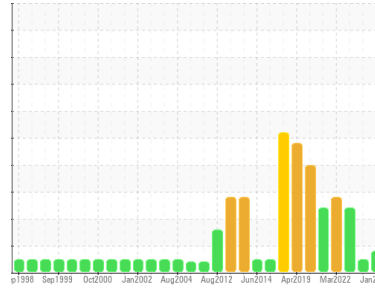




OIL ANALYSIS REPORT

Sample Rating Trend



Area
Caster/Segment Drives
Machine Id
B - Strand 2 - 1 Gear Box Roll # 54 Bottom
Component
Gearbox
Fluid
SHELL OMALA 220 (45 GAL)

DIAGNOSIS

Recommendation

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.

Wear

Iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable.

Fluid Condition

Viscosity of sample indicates oil is within ISO 320 range, advise investigate. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0898692	WC0824362	WC0743638
Sample Date	Client Info		10 Jan 2024	30 May 2023	13 Sep 2022
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	NORMAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*	>DFLT	123	40	145
Iron	ppm	ASTM D5185(m)	>200	▲ 250	114
Chromium	ppm	ASTM D5185(m)	>15	1	<1
Nickel	ppm	ASTM D5185(m)	>15	1	<1
Titanium	ppm	ASTM D5185(m)	>15	<1	<1
Silver	ppm	ASTM D5185(m)	>15	0	0
Aluminum	ppm	ASTM D5185(m)	>25	2	2
Lead	ppm	ASTM D5185(m)	>100	0	0
Copper	ppm	ASTM D5185(m)	>200	<1	<1
Tin	ppm	ASTM D5185(m)	>25	0	0
Antimony	ppm	ASTM D5185(m)	>5	0	0
Vanadium	ppm	ASTM D5185(m)	>5	0	0
Beryllium	ppm	ASTM D5185(m)	>5	0	0
Cadmium	ppm	ASTM D5185(m)	>5	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	4.4	12	6
Barium	ppm	ASTM D5185(m)	0.0	2	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0
Manganese	ppm	ASTM D5185(m)	0	2	2
Magnesium	ppm	ASTM D5185(m)	0	5	4
Calcium	ppm	ASTM D5185(m)	0	10	12
Phosphorus	ppm	ASTM D5185(m)	215	188	265
Zinc	ppm	ASTM D5185(m)	0	13	4
Sulfur	ppm	ASTM D5185(m)	7039	6989	9893
Lithium	ppm	ASTM D5185(m)	0	<1	<1

CONTAMINANTS

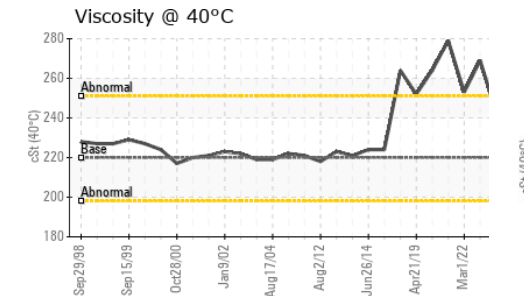
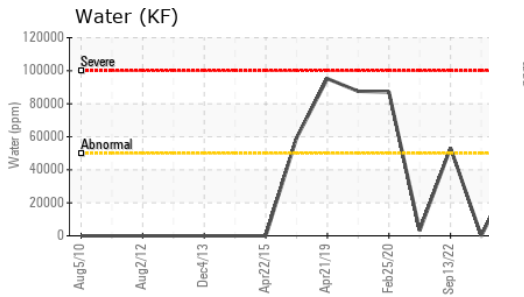
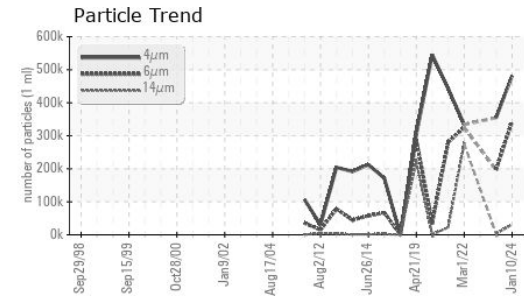
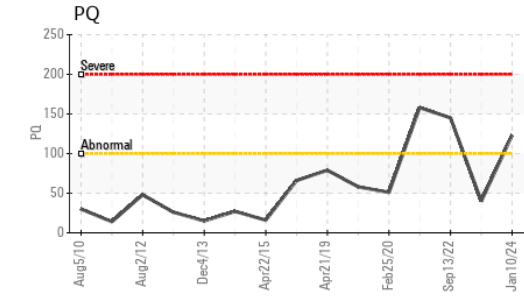
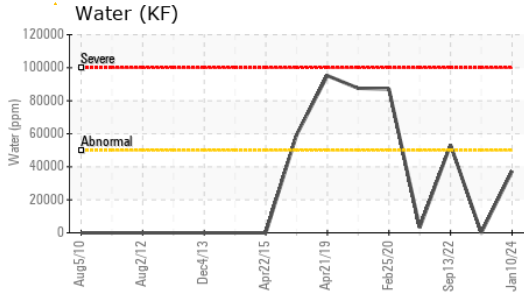
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>50	14	7
Sodium	ppm	ASTM D5185(m)	>50	8	2
Potassium	ppm	ASTM D5185(m)	>20	2	<1
Water	%	ASTM D6304*	>5	3.737	---
ppm Water	ppm	ASTM D6304*	>50000	37373	---

