



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Machine Id
10568017
Component
Rear Gearbox
Fluid
SHELL OMALA 220 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

WEAR

All component wear rates are normal.

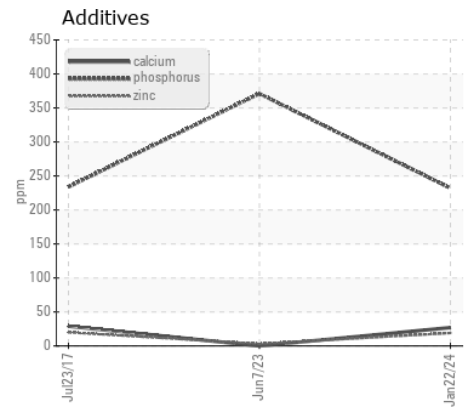
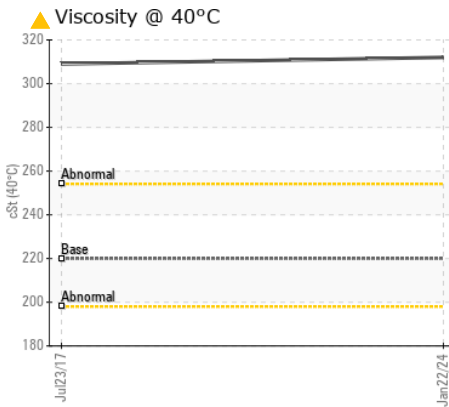
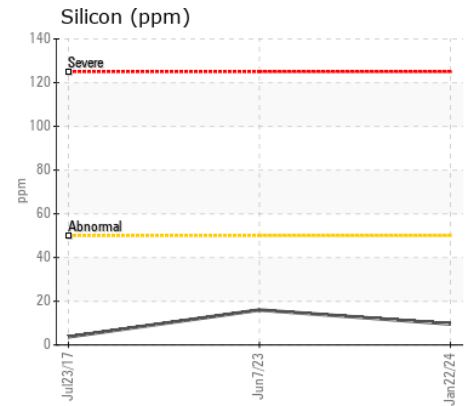
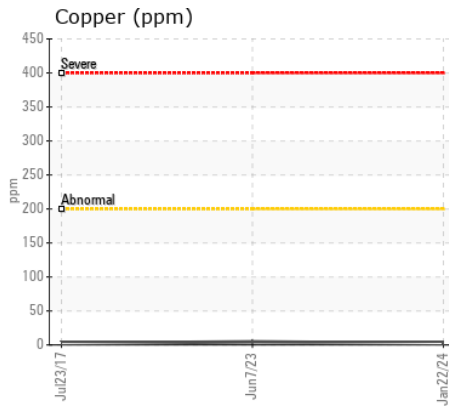
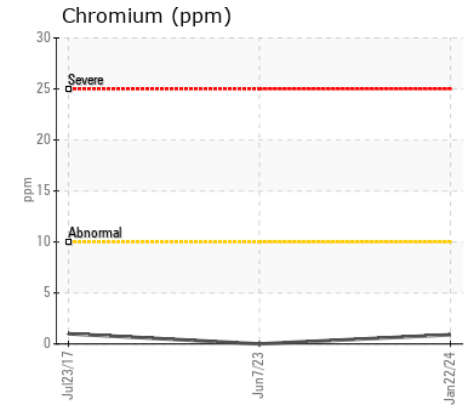
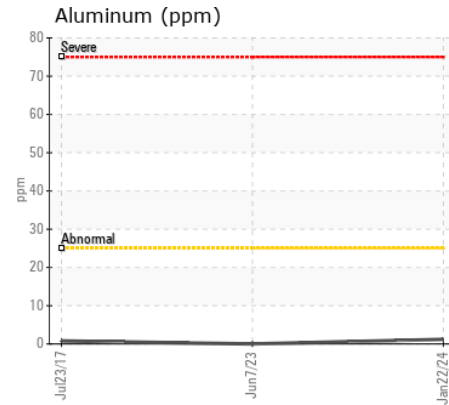
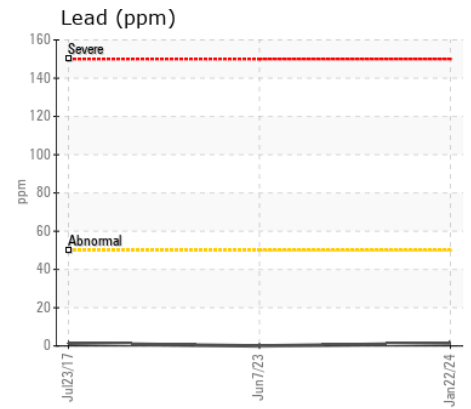
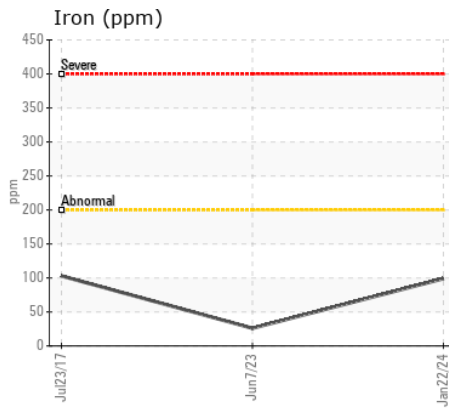
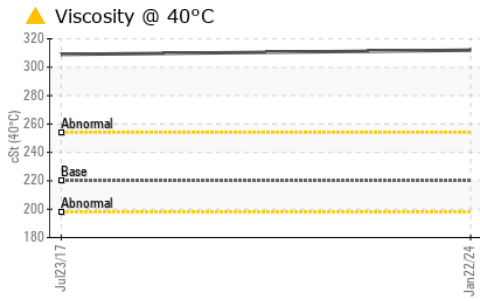
CONTAMINATION

