**Discharge Gearbox**

Fluid  
**SHELL OMALA S2 GX 320 (--- GAL)**



### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.  
NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

#### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

### SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0873763</b>	---	---
Sample Date	Client Info		<b>21 Nov 2023</b>	---	---
Machine Age	hrs	Client Info	<b>0</b>	---	---
Oil Age	hrs	Client Info	<b>0</b>	---	---
Oil Changed	Client Info		<b>N/A</b>	---	---
Sample Status			<b>NORMAL</b>	---	---

### CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	<b>NEG</b>	---	---

### WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		<b>0</b>	---	---
Iron	ppm	ASTM D5185(m) >200	<b>2</b>	---	---
Chromium	ppm	ASTM D5185(m) >15	<b>0</b>	---	---
Nickel	ppm	ASTM D5185(m) >15	<b>&lt;1</b>	---	---
Titanium	ppm	ASTM D5185(m)	<b>0</b>	---	---
Silver	ppm	ASTM D5185(m)	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185(m) >25	<b>&lt;1</b>	---	---
Lead	ppm	ASTM D5185(m) >100	<b>&lt;1</b>	---	---
Copper	ppm	ASTM D5185(m) >200	<b>1</b>	---	---
Tin	ppm	ASTM D5185(m) >25	<b>0</b>	---	---
Antimony	ppm	ASTM D5185(m) >5	<b>0</b>	---	---
Vanadium	ppm	ASTM D5185(m)	<b>0</b>	---	---
Beryllium	ppm	ASTM D5185(m)	<b>0</b>	---	---
Cadmium	ppm	ASTM D5185(m)	<b>0</b>	---	---

### ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 6.2	<b>&lt;1</b>	---	---
Barium	ppm	ASTM D5185(m) 0.0	<b>&lt;1</b>	---	---
Molybdenum	ppm	ASTM D5185(m) 0	<b>0</b>	---	---
Manganese	ppm	ASTM D5185(m)	<b>0</b>	---	---
Magnesium	ppm	ASTM D5185(m) 0	<b>&lt;1</b>	---	---
Calcium	ppm	ASTM D5185(m) 0.0	<b>3</b>	---	---
Phosphorus	ppm	ASTM D5185(m) 290	<b>274</b>	---	---
Zinc	ppm	ASTM D5185(m) 3.8	<b>9</b>	---	---
Sulfur	ppm	ASTM D5185(m) 8167	<b>7880</b>	---	---
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	---	---

### CONTAMINANTS

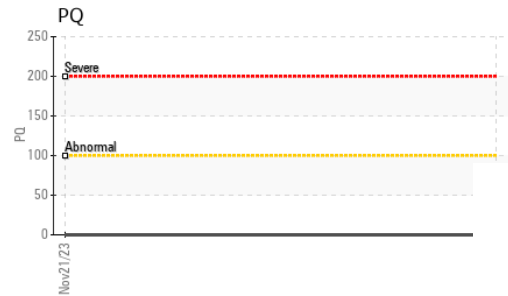
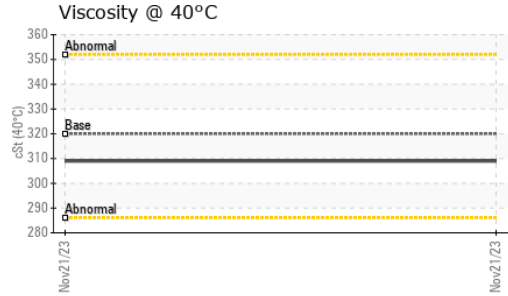
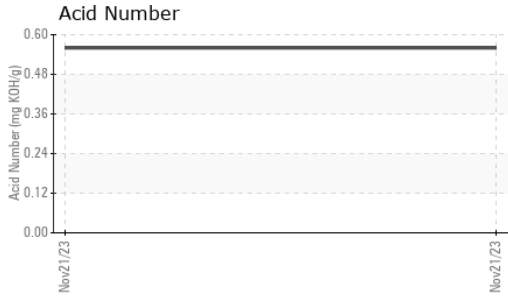
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >50	<b>&lt;1</b>	---	---
Sodium	ppm	ASTM D5185(m)	<b>&lt;1</b>	---	---
Potassium	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	---	---

### FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	<b>0.56</b>	---	---



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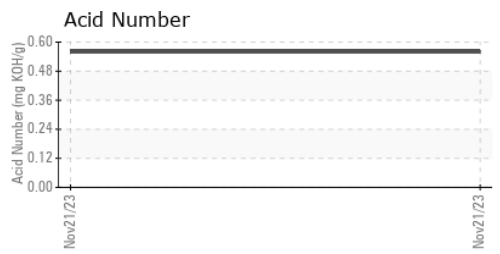
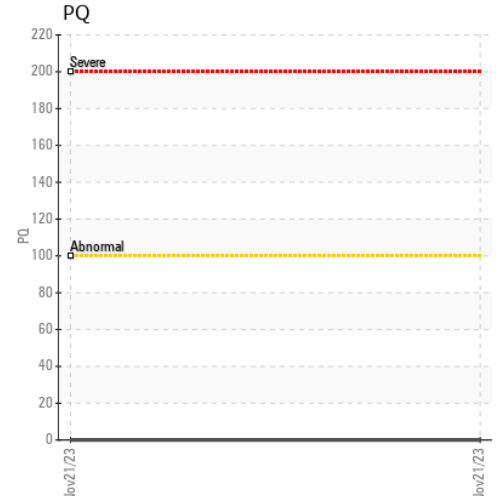
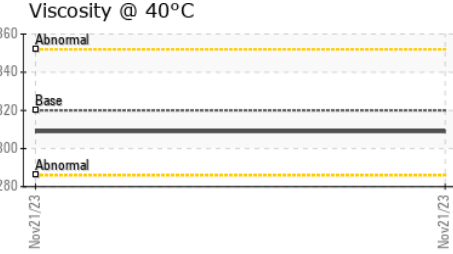
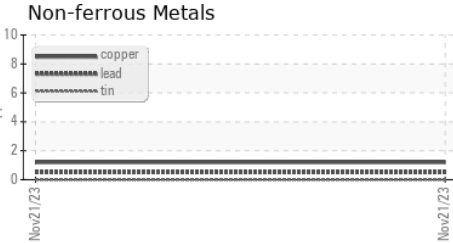
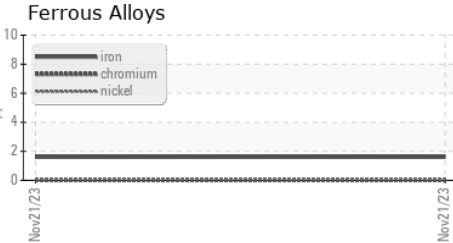
VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
Precipitate	scalar	Visual*	NONE	NONE	---	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	---	---
Emulsified Water	scalar	Visual*	>0.2	NEG	---	---
Free Water	scalar	Visual*		NEG	---	---

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D7279(m)	320	<b>309</b>	---	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color				no image	no image
Bottom				no image	no image

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0873763 **Received** : 03 Jan 2024  
**Lab Number** : **02606299** **Diagnosed** : 03 Jan 2024  
**Unique Number** : 5707385 **Diagnostician** : Wes Davis  
**Test Package** : IND 2 ( Additional Tests: TAN Man )

**Vale - Clarabelle Mill**  
 MTW (Mill, Tailings & Water)  
 COPPER CLIFF, ON  
 CA P0M 1N0  
 Contact: Ken Obazee  
 ken.obazee@vale.com  
 T: 204778816  
 F: (705)682-6273

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.