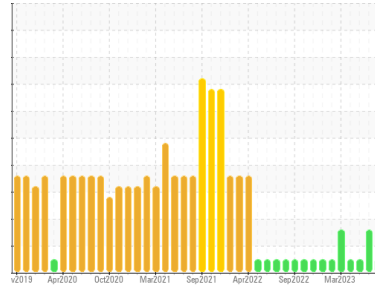




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



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

DIAGNOSIS

Recommendation

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 water content is negligible. 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		WC0780838	WC0813663	WC0780848
Sample Date	Client Info		08 Aug 2023	21 Jun 2023	15 May 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	ABNORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		0	---	---
Iron	ppm	ASTM D5185(m) >150	160	137	135
Chromium	ppm	ASTM D5185(m) >10	1	1	1
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	3	2	2
Lead	ppm	ASTM D5185(m) >100	0	<1	0
Copper	ppm	ASTM D5185(m) >50	2	1	1
Tin	ppm	ASTM D5185(m) >10	5	5	5
Antimony	ppm	ASTM D5185(m) >5	0	0	<1
Vanadium	ppm	ASTM D5185(m)	<1	<1	<1
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	2	1
Barium	ppm	ASTM D5185(m)	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	<1	<1	<1
Manganese	ppm	ASTM D5185(m)	2	1	1
Magnesium	ppm	ASTM D5185(m)	1	1	1
Calcium	ppm	ASTM D5185(m)	5	6	3
Phosphorus	ppm	ASTM D5185(m) 512	179	188	198
Zinc	ppm	ASTM D5185(m) 3.8	7	8	6
Sulfur	ppm	ASTM D5185(m) 8167	7788	8163	8376
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >50	4	2	2
Sodium	ppm	ASTM D5185(m)	4	4	4
Potassium	ppm	ASTM D5185(m) >20	2	2	1
Water	%	ASTM D6304* >0.1	0.034	▲ 0.117	---
ppm Water	ppm	ASTM D6304* >1000	348.4	▲ 1177.7	---

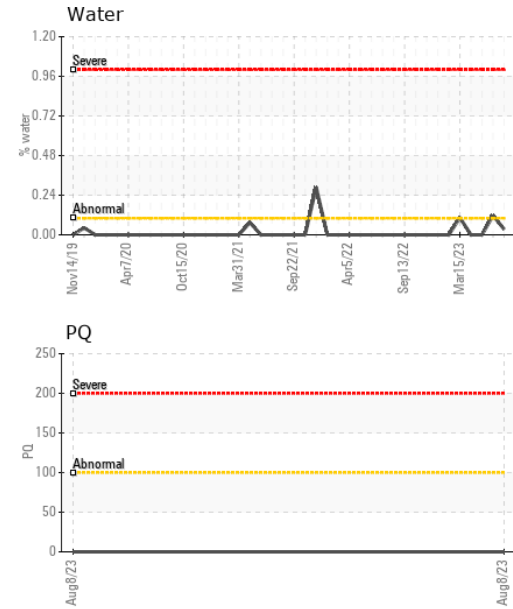
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>1280000	411288	277432	337054
Particles >6µm	ASTM D7647	>640000	131940	108922	99078
Particles >14µm	ASTM D7647	>20000	3059	3512	1816
Particles >21µm	ASTM D7647	>5000	435	620	226
Particles >38µm	ASTM D7647	>1300	5	12	1
Particles >71µm	ASTM D7647	>320	1	1	0

	method	limit/base	current	history1	history2
Oil Cleanliness	ISO 4406 (c)	>27/26/21	26/24/19	25/24/19	26/24/18



