



OIL ANALYSIS REPORT

Sample Rating Trend

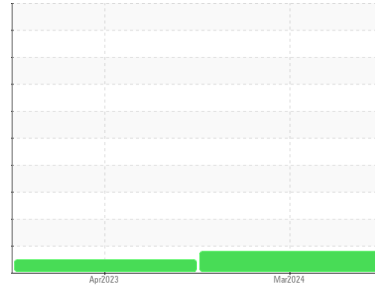
WEAR



Machine Id
23-KC-2 NORTHSIDE BRIDGE

Component
North Gearbox

Fluid
SHELL OMALA S2 GX 220 (--- GAL)



DIAGNOSIS

Recommendation

We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear

Lead ppm levels are noted. All other 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		WC0820689	WC0718839	---
Sample Date	Client Info		12 Mar 2024	04 Apr 2023	---
Machine Age	hrs	Client Info	0	0	---
Oil Age	hrs	Client Info	0	0	---
Oil Changed	Client Info		N/A	Not Changd	---
Sample Status			ATTENTION	NORMAL	---

CONTAMINATION

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

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		0	0	---
Iron	ppm	ASTM D5185(m) >200	4	2	---
Chromium	ppm	ASTM D5185(m) >15	0	0	---
Nickel	ppm	ASTM D5185(m) >15	0	0	---
Titanium	ppm	ASTM D5185(m)	0	0	---
Silver	ppm	ASTM D5185(m)	0	0	---
Aluminum	ppm	ASTM D5185(m) >25	0	<1	---
Lead	ppm	ASTM D5185(m) >100	93	42	---
Copper	ppm	ASTM D5185(m) >200	10	6	---
Tin	ppm	ASTM D5185(m) >25	0	0	---
Antimony	ppm	ASTM D5185(m) >5	0	<1	---
Vanadium	ppm	ASTM D5185(m)	0	0	---
Beryllium	ppm	ASTM D5185(m)	0	0	---
Cadmium	ppm	ASTM D5185(m)	0	0	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 6.2	<1	<1	---
Barium	ppm	ASTM D5185(m) 0.0	0	0	---
Molybdenum	ppm	ASTM D5185(m) 0	0	0	---
Manganese	ppm	ASTM D5185(m)	0	0	---
Magnesium	ppm	ASTM D5185(m) 0	<1	0	---
Calcium	ppm	ASTM D5185(m) 0.0	2	0	---
Phosphorus	ppm	ASTM D5185(m) 290	266	314	---
Zinc	ppm	ASTM D5185(m) 3.8	9	8	---
Sulfur	ppm	ASTM D5185(m) 8167	8620	9003	---
Lithium	ppm	ASTM D5185(m)	<1	<1	---

CONTAMINANTS

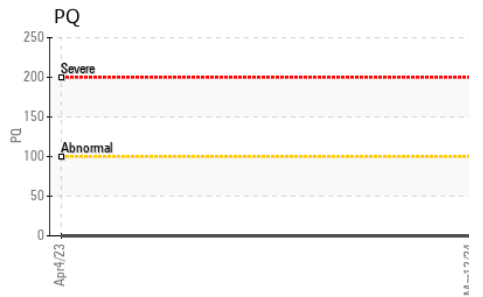
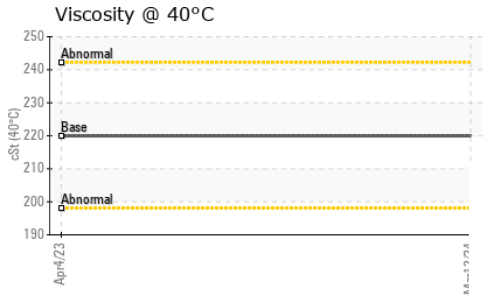
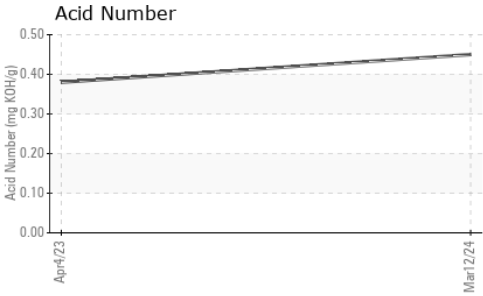
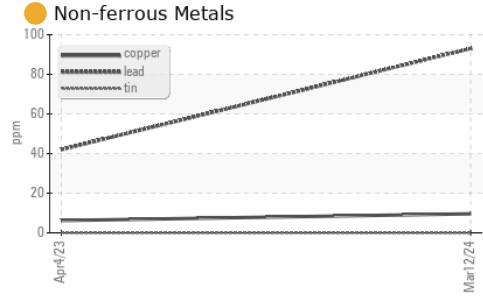
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >50	<1	2	---
Sodium	ppm	ASTM D5185(m)	1	<1	---
Potassium	ppm	ASTM D5185(m) >20	<1	<1	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.45	0.38	---



