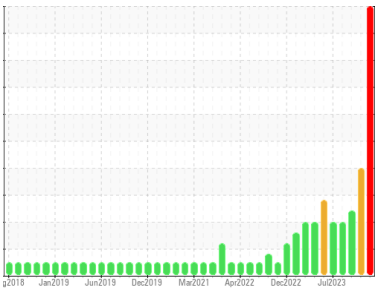
PROBLEM SUMMARY

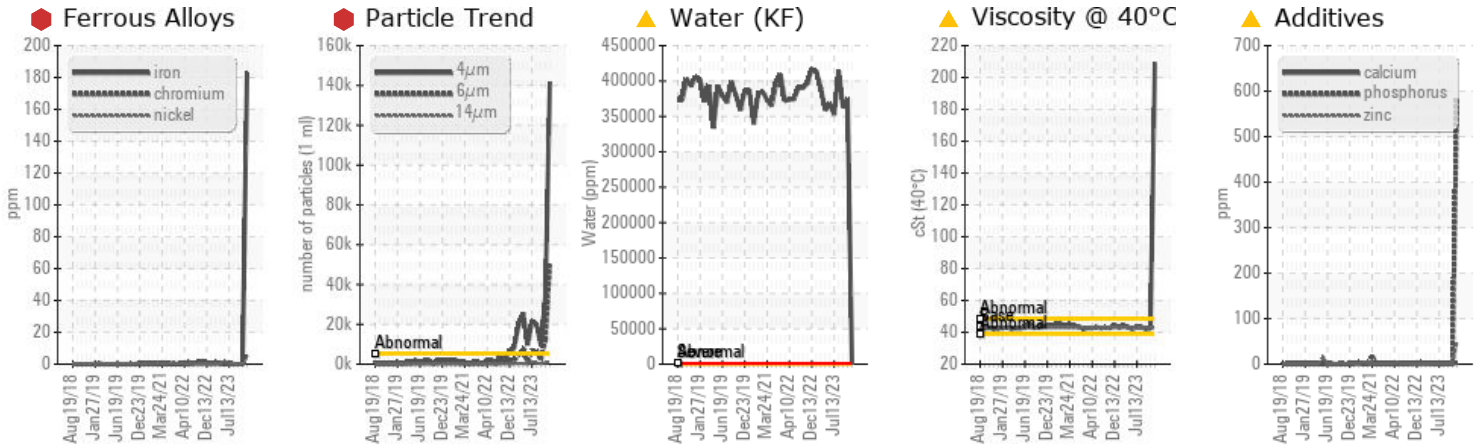
Sample Rating Trend



WEAR

Area
Caster/Hydraulics
Machine Id
D - Strand 2-1 Hydraulic Tank
Component
Hydraulic System
Fluid
FORSYTHE NO FIRE WG 200R (5000 LTR)

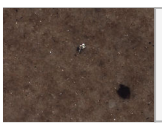
COMPONENT CONDITION SUMMARY



RECOMMENDATION

Due to this condition we recommend the following action... We advise an early resample to confirm this situation. We recommend an early resample to monitor this condition. 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				**SEVERE**	SEVERE	ABNORMAL
Iron	ppm	ASTM D5185(m)	>20	**183**	0	0
Water	%	ASTM D6304*		**0.012**	37.5	36.3
ppm Water	ppm	ASTM D6304*	>10%	**127**	375000	363000
Particles >4µm		ASTM D7647	>5000	**141594**	34571	9302
Particles >6µm		ASTM D7647	>1300	**50062**	11804	2163
Particles >14µm		ASTM D7647	>160	**775**	715	193
Particles >21µm		ASTM D7647	>40	**154**	103	85
Oil Cleanliness		ISO 4406 (c)	>19/17/14	**24/23/17**	22/21/17	20/18/15
White Metal	scalar	Visual*	NONE	**VLITE**	NONE	NONE
Visc @ 40°C	cSt	ASTM D7279(m)	43	**209**	42.4	42.0
PrtFilter					*no image*	*no image*

Customer Id: LEWBOSC
Sample No.: WC0898700
Lab Number: 02608030
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
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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 recommend an early resample to monitor this condition. 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

