



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
61-31-000-030

Component
Right Gearbox

Fluid
GEAR OIL (PAO) ISO 220 (--- GAL)

RECOMMENDATION

We advise that you check all areas where dirt can enter the system. 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. Please specify the component make and model with your next sample.

WEAR

All component wear rates are normal.

CONTAMINATION

There is a moderate concentration of dirt present in the oil.

FLUID CONDITION

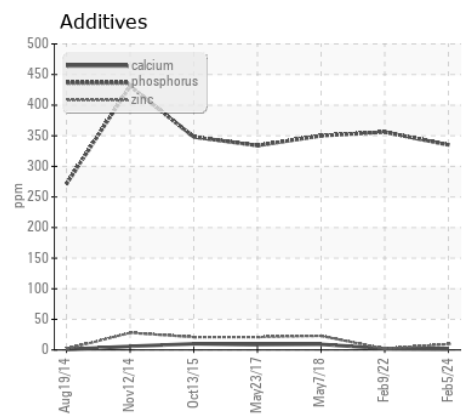
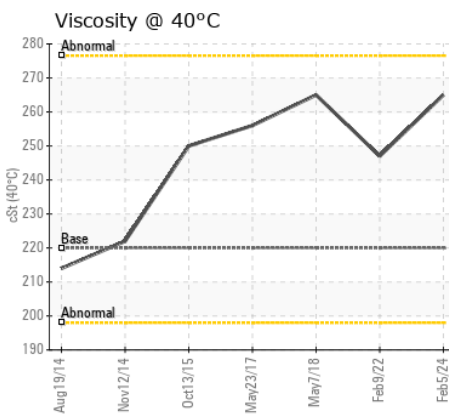
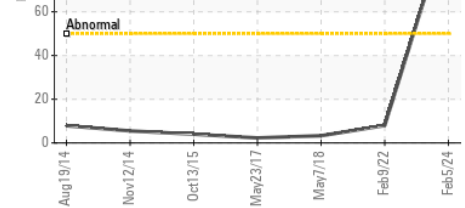
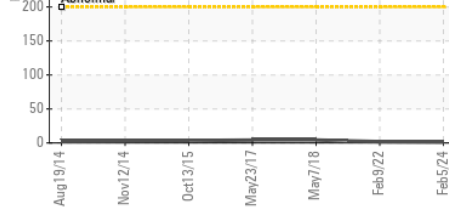
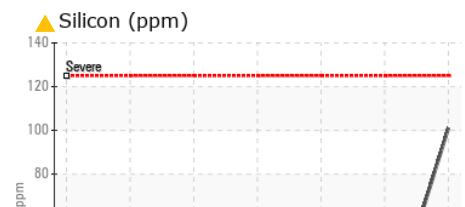
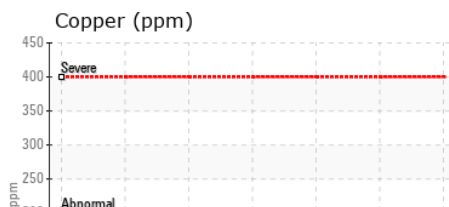
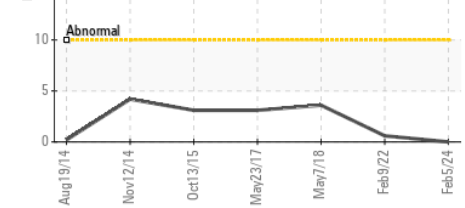
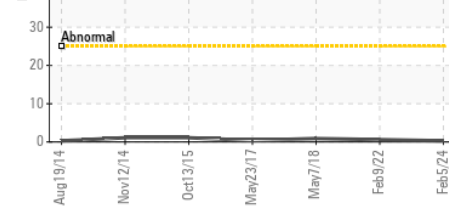
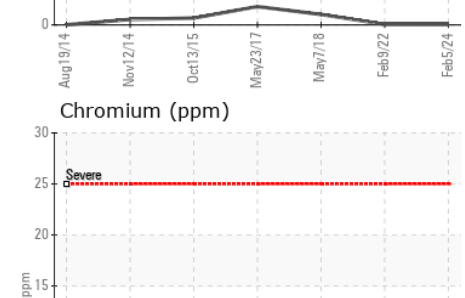
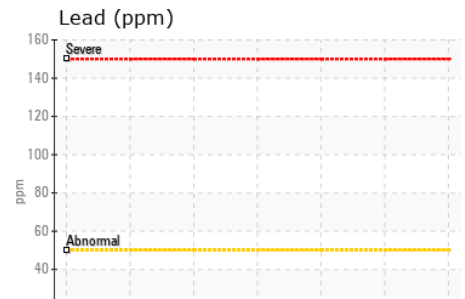
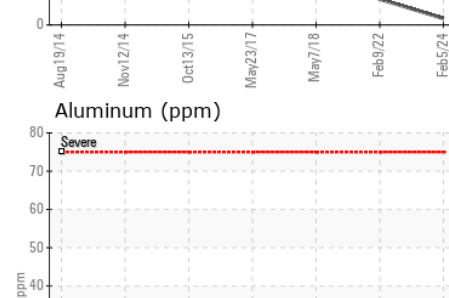
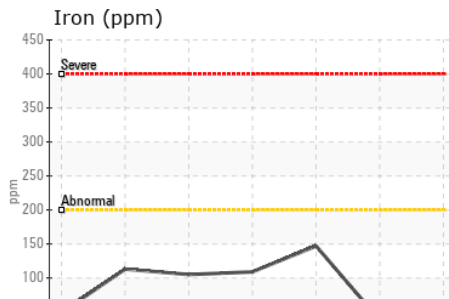
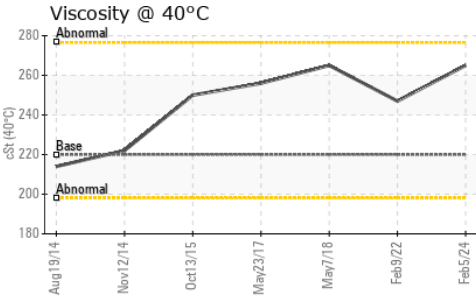
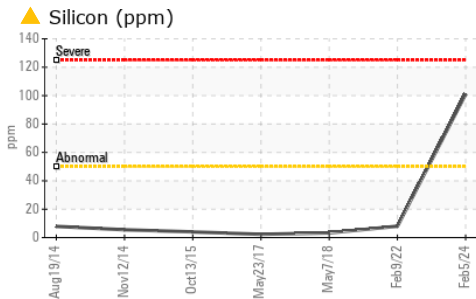
The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0884656	WC0565012	WC0287660
Sample Date		Client Info		05 Feb 2024	09 Feb 2022	07 May 2018
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	N/A	Not Changd
Filter Changed		Client Info		N/A	N/A	Not Changd
Sample Status				ABNORMAL	NORMAL	NORMAL

