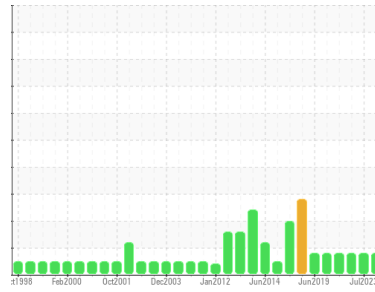




OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Area

Caster/Segment Drives

Machine Id

B - Strand 2 - 2 Gear Box Roll # 37 Top

Component

Gearbox

Fluid

SHELL OMALA 220 (36 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

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		WC0968473	WC0838961	WC0743649
Sample Date	Client Info		17 Jul 2024	13 Jul 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	ABNORMAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*	>DFLT	0	0	0
Iron	ppm	ASTM D5185(m)	>200	▲ 866	▲ 810
Chromium	ppm	ASTM D5185(m)	>15	8	8
Nickel	ppm	ASTM D5185(m)	>15	0	0
Titanium	ppm	ASTM D5185(m)		0	0
Silver	ppm	ASTM D5185(m)		0	0
Aluminum	ppm	ASTM D5185(m)	>25	<1	<1
Lead	ppm	ASTM D5185(m)	>100	2	2
Copper	ppm	ASTM D5185(m)	>200	<1	0
Tin	ppm	ASTM D5185(m)	>25	0	0
Antimony	ppm	ASTM D5185(m)	>5	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0
Beryllium	ppm	ASTM D5185(m)		0	0
Cadmium	ppm	ASTM D5185(m)		0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	4.4	<1	1
Barium	ppm	ASTM D5185(m)	0.0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	<1	<1
Manganese	ppm	ASTM D5185(m)		1	2
Magnesium	ppm	ASTM D5185(m)	0	<1	1
Calcium	ppm	ASTM D5185(m)	0	1	2
Phosphorus	ppm	ASTM D5185(m)	215	599	626
Zinc	ppm	ASTM D5185(m)	0	35	34
Sulfur	ppm	ASTM D5185(m)	7039	7156	7295
Lithium	ppm	ASTM D5185(m)		<1	<1

CONTAMINANTS

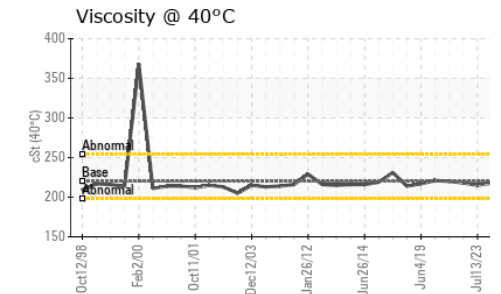
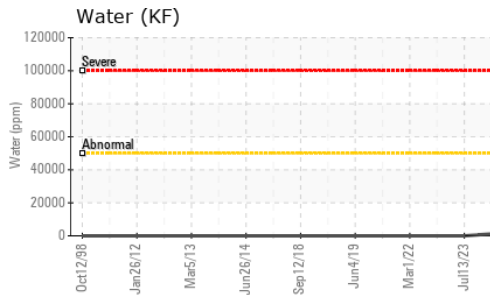
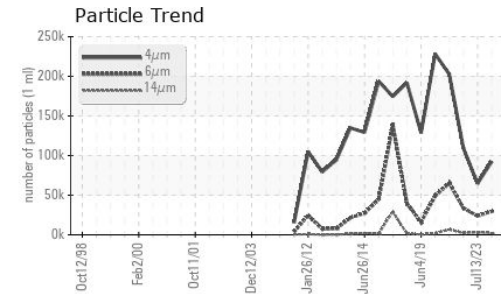
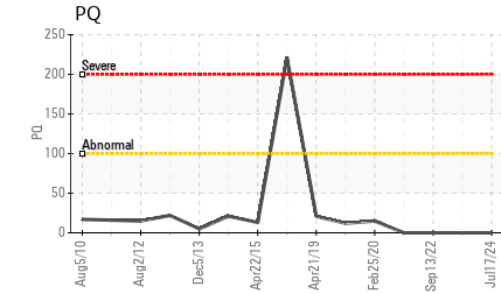
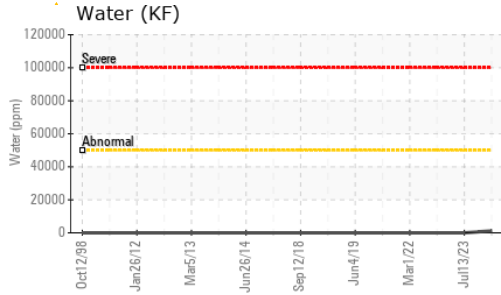
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>50	1	2
Sodium	ppm	ASTM D5185(m)		4	4
Potassium	ppm	ASTM D5185(m)	>20	2	2
Water	%	ASTM D6304*	>5	0.118	---
ppm Water	ppm	ASTM D6304*	>50000	1186	---

