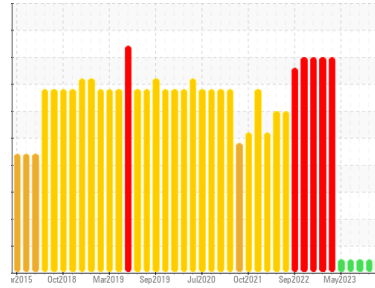




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
BOF/VESSELS
 Machine Id
A - 7 Vessel Drive Lube System
 Component
Drive End Gearbox
 Fluid
ESSO SPARTAN EP 320 (710 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

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

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0871201	WC0850095	WC0838952
Sample Date	Client Info		16 Oct 2023	16 Aug 2023	13 Jul 2023
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			NORMAL	NORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*	>99999	41	43	57
Iron	ppm	ASTM D5185(m)	>200	55	57
Chromium	ppm	ASTM D5185(m)	>15	<1	<1
Nickel	ppm	ASTM D5185(m)	>15	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0
Silver	ppm	ASTM D5185(m)		<1	<1
Aluminum	ppm	ASTM D5185(m)	>25	<1	1
Lead	ppm	ASTM D5185(m)	>100	<1	<1
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)		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	2	1
Barium	ppm	ASTM D5185(m)		<1	0
Molybdenum	ppm	ASTM D5185(m)	0	5	5
Manganese	ppm	ASTM D5185(m)		<1	<1
Magnesium	ppm	ASTM D5185(m)	0	1	1
Calcium	ppm	ASTM D5185(m)	0	5	4
Phosphorus	ppm	ASTM D5185(m)	250	293	310
Zinc	ppm	ASTM D5185(m)	0	28	35
Sulfur	ppm	ASTM D5185(m)		8689	8409
Lithium	ppm	ASTM D5185(m)		5	5

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>50	2	2
Sodium	ppm	ASTM D5185(m)		1	1
Potassium	ppm	ASTM D5185(m)	>20	<1	<1

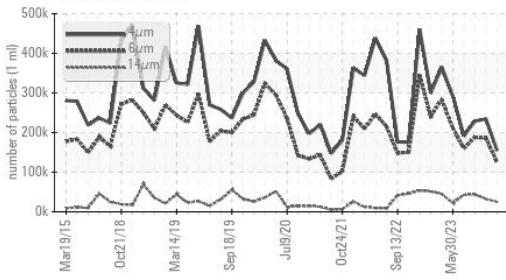
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		154603	234312	229024
Particles >6µm	ASTM D7647	>10240000	125580	186100	188215
Particles >14µm	ASTM D7647	>10240000	25029	32247	43654
Particles >21µm	ASTM D7647	>2560000	3041	3451	6461
Particles >38µm	ASTM D7647	>640000	72	40	34
Particles >71µm	ASTM D7647	>160000	6	3	0
Oil Cleanliness	ISO 4406 (c)	>--/30/30	24/24/22	25/25/22	25/25/23

