



OIL ANALYSIS REPORT

WEAR	SEVERE
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
Industrial Mechanical/Conveyors
Machine Id
17-UGCNVY-CV-6680-4
Component
Drive End Conveyor Gearbox
Fluid
SHELL OMALA S2 G 220 (--- 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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0866397	WC0866337	WC0413454
Sample Date		Client Info		01 May 2024	07 Feb 2024	01 Jun 2022
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Not Changd	N/A
Filter Changed		Client Info		N/A	Not Changd	N/A
Sample Status				SEVERE	SEVERE	SEVERE

WEAR

Lead ppm levels are severe. Light concentration of visible metal present. Gear wear is indicated.

Iron	ppm	ASTM D5185(m)	>100	48	44	▲ 252
Chromium	ppm	ASTM D5185(m)		2	1	3
Nickel	ppm	ASTM D5185(m)		<1	<1	10
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)		0	0	<1
Aluminum	ppm	ASTM D5185(m)		2	2	● 14
Lead	ppm	ASTM D5185(m)	>15	▲ 104	▲ 99	▲ 105
Copper	ppm	ASTM D5185(m)	>35	<1	<1	10
Tin	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	▲ LIGHT	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

CONTAMINATION

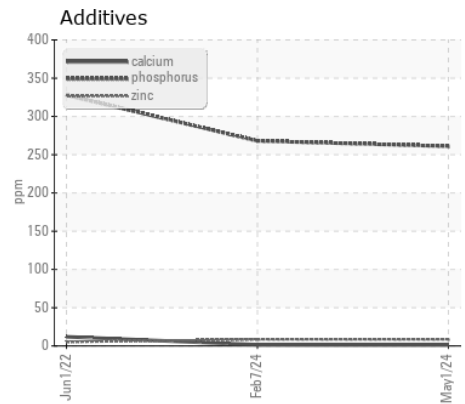
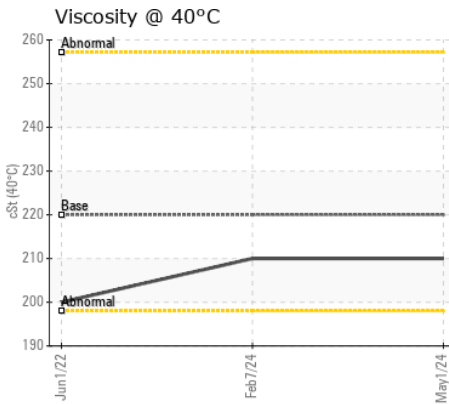
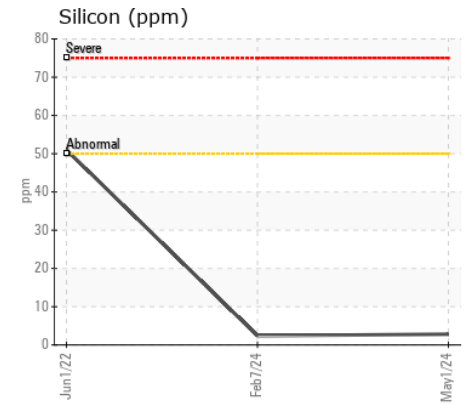
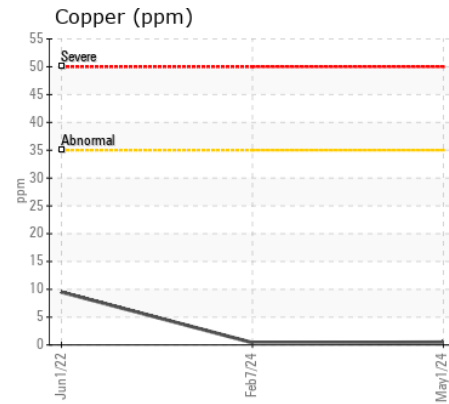
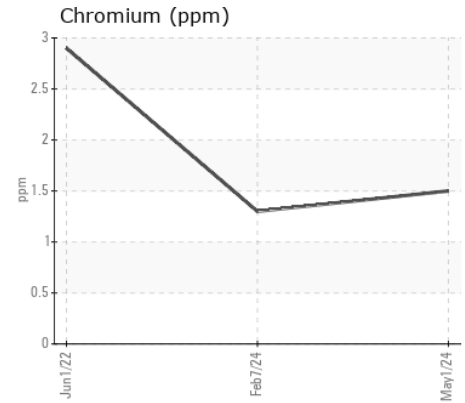
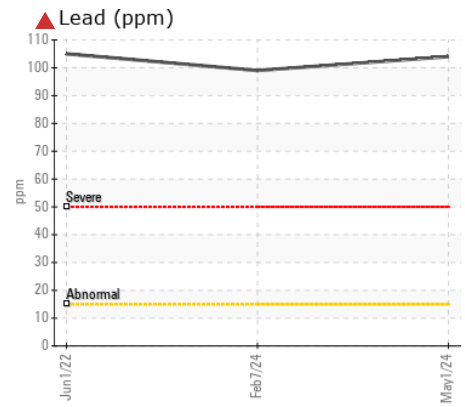
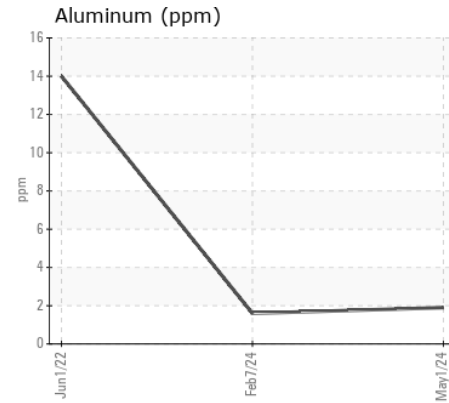