Iron	ppm	ASTM D5185(m)	>200	10	38	147
Chromium	ppm	ASTM D5185(m)	>10	0	<1	4
Nickel	ppm	ASTM D5185(m)	>10	<1	2	2
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	0
Aluminum	ppm	ASTM D5185(m)	>25	<1	<1	<1
Lead	ppm	ASTM D5185(m)	>50	<1	<1	6
Copper	ppm	ASTM D5185(m)	>200	1	2	4
Tin	ppm	ASTM D5185(m)	>10	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	VLITE	VLITE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

Silicon	ppm	ASTM D5185(m)	>50	▲ 101	8	3
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	VLITE	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	NEG

Sodium	ppm	ASTM D5185(m)		0	<1	2
Boron	ppm	ASTM D5185(m)	25	12	16	12
Barium	ppm	ASTM D5185(m)	12	0	0	<1
Molybdenum	ppm	ASTM D5185(m)	5	0	0	0
Manganese	ppm	ASTM D5185(m)		0	<1	<1
Magnesium	ppm	ASTM D5185(m)	25	<1	0	<1
Calcium	ppm	ASTM D5185(m)	25	2	2	9
Phosphorus	ppm	ASTM D5185(m)	375	335	356	350
Zinc	ppm	ASTM D5185(m)	25	9	2	23
Sulfur	ppm	ASTM D5185(m)	4900	3022	6392	8458
Visc @ 40°C	cSt	ASTM D7279(m)	220	265	247	265



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0884656 **Received** : 16 Feb 2024
Lab Number : 02616372 **Tested** : 20 Feb 2024
Unique Number : 5733482 **Diagnosed** : 20 Feb 2024 - Kevin Marson
Test Package : MOB 1

Vale - Copper Cliff Smelter
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 COPPER CLIFF, ON
 CA P0M 1N0
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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.