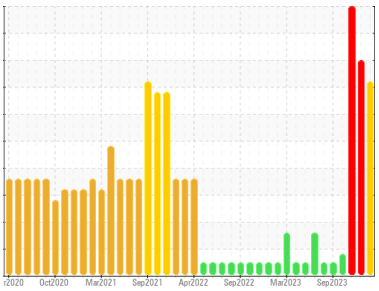
PROBLEM SUMMARY

Sample Rating Trend

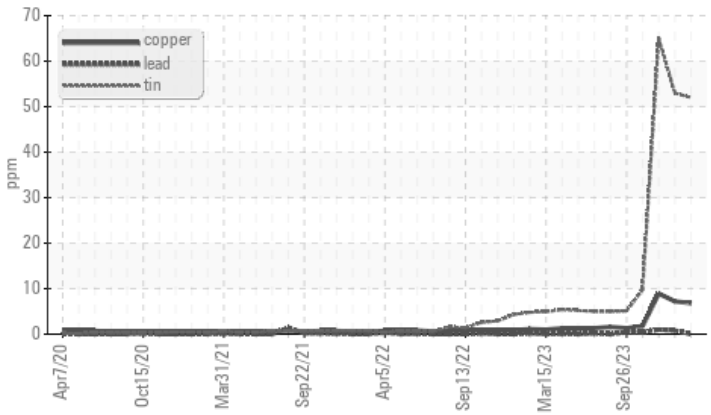


WEAR

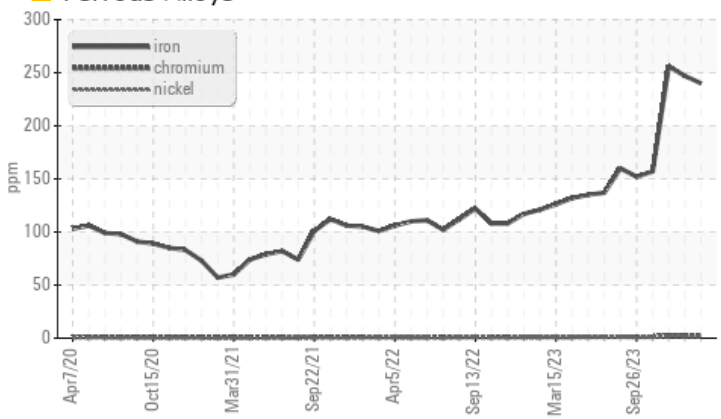
Area
Direct Strip Mill/Finishing
Machine Id
NL1 ROUGHER MORGOIL SYSTEM (DSC016) (S/N 1000016795)
Component
Gear Lube System
Fluid
SHELL OMALA 680 (6000 LTR)

COMPONENT CONDITION SUMMARY

▲ Non-ferrous Metals



▲ Ferrous Alloys



RECOMMENDATION

Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF). 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.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	SEVERE
Iron	ppm	ASTM D5185(m)	>150	▲ **240**	▲ 247	▲ 256
Tin	ppm	ASTM D5185(m)	>10	▲ **52**	▲ 53	▲ 65

Customer Id: ALGSSM
Sample No.: WC0837483
Lab Number: 02630755
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	---	---	?	Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF).
Contact Required	---	---	?	Please contact your representative for information regarding the proper sampling kits for your service.
Alert	---	---	?	NOTE: We recommend using IND 3 test kits,

HISTORICAL DIAGNOSIS

WEAR

28 Feb 2024 Diag: Kevin Marson

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF). 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.Tin ppm levels are severe. Iron ppm levels are abnormal. Antimony ppm levels are noted. Bearing and/or bushing wear is indicated. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. There is a light amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

WEAR

18 Jan 2024 Diag: Kevin Marson

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. We advise that you check for visible metal particles in the oil. 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. We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We recommend you service the filters on this component. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF). We recommend an early resample to monitor this condition. 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.Tin Tin ppm levels are severe. Iron and antimony ppm levels are abnormal. A sharp increase in the tin level is noted. Moderate concentration of visible metal present. Gear wear is indicated. Bearing and/or bushing wear is indicated. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. There is a moderate concentration of water present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

view report

WEAR

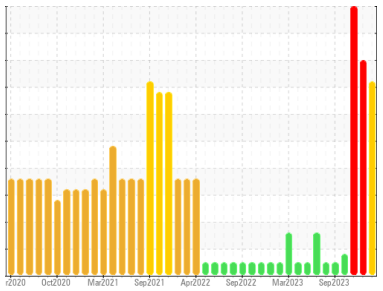
14 Nov 2023 Diag: Kevin Marson

We recommend an early resample to monitor this condition. 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.Tin ppm levels are abnormal. A sharp increase in the tin level is noted. Bearing and/or bushing wear is indicated. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. 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



WEAR

Area
Direct Strip Mill/Finishing
Machine Id
NL1 ROUGHER MORGOIL SYSTEM (DSC016) (S/N 1000016795)
Component
Gear Lube System
Fluid
SHELL OMALA 680 (6000 LTR)

DIAGNOSIS

Recommendation

Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF). 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.

