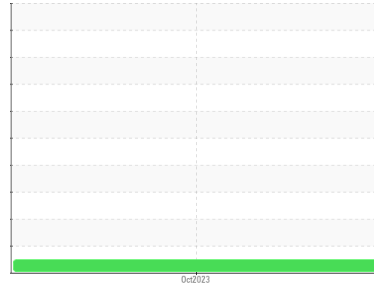




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**401 CRANE BRIDGE NW**  
 Component  
**Gearbox**  
 Fluid  
**SHELL OMALA S4 GX 220 (--- 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>WC0716516</b>	---	---
Sample Date	Client Info			<b>13 Oct 2023</b>	---	---
Machine Age	hrs	Client Info		<b>0</b>	---	---
Oil Age	hrs	Client Info		<b>0</b>	---	---
Oil Changed	Client Info			<b>Not Chngd</b>	---	---
Sample Status				<b>NORMAL</b>	---	---

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		<b>2</b>	---	---
Iron	ppm	ASTM D5185(m)	>200	<b>50</b>	---	---
Chromium	ppm	ASTM D5185(m)	>15	<b>&lt;1</b>	---	---
Nickel	ppm	ASTM D5185(m)	>15	<b>2</b>	---	---
Titanium	ppm	ASTM D5185(m)		<b>0</b>	---	---
Silver	ppm	ASTM D5185(m)		<b>&lt;1</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>&lt;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>	---	---

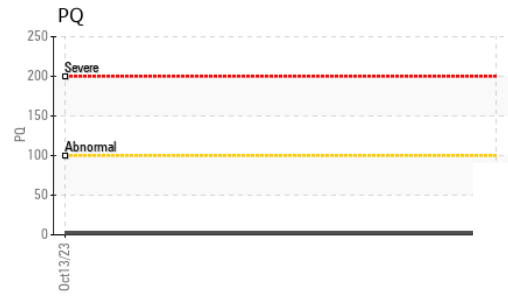
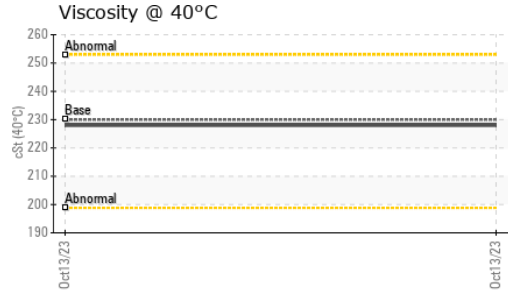
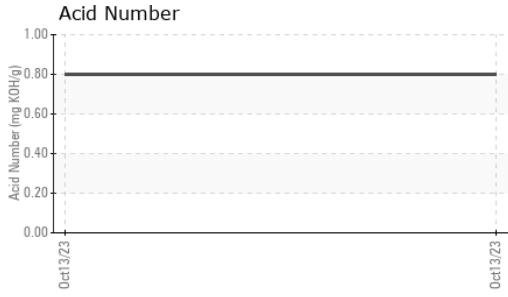
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<b>22</b>	---	---
Barium	ppm	ASTM D5185(m)		<b>2</b>	---	---
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	---	---
Manganese	ppm	ASTM D5185(m)		<b>0</b>	---	---
Magnesium	ppm	ASTM D5185(m)		<b>&lt;1</b>	---	---
Calcium	ppm	ASTM D5185(m)		<b>9</b>	---	---
Phosphorus	ppm	ASTM D5185(m)		<b>407</b>	---	---
Zinc	ppm	ASTM D5185(m)		<b>20</b>	---	---
Sulfur	ppm	ASTM D5185(m)		<b>5117</b>	---	---
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>50	<b>11</b>	---	---
Sodium	ppm	ASTM D5185(m)		<b>5</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>0.80</b>	---	---



# OIL ANALYSIS REPORT



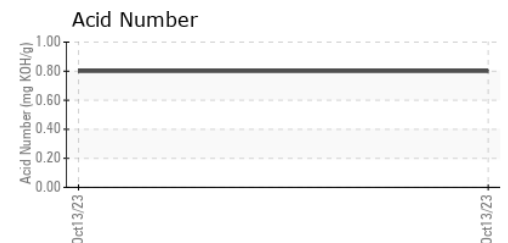
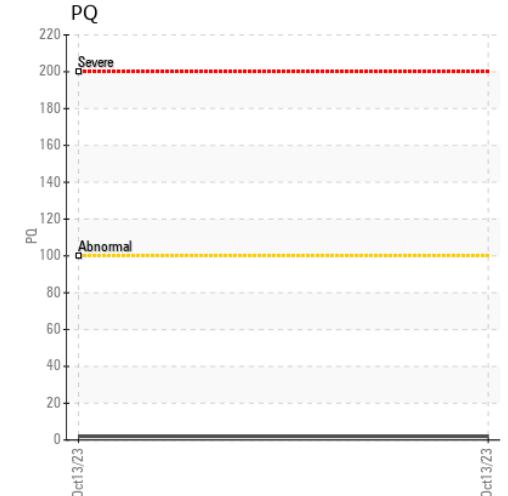
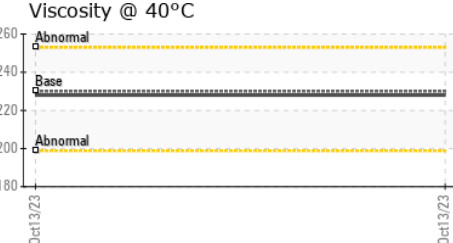
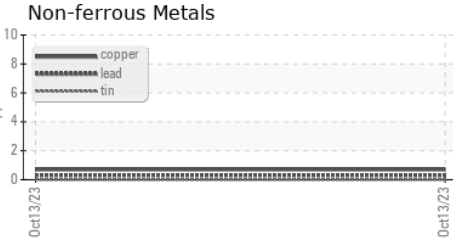
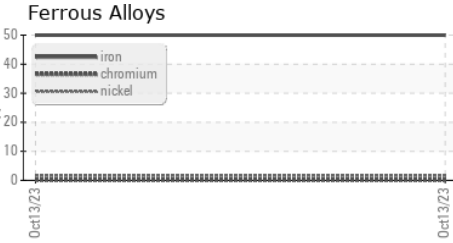
VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
Precipitate	scalar	Visual*	NONE	NONE	---	---
Silt	scalar	Visual*	NONE	VLITE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
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)	230	<b>228</b>	---	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------

Color				no image	no image
Bottom				no image	no image

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0716516     **Received** : 23 Oct 2023  
**Lab Number** : **02591185**     **Diagnosed** : 25 Oct 2023  
**Unique Number** : 5668264     **Diagnostician** : Wes Davis  
**Test Package** : IND 2

**Vale - Copper Cliff Smelter**  
 COPPER CLIFF SMELTER WAREHOUSE, 155 BALSAM ST.  
 COPPER CLIFF, ON  
 CA P0M 1N0  
 Contact: Jacynthe Gelinat  
 jacynthe.gelinat@vale.com  
 T: (705)682-5980  
 F: (705)682-6535

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.