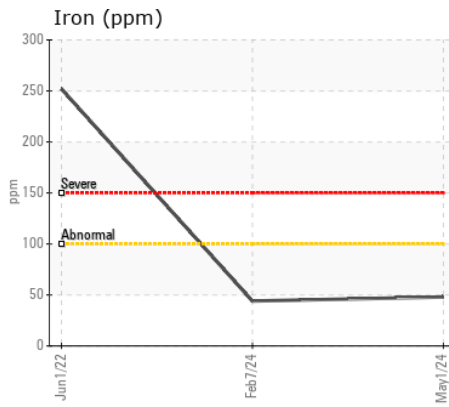
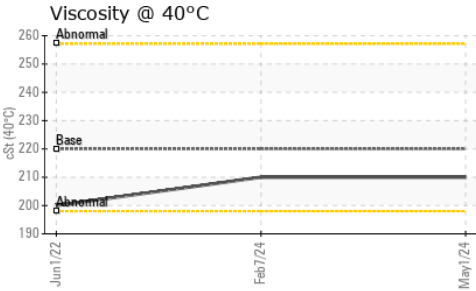
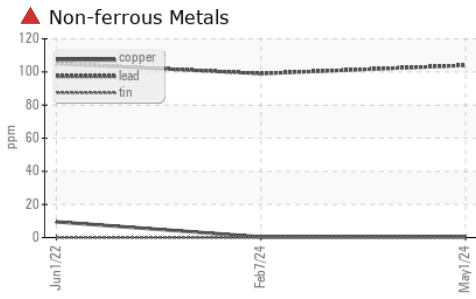
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>50	3	2	▲ 51
Potassium	ppm	ASTM D5185(m)	>20	1	1	6
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	Visual*	NONE	NONE	NONE	LIGHT
Debris	scalar	Visual*	NONE	VLITE	NONE	LIGHT
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	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)		1	1	4
Boron	ppm	ASTM D5185(m)	4.4	<1	<1	<1
Barium	ppm	ASTM D5185(m)	0.0	<1	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0	<1
Manganese	ppm	ASTM D5185(m)		<1	0	2
Magnesium	ppm	ASTM D5185(m)	0	1	1	9
Calcium	ppm	ASTM D5185(m)	0	2	2	12
Phosphorus	ppm	ASTM D5185(m)	215	261	268	328
Zinc	ppm	ASTM D5185(m)	0	8	8	5
Sulfur	ppm	ASTM D5185(m)	7039	7363	7552	3957
Visc @ 40°C	cSt	ASTM D7279(m)	220	210	210	200



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0866397
Lab Number : 02633968
Unique Number : 5775121
Test Package : MOB 1 (Additional Tests: BottomAnalysis, FILTERPATCH)
Received : 07 May 2024
Tested : 09 May 2024
Diagnosed : 09 May 2024 - Kevin Marson

Vale - Creighton Mine
 CREIGHTON MINE MNTCE. (PLANT 17)
 COPPER CLIFF, ON
 CA P0M 1N0
 Contact: Igor Bozhyk
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 F: x:

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.