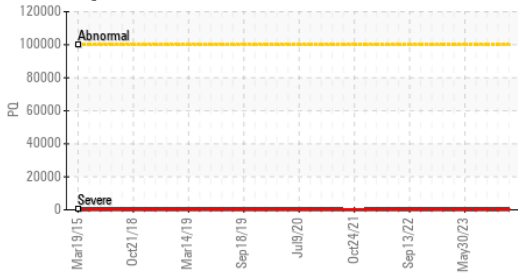


OIL ANALYSIS REPORT

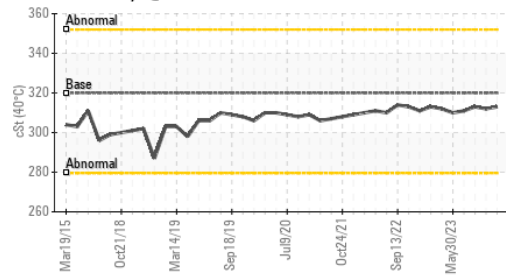
Particle Trend



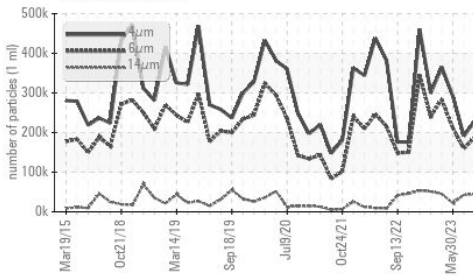
PQ



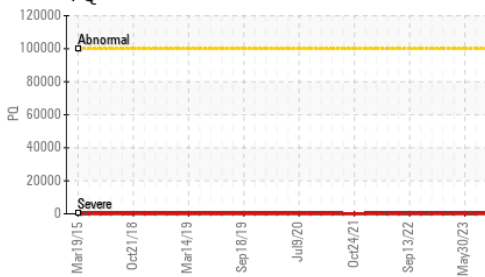
Viscosity @ 40°C



Particle Trend



PQ



FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g ASTM D974*	0.75	0.41	0.38	0.32

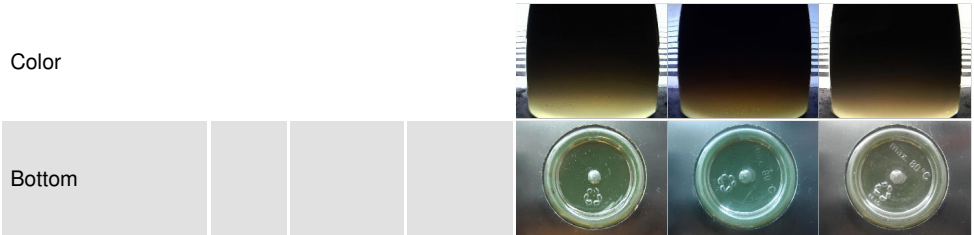
VISUAL

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	VLITE	NONE	NONE
Debris	scalar Visual*	NONE	VLITE	VLITE	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

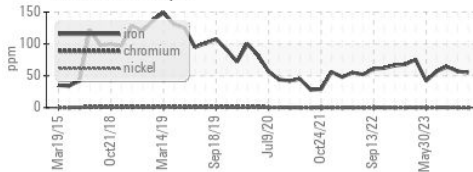
method	limit/base	current	history1	history2	
Visc @ 40°C	cSt ASTM D7279(m)	320	313	312	313

SAMPLE IMAGES

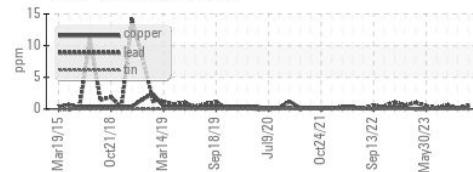


GRAPHS

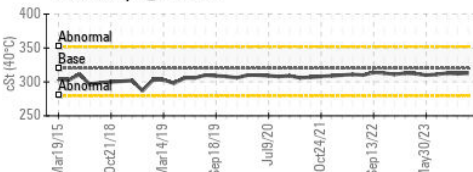
Ferrous Alloys



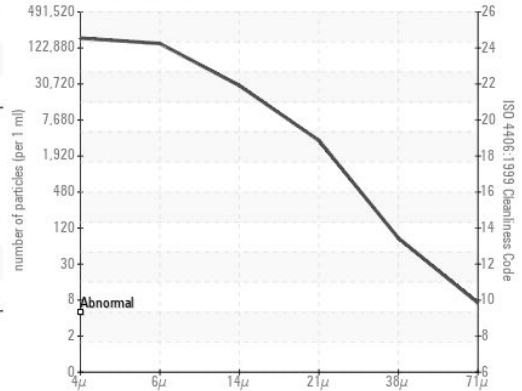
Non-ferrous Metals



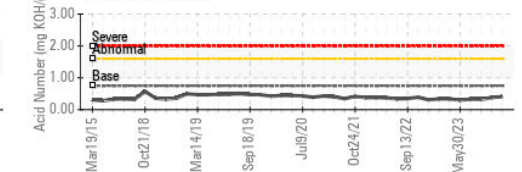
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **STELCO - BOSC - Basic Oxygen Slab Caster**
Sample No. : WC0871201 **Received** : 17 Oct 2023 2330 Regional Road #3, Door: BOSC8
Lab Number : 02589774 **Diagnosed** : 18 Oct 2023 NANTICOKE, ON
Unique Number : 5658840 **Diagnostician** : Kevin Marson CA N0A 1L0
Test Package : IND 2 (Additional Tests: PQ, TAN Man)

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