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		481480	354629	---
Particles >6µm	ASTM D7647	>10240000	343250	196919	---
Particles >14µm	ASTM D7647	>10240000	31211	3234	---
Particles >21µm	ASTM D7647	>25600000	2974	500	---
Particles >38µm	ASTM D7647	>6400000	15	11	---
Particles >71µm	ASTM D7647	>1600000	0	1	---
Oil Cleanliness	ISO 4406 (c)	>--/30/30	26/26/22	26/25/19	---



OIL ANALYSIS REPORT

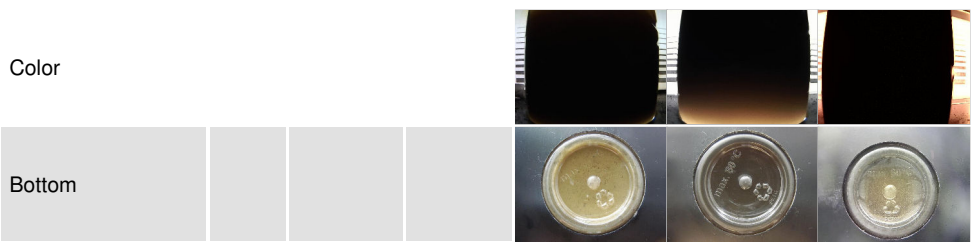


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		0.41	0.49	0.44

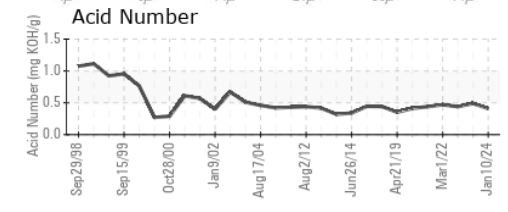
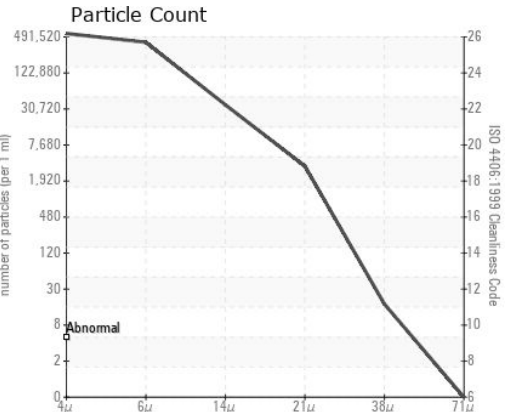
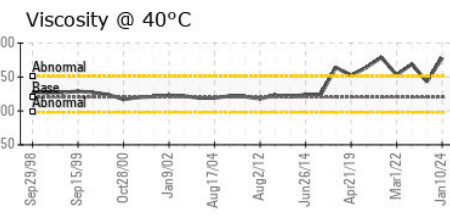
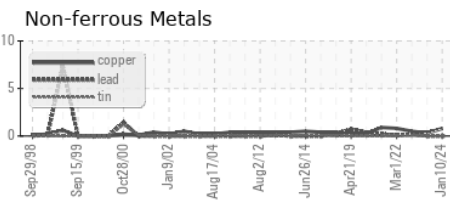
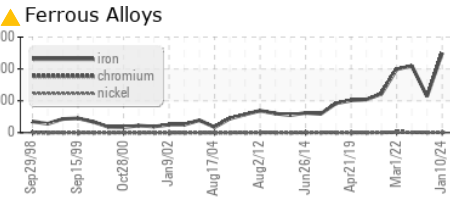
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	VLITE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	VLITE	NONE	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	VLITE	NONE
Appearance	scalar	Visual*	NORML	MILKY	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>5	1%	NEG	▲ 1%
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	220	278	243	269

SAMPLE IMAGES		method	limit/base	current	history1	history2
---------------	--	--------	------------	---------	----------	----------



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **STELCO - BOSC - Basic Oxygen Slab Caster**
Sample No. : WC0898692 **Received** : 10 Jan 2024 **2330 Regional Road #3, Door: BOSC8**
Lab Number : 02608021 **Diagnosed** : 12 Jan 2024 **NANTICOKE, ON**
Unique Number : 5709107 **Diagnostician** : Kevin Marson **CA N0A 1L0**
Test Package : IND 2 (Additional Tests: KF, PQ, PrtCount) **Contact: Tom Walden**
To discuss this sample report, contact Customer Service at 1-800-268-2131. **Thomas.Walden@stelco.com**
Test denoted () outside scope of accreditation, (m) method modified, (e) tested at external lab.* **T: (519)587-4541**
Validity of results and interpretation are based on the sample and information as supplied. **F: (519)587-7702**