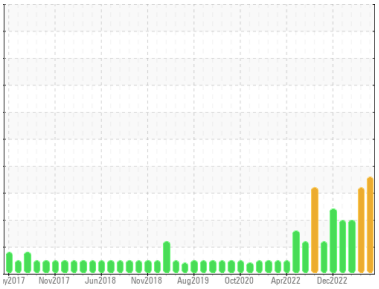
PROBLEM SUMMARY

Sample Rating Trend

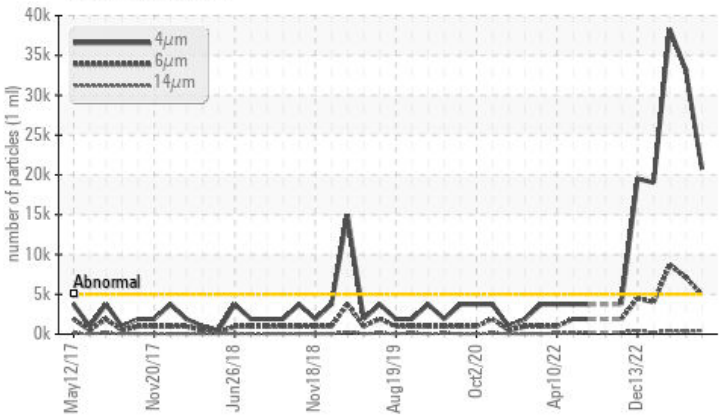


COOL CHEMICALS

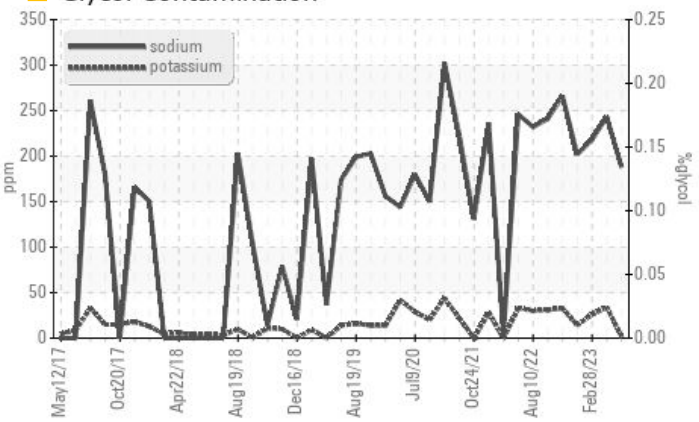
Area
BOF/DESULF
Machine Id
D Desulph Skimmer West
Component
Hydraulic System
Fluid
FORSYTHE NO FIRE WG 200R (130 GAL)

COMPONENT CONDITION SUMMARY

▲ Particle Trend



▲ Glycol Contamination



RECOMMENDATION

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL
Sulfur	ppm	ASTM D5185(m)		▲ **141**	19	6
Potassium	ppm	ASTM D5185(m)	>20	▲ **2**	34	26
Particles >4µm		ASTM D7647	>5000	▲ **20736**	▲ 33162	▲ 38295
Particles >6µm		ASTM D7647	>1300	▲ **4917**	▲ 7128	▲ 8730
Particles >14µm		ASTM D7647	>160	▲ **448**	▲ 314	▲ 401
Particles >21µm		ASTM D7647	>40	▲ **149**	▲ 81	▲ 97
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **22/19/16**	▲ 22/20/15	▲ 22/20/16

Customer Id: LEWBOSC
Sample No.: WC0832567
Lab Number: 02565792
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
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Kevin.Marson@wearcheck.com

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Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Fluid Source	---	---	?	Confirm the source of the lubricant being utilized for top-up/fill.
Filter Fluid	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

