

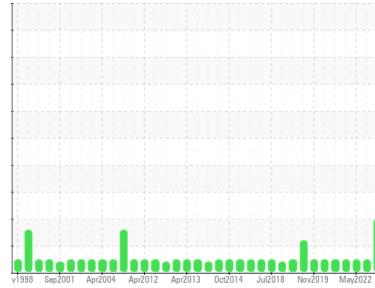


PROBLEM SUMMARY

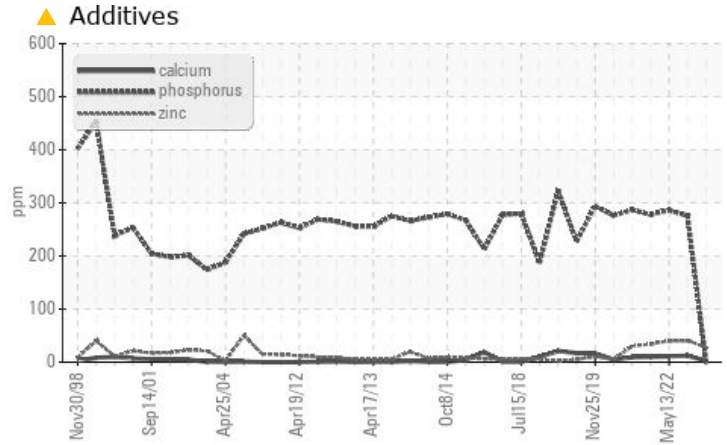
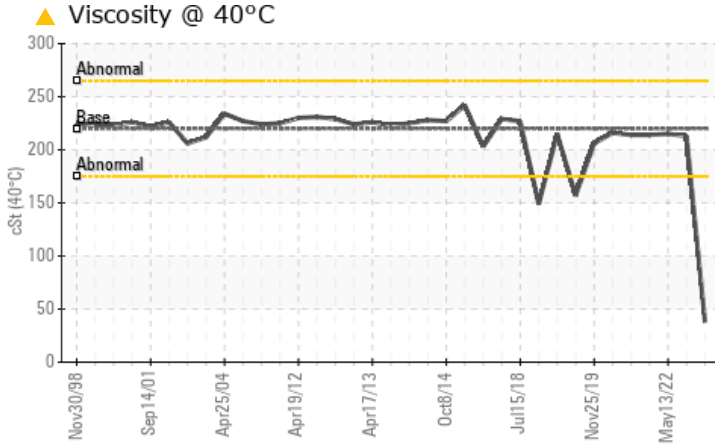
Sample Rating Trend

VISCOSITY

Area
PUMPHOUSE/AIR COMPRESSORS
 Machine Id
C - 1 Air Compressor Electric Drive Gearbox
 Component
Gearbox
 Fluid
ESSO SPARTAN EP 220 (15 GAL)



COMPONENT CONDITION SUMMARY



RECOMMENDATION

Due to this condition we recommend the following action... We advise an early resample to confirm this situation. NOTE: The current sample results do not match this units historical trend, indicating the sample may not be from this component/unit.

PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	NORMAL	NORMAL
Barium	ppm	ASTM D5185(m)	▲ 325	<1	<1
Phosphorus	ppm	ASTM D5185(m)	▲ 3	276	286
Zinc	ppm	ASTM D5185(m)	▲ 28	40	40
Sulfur	ppm	ASTM D5185(m)	▲ 182	9419	9716
Visc @ 40°C	cSt	ASTM D7279(m)	▲ 38.0	213	215

Customer Id: LEWBOSC
 Sample No.: WC0850104
 Lab Number: 02576227
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Kevin Marson +1 (289)291-4644 x4644
Kevin.Marson@wearcheck.com

To change component or sample information:
 Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Resample	---	---	?	We advise an early resample to confirm this situation.
Alert	---	---	?	NOTE: The current sample results do not match this units historical trend, indicating the sample may not be from this component/unit.