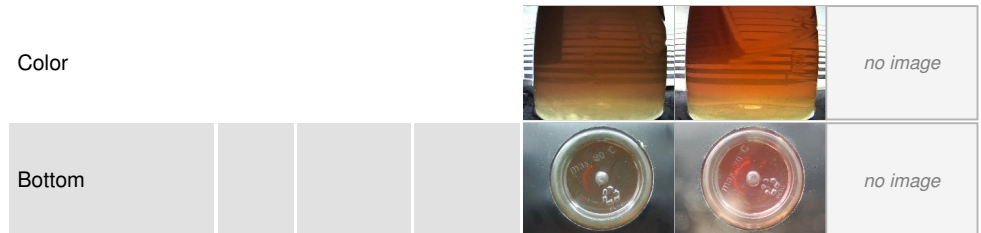
OIL ANALYSIS REPORT



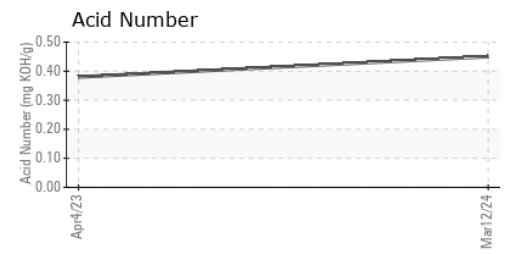
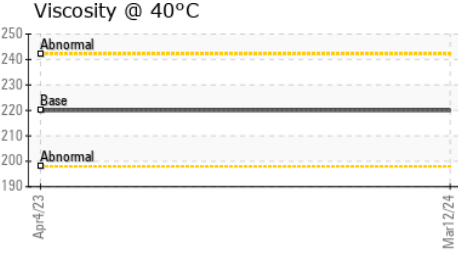
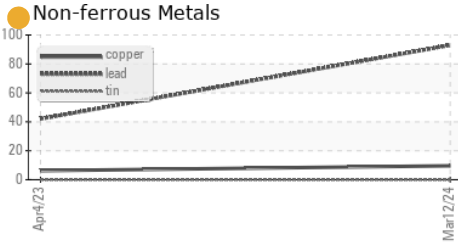
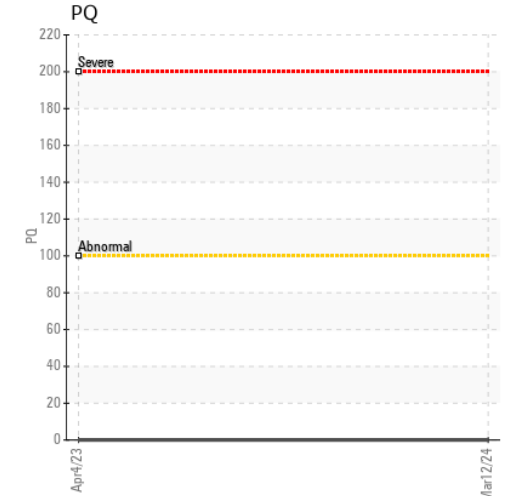
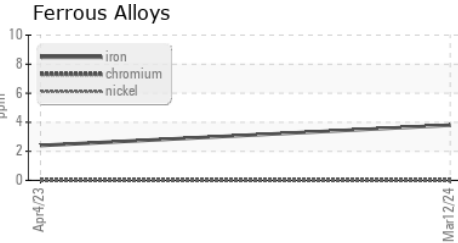
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	---
Precipitate	scalar	Visual*	NONE	NONE	---
Silt	scalar	Visual*	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---
Appearance	scalar	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)	220	220	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0820689 **Received** : 01 Apr 2024
Lab Number : 02625792 **Tested** : 02 Apr 2024
Unique Number : 5750911 **Diagnosed** : 02 Apr 2024 - Kevin Marson
Test Package : IND 2 (Additional Tests: TAN Man)

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.