



OIL ANALYSIS REPORT

WEAR	SEVERE
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
61-154-H-A53353/59/60 (S/N 61-38-51013)

Component
Hydraulic System

Fluid
SHELL TELLUS 68 (--- GAL)

RECOMMENDATION

We advise that you check for visible metal particles in the oil. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF). Please specify the component make and model with your next sample. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MOB 2 test kits, this testkit includes Particle Count to determine the ISO cleanliness of the fluid.

WEAR

a light concentration of was filtered from the sample. Cutting wear particles are caused by either hard protuberances (mis-aligned components, etc.), or abrasives entering the system and embedding themselves in softer materials (sand, etc.), and gouging out mating surfaces.

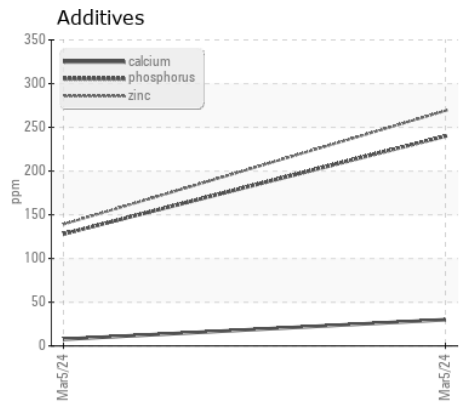
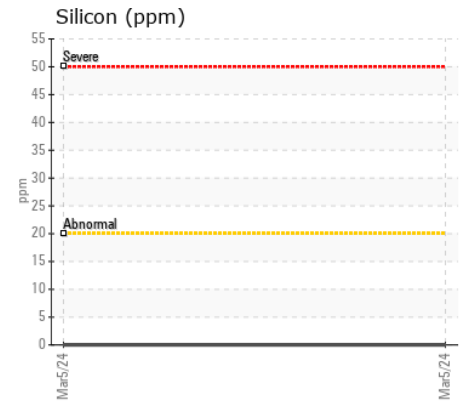
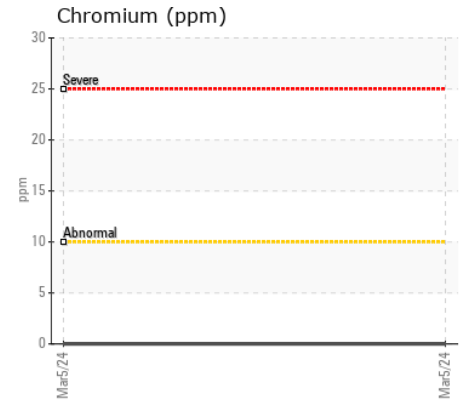
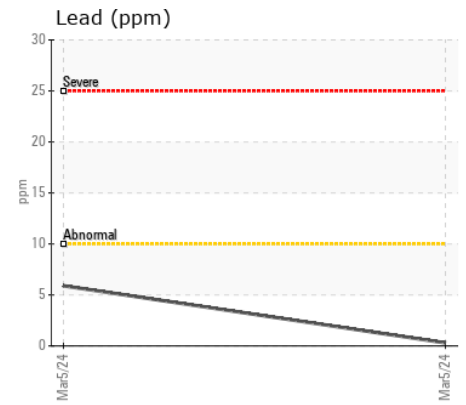
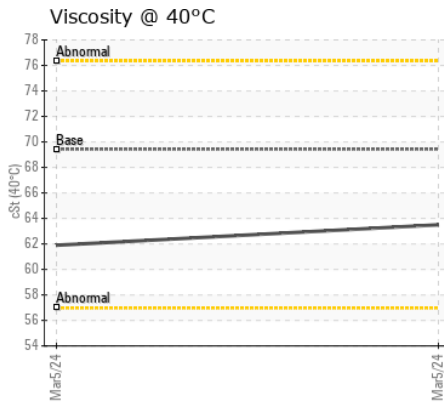
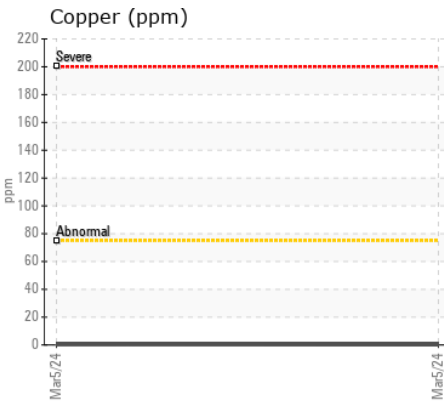
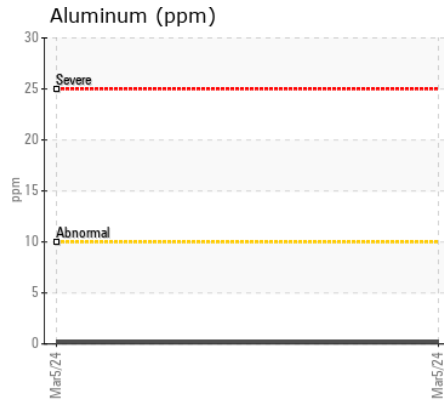
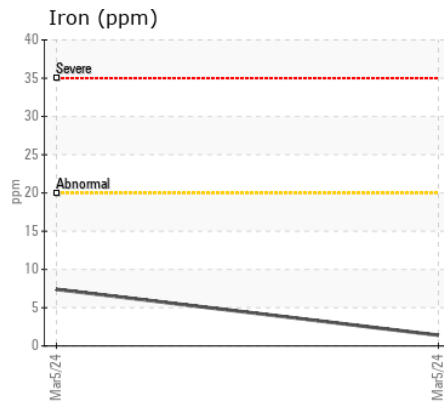
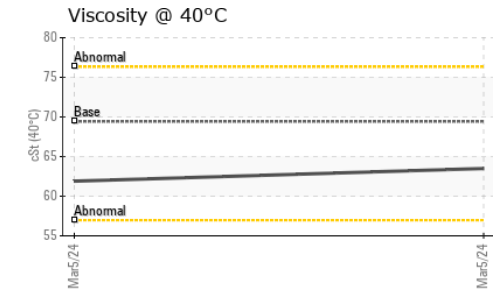
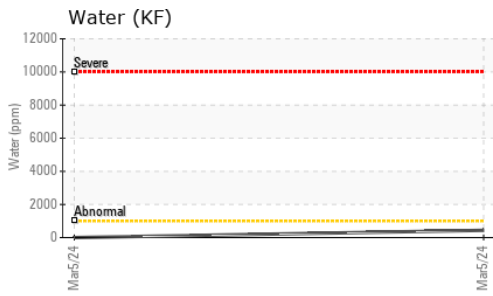
CONTAMINATION