Wear

Tin ppm levels are severe. Iron ppm levels are abnormal. Antimony ppm levels are noted. Bearing and/or bushing wear is indicated. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

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		**WC0837483**	WC0837544	WC0837454
Sample Date		Client Info		**16 Apr 2024**	28 Feb 2024	18 Jan 2024
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	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	NEG

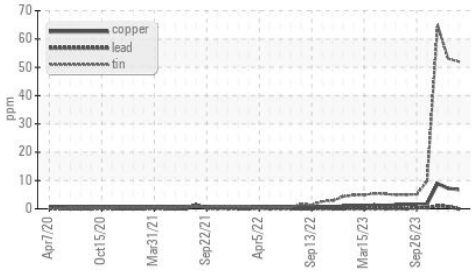
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**2**	6	29
Iron	ppm	ASTM D5185(m)	>150	▲ **240**	▲ 247	▲ 256
Chromium	ppm	ASTM D5185(m)	>10	**2**	2	3
Nickel	ppm	ASTM D5185(m)	>10	**1**	1	1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>25	**2**	3	3
Lead	ppm	ASTM D5185(m)	>100	**0**	<1	1
Copper	ppm	ASTM D5185(m)	>50	**7**	7	9
Tin	ppm	ASTM D5185(m)	>10	▲ **52**	▲ 53	▲ 65
Antimony	ppm	ASTM D5185(m)	>5	● **3**	● 3	▲ 4
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)		**1**	<1	2
Barium	ppm	ASTM D5185(m)		**0**	0	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**4**	4	4
Magnesium	ppm	ASTM D5185(m)		**1**	2	1
Calcium	ppm	ASTM D5185(m)		**4**	4	4
Phosphorus	ppm	ASTM D5185(m)	512	**171**	183	179
Zinc	ppm	ASTM D5185(m)	3.8	**6**	7	6
Sulfur	ppm	ASTM D5185(m)	8167	**7610**	8314	8252
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

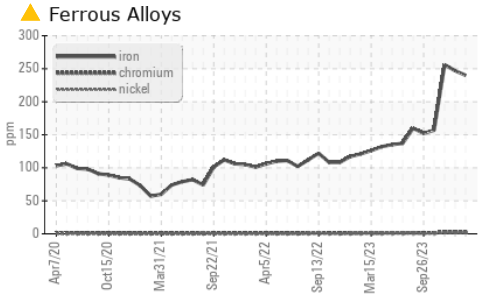
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>50	**2**	3	4
Sodium	ppm	ASTM D5185(m)		**4**	4	5
Potassium	ppm	ASTM D5185(m)	>20	**3**	3	4

OIL ANALYSIS REPORT

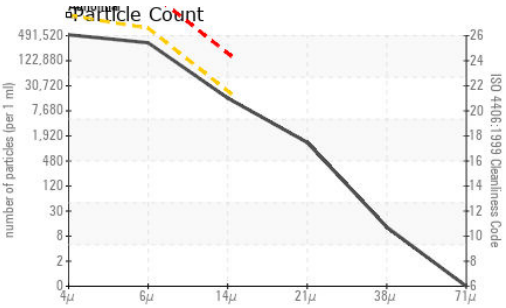
Non-ferrous Metals



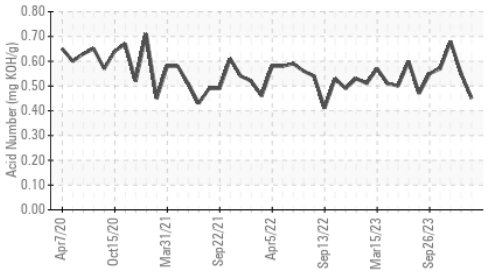
Ferrous Alloys



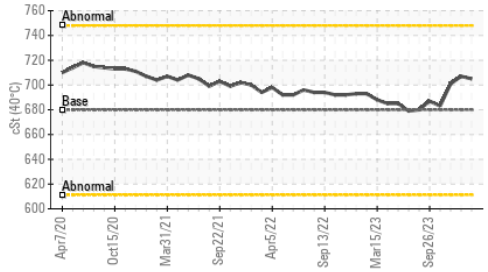
Particle Count



Acid Number



Viscosity @ 40°C



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>1280000	**442731**	388463	503279
Particles >6µm		ASTM D7647	>640000	**284899**	273804	377994
Particles >14µm		ASTM D7647	>20000	**13543**	● 20873	▲ 46653
Particles >21µm		ASTM D7647	>5000	**1171**	2029	6269
Particles >38µm		ASTM D7647	>1300	**11**	12	104
Particles >71µm		ASTM D7647	>320	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>27/26/21	**26/25/21**	● 26/25/22	▲ 26/26/23

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		**0.45**	0.55	0.68

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	▲ VLITE
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**	NORML	NORML
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	**NEG**	NEG	▲ .2%
Free Water	scalar	Visual*		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	680	**705**	707	701

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. : WC0837483
Lab Number : 02630755
Unique Number : 5763887
Test Package : IND 2 (Additional Tests: PQ, TAN Man)

Received : 22 Apr 2024
Tested : 23 Apr 2024
Diagnosed : 23 Apr 2024 - 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.

ALGOMA STEEL INC. - STORES DEPT.
301 WALLACE TERRACE
SAULT STE MARIE, ON
CA P6C 1K8
Contact: Algoma Reliability
algomareliability@algoma.com
T: (705)206-1059
F: (705)945-3585