ISO

15 Dec 2023 Diag: Kevin Marson

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using IND 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid.Component wear rates appear to be normal (unconfirmed). There is a high amount of particulates (2 to 100 microns in size) present in the oil. The AN level is acceptable for this fluid. The pH level of this fluid is within the acceptable limits. The reserve alkalinity of this fluid is acceptable. The water concentration level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

ISO

16 Oct 2023 Diag: Kevin Marson

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a moderate amount of particulates (2 to 100 microns in size) present in the oil. The AN level is acceptable for this fluid. The pH level of this fluid is within the acceptable limits. The reserve alkalinity of this fluid is acceptable. The water concentration level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

ISO

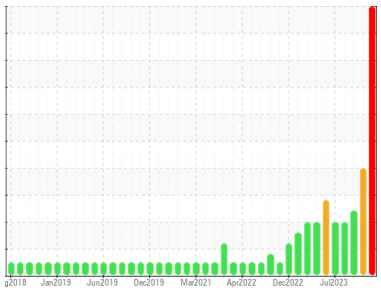
16 Aug 2023 Diag: Kevin Marson

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a moderate amount of particulates (2 to 100 microns in size) present in the oil. The AN level is acceptable for this fluid. The pH level of this fluid is within the acceptable limits. The reserve alkalinity of this fluid is acceptable. The water concentration level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
Caster/Hydraulics
Machine Id
D - Strand 2-1 Hydraulic Tank
Component
Hydraulic System
Fluid
FORSYTHE NO FIRE WG 200R (5000 LTR)

DIAGNOSIS

Recommendation

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

Wear

Iron ppm levels are severe. Moderate concentration of visible metal present. Cylinder wear is indicated. Cylinder or oil pump wear indicated.

Contamination

There is a high amount of particulates (2 to 100 microns in size) present in the oil.

Fluid Condition

The water concentration level is lower than acceptable for this fluid. Viscosity of sample indicates oil is within ISO 220 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0898700**	WC0890395	WC0871200
Sample Date		Client Info		**10 Jan 2024**	15 Dec 2023	16 Oct 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				**SEVERE**	SEVERE	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*	>99999	**16**	0	0
Iron	ppm	ASTM D5185(m)	>20	**183**	0	0
Chromium	ppm	ASTM D5185(m)	>20	**7**	0	0
Nickel	ppm	ASTM D5185(m)	>20	**2**	0	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	**<1**	0	0
Lead	ppm	ASTM D5185(m)	>20	**3**	0	0
Copper	ppm	ASTM D5185(m)	>20	**<1**	0	0
Tin	ppm	ASTM D5185(m)	>20	**0**	0	0
Antimony	ppm	ASTM D5185(m)		**0**	<1	<1
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)		**3**	<1	<1
Barium	ppm	ASTM D5185(m)		**0**	<1	<1
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**1**	0	0
Magnesium	ppm	ASTM D5185(m)		**4**	<1	0
Calcium	ppm	ASTM D5185(m)		**3**	1	<1
Phosphorus	ppm	ASTM D5185(m)		**583**	1	<1
Zinc	ppm	ASTM D5185(m)		**49**	0	0
Sulfur	ppm	ASTM D5185(m)		**8346**	62	56
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

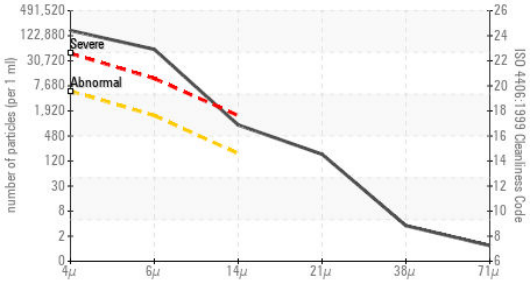
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	**2**	<1	<1
Sodium	ppm	ASTM D5185(m)		**2**	188	168
Potassium	ppm	ASTM D5185(m)	>20	**3**	11	15
Water	%	ASTM D6304*		**0.012**	37.5	36.3
ppm Water	ppm	ASTM D6304*	>10%	**127**	375000	363000

FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	**141594**	34571	9302
Particles >6µm	ASTM D7647	>1300	**50062**	11804	2163
Particles >14µm	ASTM D7647	>160	**775**	715	193
Particles >21µm	ASTM D7647	>40	**154**	103	85
Particles >38µm	ASTM D7647	>10	**3**	0	15
Particles >71µm	ASTM D7647	>3	**1**	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	**24/23/17**	22/21/17	20/18/15

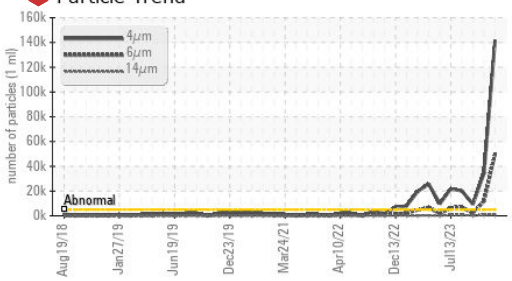
Particle Filter (Magn: 100 x)

OIL ANALYSIS REPORT

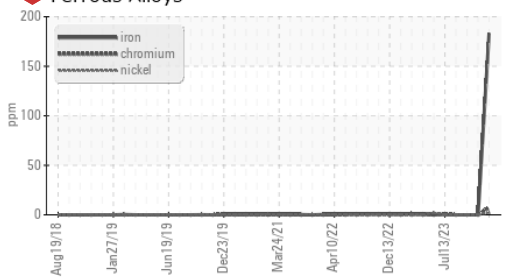
Particle Count



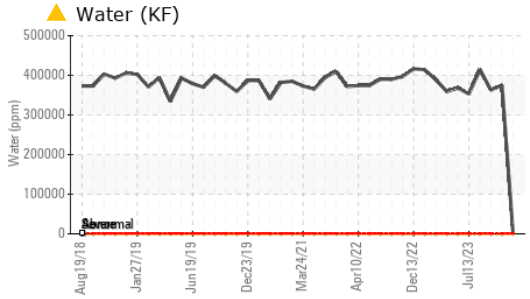
Particle Trend



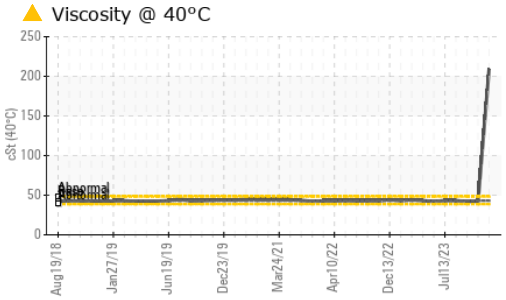
Ferrous Alloys



Water (KF)



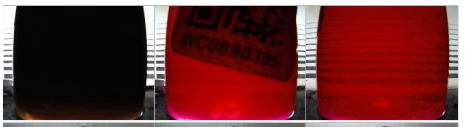
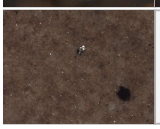
Viscosity @ 40°C



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		**2.07**	3.48	3.66
Alkiline Reserve (Oils)	ml KOH/g	ASTM D1121*	210	**---**	203	204

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	▲ **VLITE**	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	**NONE**	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Appearance	scalar	Visual*	NORML	**NORML**	FRGLY	FRGLY
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*		**NEG**	>10%	>10%
Free Water	scalar	Visual*		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
pH	Scale 0-14	ASTM D1287*		**---**	9.73	9.40
Visc @ 40°C	cSt	ASTM D7279(m)	43	▲ **209**	42.4	42.0

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					
PrtFilter				*no image*	*no image*

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0898700
Lab Number : 02608030
Unique Number : 5709116
Test Package : IND 2 (Additional Tests: Bottom, BottomAnalysis, FilterPatch, KF, pH, PQ, PrtFilter, ReserveAlk)

Recieved : 10 Jan 2024
Diagnosed : 15 Jan 2024
Diagnostician : 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.

Report Id: LEWBOSC [WCAMIS] 02608030 (Generated: 01/15/2024 17:17:50) Rev: 1

Submitted By: Bob Melanson