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		92205	64729	109412
Particles >6µm	ASTM D7647	>10240000	29465	23666	33900
Particles >14µm	ASTM D7647	>10240000	2081	3161	2247
Particles >21µm	ASTM D7647	>25600000	496	1042	629
Particles >38µm	ASTM D7647	>6400000	28	27	23
Particles >71µm	ASTM D7647	>1600000	1	0	1
Oil Cleanliness	ISO 4406 (c)	>--/30/30	24/22/18	23/22/19	24/22/18



OIL ANALYSIS REPORT

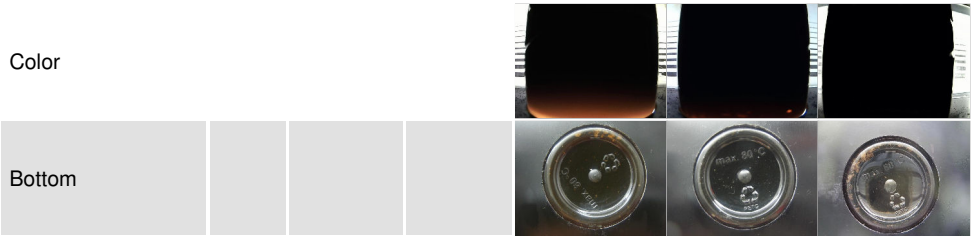


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		2.01	2.40	1.79

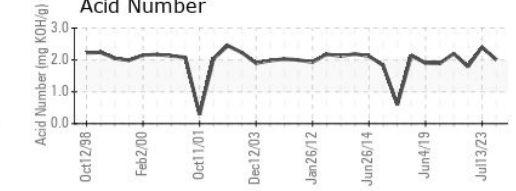
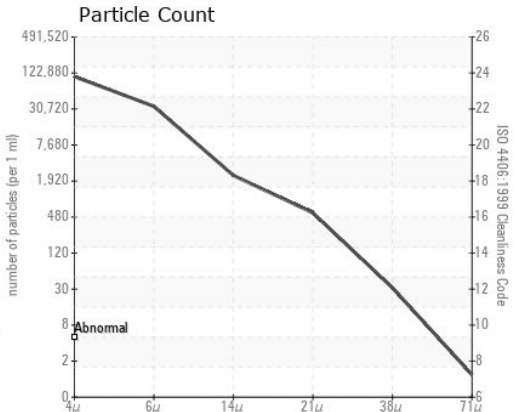
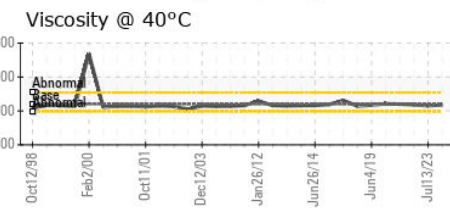
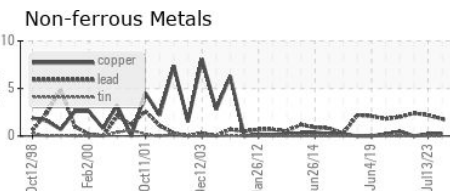
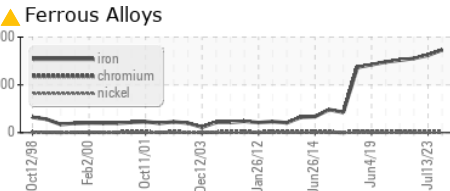
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	LIGHT	NONE	LIGHT
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>5	.2%	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	220	218	215	218

SAMPLE IMAGES		method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0968473
Lab Number : 02648504
Unique Number : 5814056
Test Package : IND 2 (Additional Tests: KF, PQ, PrtCont)
Received : 17 Jul 2024
Tested : 18 Jul 2024
Diagnosed : 19 Jul 2024 - Kevin Marson

STELCO - BOSC - Basic Oxygen Slab Caster
 2330 Regional Road #3, Door: BOSC8
 NANTICOKE, ON
 CA N0A 1L0
 Contact: Tom Walden
 Thomas.Walden@stelco.com
 T: (519)587-4541
 F: (519)587-7702

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.