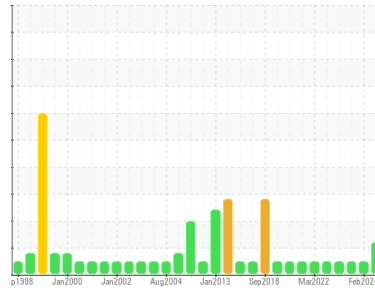




OIL ANALYSIS REPORT

Sample Rating Trend



VISUAL METAL



Area

Caster/Segment Drives

Machine Id

B - Strand 2 - 1 Gear Box Roll # 48 Top

Component

Gearbox

Fluid

SHELL OMALA 220 (45 GAL)

DIAGNOSIS

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.

Wear

Light concentration of visible metal present. Gear wear is indicated. The high ferrous density (PQ) index indicates that abnormal wear is occurring.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. 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	WC0968489	WC0913403	WC0898693
Sample Date	Client Info	17 Jul 2024	23 Feb 2024	10 Jan 2024
Machine Age	hrs	0	0	0
Oil Age	hrs	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		ABNORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >5	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
PQ	ASTM D8184* >DFLT	141	99	62
Iron	ppm ASTM D5185(m) >200	94	80	76
Chromium	ppm ASTM D5185(m) >15	<1	<1	<1
Nickel	ppm ASTM D5185(m) >15	<1	<1	<1
Titanium	ppm ASTM D5185(m)	0	0	0
Silver	ppm ASTM D5185(m)	<1	0	0
Aluminum	ppm ASTM D5185(m) >25	1	1	1
Lead	ppm ASTM D5185(m) >100	0	0	<1
Copper	ppm ASTM D5185(m) >200	<1	<1	<1
Tin	ppm ASTM D5185(m) >25	0	0	0
Antimony	ppm ASTM D5185(m) >5	0	0	0
Vanadium	ppm ASTM D5185(m)	0	0	0
Beryllium	ppm ASTM D5185(m)	0	0	0
Cadmium	ppm ASTM D5185(m)	0	0	0

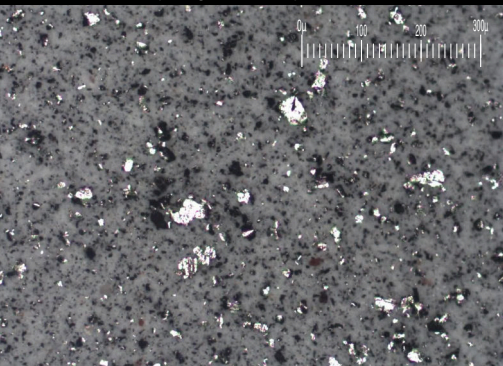
ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m) 4.4	13	13	13
Barium	ppm ASTM D5185(m) 0.0	0	0	0
Molybdenum	ppm ASTM D5185(m) 0	0	0	0
Manganese	ppm ASTM D5185(m)	1	<1	<1
Magnesium	ppm ASTM D5185(m) 0	<1	1	4
Calcium	ppm ASTM D5185(m) 0	3	4	7
Phosphorus	ppm ASTM D5185(m) 215	330	321	301
Zinc	ppm ASTM D5185(m) 0	3	6	5
Sulfur	ppm ASTM D5185(m) 7039	9144	9508	9532
Lithium	ppm ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

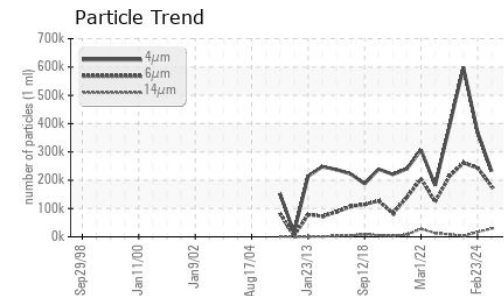
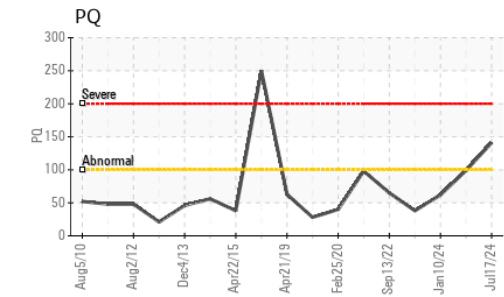
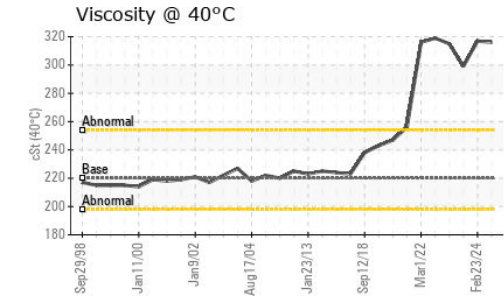
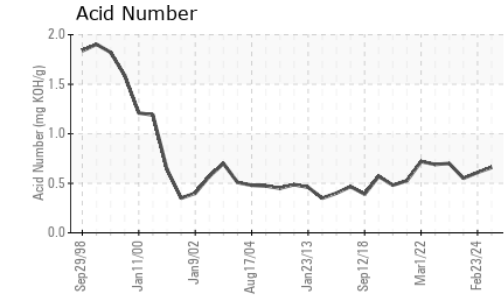
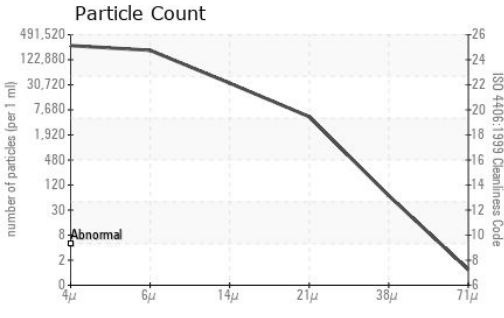
method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >50	3	4	4
Sodium	ppm ASTM D5185(m)	<1	<1	<1
Potassium	ppm ASTM D5185(m) >20	<1	1	<1

Particle Filter (Magn: 100 x)





OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0968489
Lab Number : 02648521
Unique Number : 5814073
Test Package : IND 2 (Additional Tests: Bottom, BottomAnalysis, FILTERPATCH, PQ, PrtCount, PrtFilter, TAN)

STELCO - BOSC - Basic Oxygen Slab Caster
 2330 Regional Road #3, Door: BOSC8
 NANTICOKE, ON
 CA NOA 1L0

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.

Contact: Tom Walden
 Thomas.Walden@stelco.com
 T: (519)587-4541
 F: (519)587-7702

FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		231415	370597	598307
Particles >6µm	ASTM D7647	>10240000	178281	244036	261556
Particles >14µm	ASTM D7647	>10240000	29078	16774	3848
Particles >21µm	ASTM D7647	>25600000	4596	2438	321
Particles >38µm	ASTM D7647	>6400000	59	74	2
Particles >71µm	ASTM D7647	>1600000	1	2	0
Oil Cleanliness	ISO 4406 (c)	>--/30/30	25/25/22	26/25/21	26/25/19

FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.66	0.61	0.55

VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	Visual*	NONE	▲ MODER	VLITE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	LIGHT	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
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	NEG	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	316	317	299

SAMPLE IMAGES	method	limit/base	current	history1	history2
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