HISTORICAL DIAGNOSIS

VISUAL METAL

30 May 2023 Diag: Kevin Marson

We advise that you check for visible metal particles in the oil. We advise that you add water to increase the water concentration level to 41%. Ensure that only distilled water or boiler feed water condensate are used for make-up. 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.Light concentration of visible metal present. There is a moderate amount of particulates (2 to 100 microns in size) present in the oil. The water concentration level is lower than acceptable for this fluid. 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 oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

ISO

28 Feb 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. Oil Cleanliness are abnormally high. Particles >14µm are abnormally high. Particles >21µm are abnormally high. Particles >4µm are abnormally high. Particles >6µm are abnormally high. 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

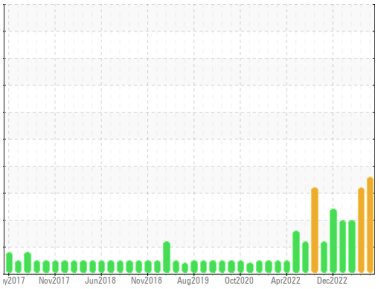
24 Jan 2023 Diag: Kevin Marson

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.All component wear rates are normal. Oil Cleanliness are abnormally high. Particles >4µm are abnormally high. Particles >6µm are abnormally high. Particles >14µm are notably high. Particles >21µm are notably high. 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



COOL CHEMICALS

Area
BOF/DESULF
Machine Id
D Desulph Skimmer West
Component
Hydraulic System
Fluid
FORSYTHE NO FIRE WG 200R (130 GAL)

DIAGNOSIS

Recommendation
We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

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

Fluid Condition
Additive levels indicate the addition of a different brand, or type of 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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0832567**	WC0824343	WC0796828
Sample Date		Client Info		**20 Jun 2023**	30 May 2023	28 Feb 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				**ABNORMAL**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*	>99999	**0**	7	0
Iron	ppm	ASTM D5185(m)	>20	**0**	2	<1
Chromium	ppm	ASTM D5185(m)	>20	**0**	1	<1
Nickel	ppm	ASTM D5185(m)	>20	**2**	<1	0
Titanium	ppm	ASTM D5185(m)		**2**	0	0
Silver	ppm	ASTM D5185(m)		**<1**	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	**1**	0	0
Lead	ppm	ASTM D5185(m)	>20	**1**	0	0
Copper	ppm	ASTM D5185(m)	>20	**0**	3	2
Tin	ppm	ASTM D5185(m)	>20	**0**	0	0
Antimony	ppm	ASTM D5185(m)		**<1**	0	0
Vanadium	ppm	ASTM D5185(m)		**2**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**1**	<1	0

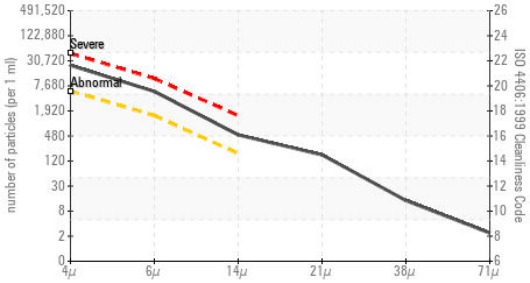
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**2**	3	0
Barium	ppm	ASTM D5185(m)		**0**	<1	0
Molybdenum	ppm	ASTM D5185(m)		**2**	<1	<1
Manganese	ppm	ASTM D5185(m)		**<1**	0	0
Magnesium	ppm	ASTM D5185(m)		**0**	1	<1
Calcium	ppm	ASTM D5185(m)		**0**	4	<1
Phosphorus	ppm	ASTM D5185(m)		**<1**	3	0
Zinc	ppm	ASTM D5185(m)		**0**	<1	<1
Sulfur	ppm	ASTM D5185(m)		▲ **141**	19	6
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	**0**	4	<1
Sodium	ppm	ASTM D5185(m)		**188**	243	218
Potassium	ppm	ASTM D5185(m)	>20	▲ **2**	34	26
Water	%	ASTM D6304*		**37.3**	36.9	36.94
ppm Water	ppm	ASTM D6304*	>10%	**373000**	369000	369498.5