HISTORICAL DIAGNOSIS

10 Aug 2022 Diag: Kevin Marson

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

[view report](#)



13 May 2022 Diag: Kevin Marson

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

[view report](#)



19 Sep 2021 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

[view report](#)



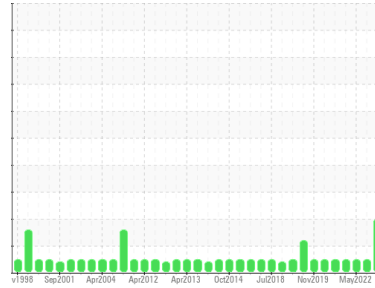


OIL ANALYSIS REPORT

Sample Rating Trend

VISCOSITY

Area
PUMPHOUSE/AIR COMPRESSORS
 Machine Id
C - 1 Air Compressor Electric Drive Gearbox
 Component
Gearbox
 Fluid
ESSO SPARTAN EP 220 (15 GAL)



DIAGNOSIS

Recommendation

Due to this condition we recommend the following action... We advise an early resample to confirm this situation. NOTE: The current sample results do not match this units historical trend, indicating the sample may not be from this component/unit.

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

Visc @ 40°C is abnormally low. Zinc ppm levels are notably high. Barium ppm levels are notably high. Phosphorus ppm levels are notably low. Sulfur ppm levels are notably low. Viscosity of sample indicates oil is within ISO 32 range, advise investigate. The AN level is acceptable for this fluid.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0850104	WC0732720	WC0704026
Sample Date	Client Info		16 Aug 2023	10 Aug 2022	13 May 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	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*	>DFLT	1	0	0
Iron	ppm	ASTM D5185(m) >200	2	45	48
Chromium	ppm	ASTM D5185(m) >15	0	0	0
Nickel	ppm	ASTM D5185(m) >15	<1	<1	0
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	0	0
Aluminum	ppm	ASTM D5185(m) >25	<1	<1	<1
Lead	ppm	ASTM D5185(m) >100	0	2	2
Copper	ppm	ASTM D5185(m) >200	2	<1	6
Tin	ppm	ASTM D5185(m) >25	0	0	<1
Antimony	ppm	ASTM D5185(m) >5	0	<1	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) .5	4	2	1
Barium	ppm	ASTM D5185(m)	▲ 325	<1	<1
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	1
Calcium	ppm	ASTM D5185(m) 1.7	3	12	11
Phosphorus	ppm	ASTM D5185(m) 250	▲ 3	276	286
Zinc	ppm	ASTM D5185(m) .3	▲ 28	40	40
Sulfur	ppm	ASTM D5185(m)	▲ 182	9419	9716
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >50	<1	10	10
Sodium	ppm	ASTM D5185(m)	13	5	4
Potassium	ppm	ASTM D5185(m) >20	4	0	0

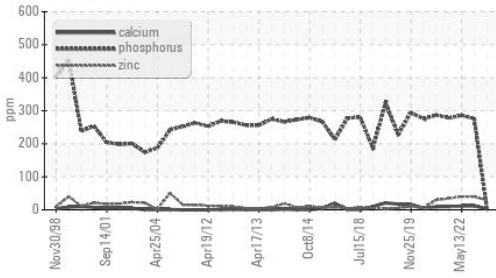
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		72885	29943	45116
Particles >6µm	ASTM D7647	>10240000	20400	7131	7221
Particles >14µm	ASTM D7647	>10240000	901	608	226
Particles >21µm	ASTM D7647	>2560000	169	114	19
Particles >38µm	ASTM D7647	>640000	3	2	0
Particles >71µm	ASTM D7647	>160000	0	0	0
Oil Cleanliness	ISO 4406 (c)	>--/30/30	23/22/17	22/20/16	23/20/15

