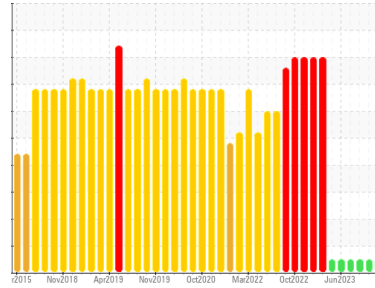




OIL ANALYSIS REPORT

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

Confirm the source of the lubricant being utilized for top-up/fill. 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

Additive levels indicate the addition of a different brand, or type of oil. 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			WC0890381	WC0871201	WC0850095
Sample Date	Client Info			15 Dec 2023	16 Oct 2023	16 Aug 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

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

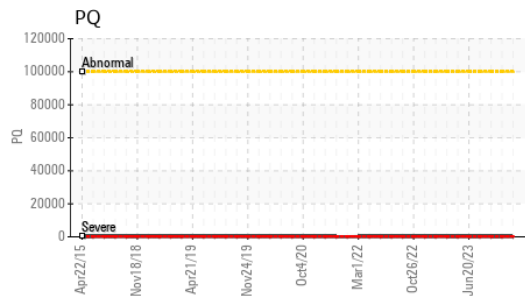
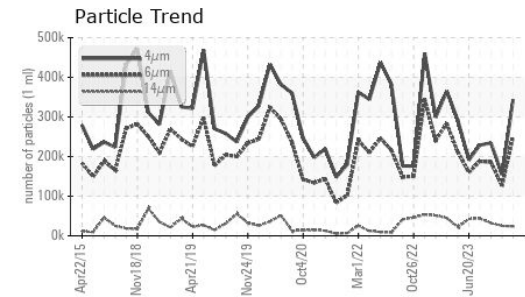
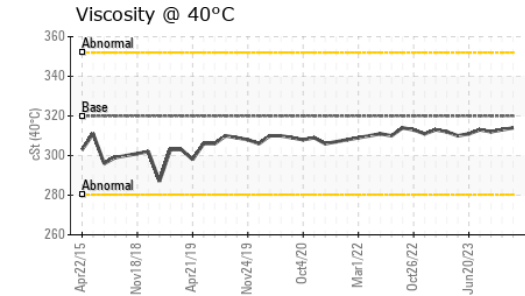
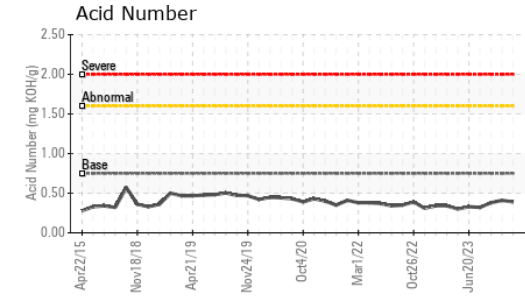
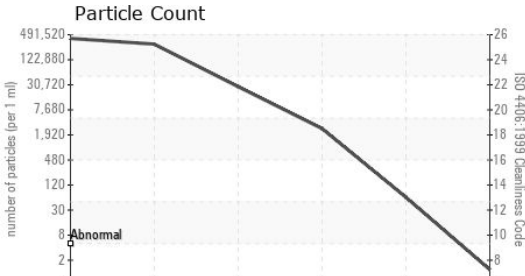
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*	>99999	44	41	43
Iron	ppm	ASTM D5185(m)	>200	56	55	57
Chromium	ppm	ASTM D5185(m)	>15	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>15	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		<1	<1	<1
Aluminum	ppm	ASTM D5185(m)	>25	<1	<1	1
Lead	ppm	ASTM D5185(m)	>100	<1	<1	<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	1	2	1
Barium	ppm	ASTM D5185(m)		<1	<1	0
Molybdenum	ppm	ASTM D5185(m)	0	4	5	5
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	0	1	1	1
Calcium	ppm	ASTM D5185(m)	0	7	5	4
Phosphorus	ppm	ASTM D5185(m)	250	296	293	310
Zinc	ppm	ASTM D5185(m)	0	27	28	35
Sulfur	ppm	ASTM D5185(m)		8593	8689	8409
Lithium	ppm	ASTM D5185(m)		5	5	5

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>50	2	2	2
Sodium	ppm	ASTM D5185(m)		<1	1	1
Potassium	ppm	ASTM D5185(m)	>20	0	<1	<1



OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **STELCO - BOSC - Basic Oxygen Slab Caster**
Sample No. : WC0890381 **Received** : 15 Dec 2023
Lab Number : 02603579 **Diagnosed** : 18 Dec 2023
Unique Number : 5696664 **Diagnostician** : Kevin Marson
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.

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

FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		343443	154603	234312
Particles >6µm	ASTM D7647	>10240000	250416	125580	186100
Particles >14µm	ASTM D7647	>10240000	23968	25029	32247
Particles >21µm	ASTM D7647	>2560000	2382	3041	3451
Particles >38µm	ASTM D7647	>640000	54	72	40
Particles >71µm	ASTM D7647	>160000	1	6	3
Oil Cleanliness	ISO 4406 (c)	>--/30/30	26/25/22	24/24/22	25/25/22

FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D974*	0.75	0.39	0.41	0.38

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	VLITE	NONE
Debris	scalar Visual*	NONE	VLITE	VLITE	VLITE
Sand/Dirt	scalar Visual*	NONE	VLITE	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	314	313	312

SAMPLE IMAGES	method	limit/base	current	history1	history2
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