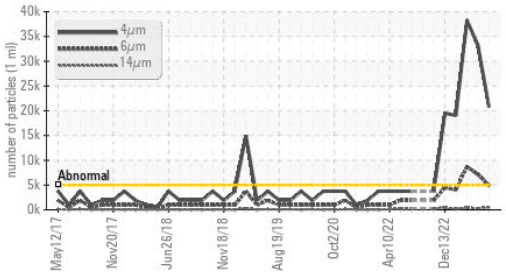
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **20736**	▲ 33162	▲ 38295
Particles >6µm		ASTM D7647	>1300	▲ **4917**	▲ 7128	▲ 8730
Particles >14µm		ASTM D7647	>160	▲ **448**	▲ 314	▲ 401
Particles >21µm		ASTM D7647	>40	▲ **149**	▲ 81	▲ 97
Particles >38µm		ASTM D7647	>10	**12**	6	5
Particles >71µm		ASTM D7647	>3	**2**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **22/19/16**	▲ 22/20/15	▲ 22/20/16

OIL ANALYSIS REPORT

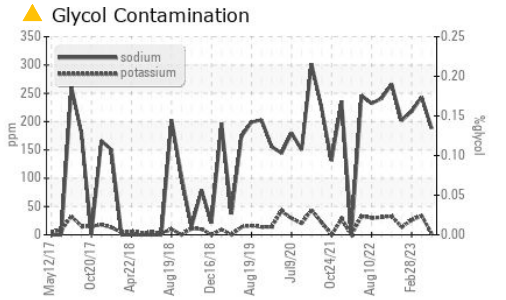
Particle Count



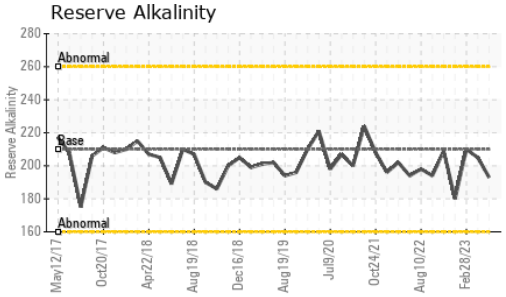
Particle Trend



Glycol Contamination



Reserve Alkalinity



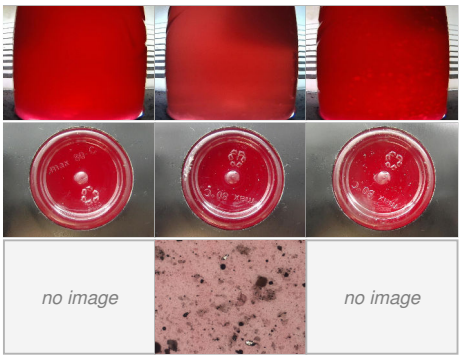
Acid Number

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		**3.79**	3.82	3.74
Alkiline Reserve (Oils)	ml KOH/g	ASTM D1121*	210	**193**	205	210

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

FLUID PROPERTIES		method	limit/base	current	history1	history2
pH	Scale 0-14	ASTM D1287*		**9.64**	9.53	9.54
Visc @ 40°C	cSt	ASTM D7279(m)	43	**44.2**	43.9	43.9

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. : WC0832567
Lab Number : 02565792
Unique Number : 5594833
Test Package : IND 2 (Additional Tests: KF, pH, PQ, ReserveAlk, TAN Man)

Received : 21 Jun 2023
Diagnosed : 23 Jun 2023
Diagnostician : Kevin Marson

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.

STELCO - BOSC - Basic Oxygen Slab Caster
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Report Id: LEWBOSC [WCAMIS] 02565792 (Generated: 07/13/2023 15:07:15) Rev: 1

Submitted By: Bob Melanson