There is no indication of any contamination in the oil.

FLUID CONDITION

Viscosity of sample indicates oil is within ISO 320 range, advise investigate. The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0884666	WC0769862	WC0281959
Sample Date		Client Info		22 Jan 2024	07 Jun 2023	23 Jul 2017
Machine Age	days	Client Info		0	0	0
Oil Age	days	Client Info		0	0	0
Filter Age	days	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185(m)	>200	99	26	103
Chromium	ppm	ASTM D5185(m)	>10	<1	0	1
Nickel	ppm	ASTM D5185(m)	>10	1	<1	1
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)		0	0	0
Aluminum	ppm	ASTM D5185(m)	>25	1	0	<1
Lead	ppm	ASTM D5185(m)	>50	1	0	1
Copper	ppm	ASTM D5185(m)	>200	2	5	2
Tin	ppm	ASTM D5185(m)	>10	0	1	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185(m)	>50	10	16	4
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	0
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	VLITE	NONE	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	---	NEG
Sodium	ppm	ASTM D5185(m)		2	<1	2
Boron	ppm	ASTM D5185(m)	4.4	13	<1	13
Barium	ppm	ASTM D5185(m)	0.0	17	0	17
Molybdenum	ppm	ASTM D5185(m)	0	0	0	0
Manganese	ppm	ASTM D5185(m)		<1	<1	1
Magnesium	ppm	ASTM D5185(m)	0	<1	0	<1
Calcium	ppm	ASTM D5185(m)	0	27	0	29
Phosphorus	ppm	ASTM D5185(m)	215	232	371	234
Zinc	ppm	ASTM D5185(m)	0	19	3	20
Sulfur	ppm	ASTM D5185(m)	7039	7785	148	7265
Visc @ 40°C	cSt	ASTM D7279(m)	220	▲ 312	---	309



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0884666
Lab Number : 02616373
Unique Number : 5733483
Test Package : MOB 1

Received : 16 Feb 2024
Tested : 20 Feb 2024
Diagnosed : 20 Feb 2024 - Kevin Marson

Vale - Copper Cliff Smelter
 COPPER CLIFF SMELTER WAREHOUSE, 155 BALSAM ST.
 COPPER CLIFF, ON
 CA P0M 1N0

Contact: Andy Kozachanko
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 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.