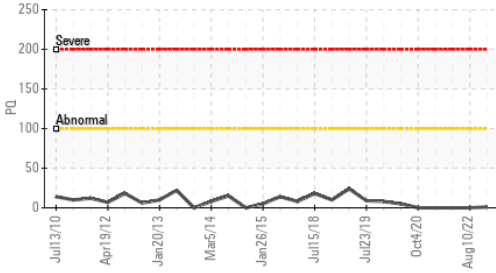


OIL ANALYSIS REPORT

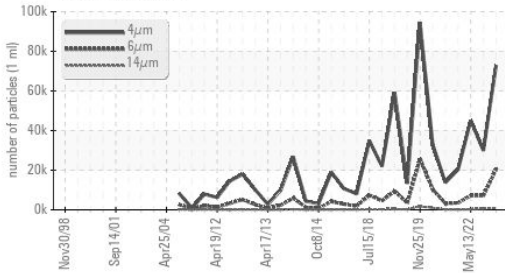
Additives



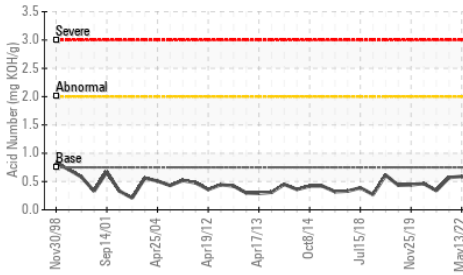
PQ



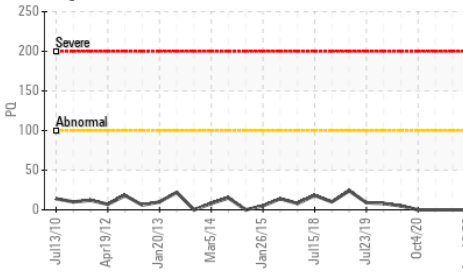
Particle Trend



Acid Number



PQ



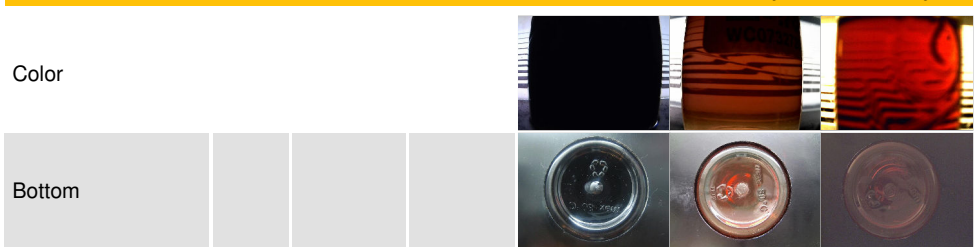
FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN) mg KOH/g	ASTM D974*	0.75	0.20	0.55	0.59
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	VLITE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>5	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES

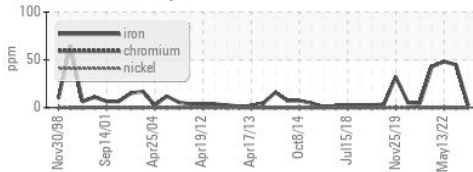
method	limit/base	current	history1	history2		
Visc @ 40°C	cSt	ASTM D7279(m)	220	▲ 38.0	213	215

SAMPLE IMAGES

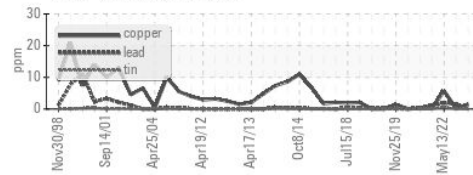


GRAPHS

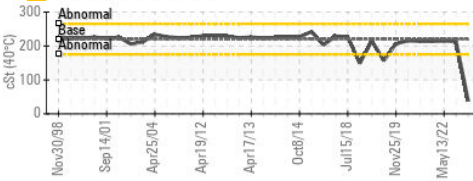
Ferrous Alloys



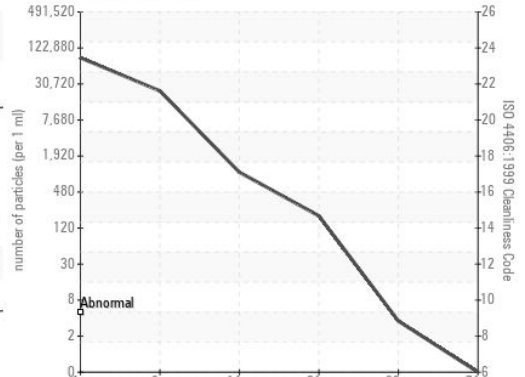
Non-ferrous Metals



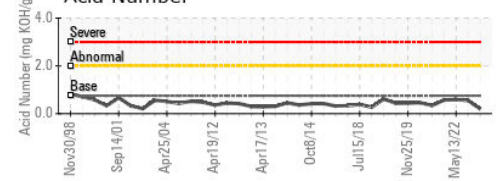
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017
Accredited
Laboratory

Laboratory

Sample No. : WC0850104

Lab Number : 02576227

Unique Number : 5629287

Test Package : IND 2 (Additional Tests: PQ, PrtCount, TAN Man)

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 STELCO - BOSC - Basic Oxygen Slab Caster

Received : 16 Aug 2023

Diagnosed : 21 Aug 2023

Diagnostician : Kevin Marson

IND 2 (Additional Tests: PQ, PrtCount, TAN Man)

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.