The water content is negligible. There is no indication of any contamination in the component(unconfirmed).

FLUID CONDITION

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0304930	WC0304931	---
Sample Date		Client Info		05 Mar 2024	05 Mar 2024	---
Machine Age	hrs	Client Info		0	0	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		N/A	N/A	---
Filter Changed		Client Info		N/A	N/A	---
Sample Status				SEVERE	NORMAL	---
Iron	ppm	ASTM D5185(m)	>20	7	1	---
Chromium	ppm	ASTM D5185(m)	>10	0	0	---
Nickel	ppm	ASTM D5185(m)	>10	0	0	---
Titanium	ppm	ASTM D5185(m)		0	0	---
Silver	ppm	ASTM D5185(m)		0	0	---
Aluminum	ppm	ASTM D5185(m)	>10	<1	<1	---
Lead	ppm	ASTM D5185(m)	>10	6	<1	---
Copper	ppm	ASTM D5185(m)	>75	<1	<1	---
Tin	ppm	ASTM D5185(m)	>10	0	0	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
White Metal	scalar	Visual*	NONE	▲ LTMOD	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---
Silicon	ppm	ASTM D5185(m)	>20	0	0	---
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	---
Water	%	ASTM D6304*	>0.1	0.043	---	---
ppm Water	ppm	ASTM D6304*	>1000	438	---	---
Silt	scalar	Visual*	NONE	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	VLITE	VLITE	---
Appearance	scalar	Visual*	NORML	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.1	.2%	NEG	---
Sodium	ppm	ASTM D5185(m)		0	0	---
Boron	ppm	ASTM D5185(m)		0	0	---
Barium	ppm	ASTM D5185(m)		0	0	---
Molybdenum	ppm	ASTM D5185(m)		0	0	---
Manganese	ppm	ASTM D5185(m)		0	0	---
Magnesium	ppm	ASTM D5185(m)	11	<1	24	---
Calcium	ppm	ASTM D5185(m)	39	30	8	---
Phosphorus	ppm	ASTM D5185(m)	260	240	128	---
Zinc	ppm	ASTM D5185(m)	279	269	139	---
Sulfur	ppm	ASTM D5185(m)	2109	641	422	---
Visc @ 40°C	cSt	ASTM D7279(m)	69.43	63.5	61.9	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0304930 **Received** : 07 Mar 2024
Lab Number : 02620592 **Tested** : 08 Mar 2024
Unique Number : 5737702 **Diagnosed** : 11 Mar 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: Bottom, BottomAnalysis, FilterPatch, KF)

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.