OIL ANALYSIS REPORT

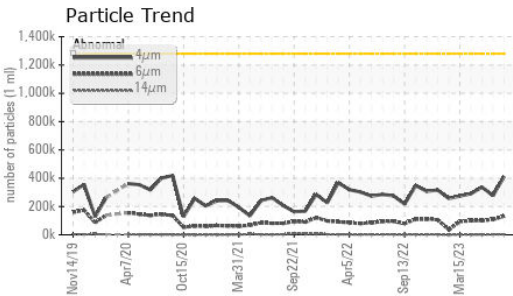
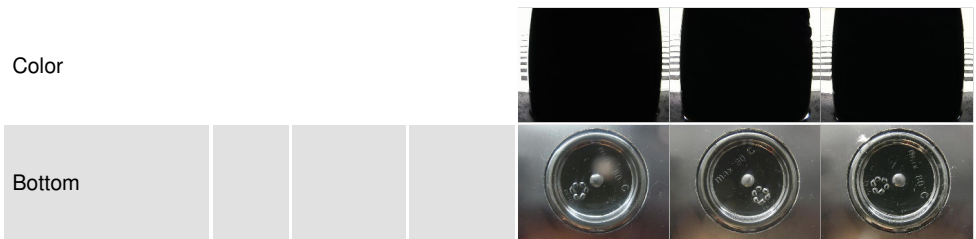


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		0.47	0.60	0.50

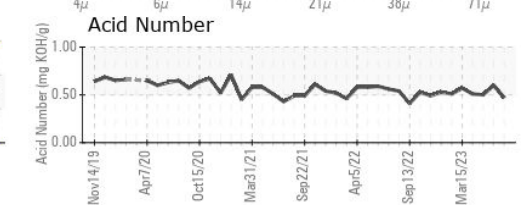
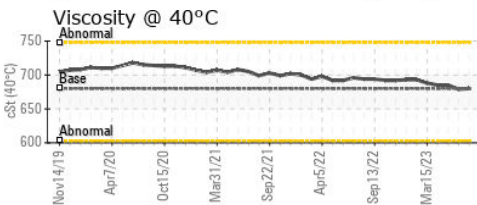
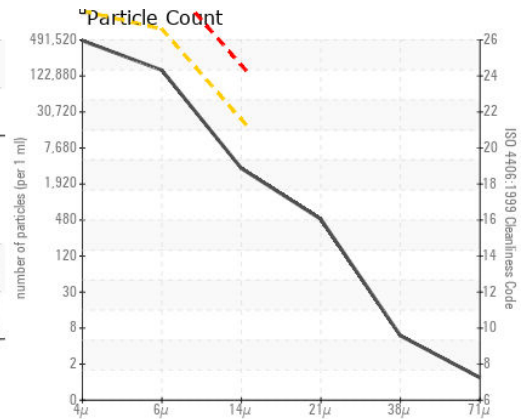
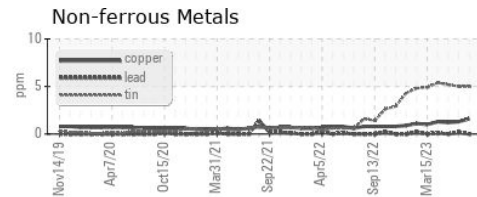
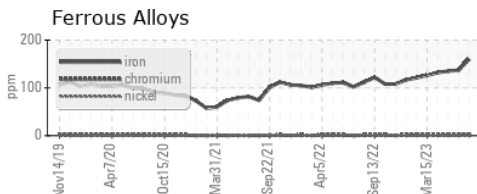
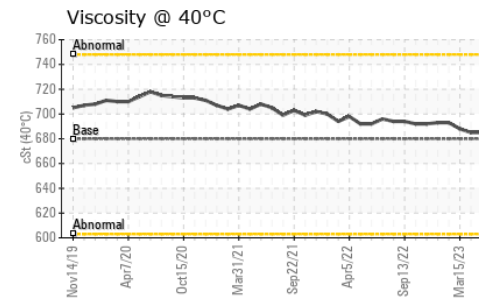
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	VLITE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	.2%	▲ .2%	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	680	680	679	685

SAMPLE IMAGES		method	limit/base	current	history1	history2
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GRAPHS



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **ALGOMA STEEL INC. - STORES DEPT.**
Sample No. : WC0780838 **Received** : 11 Aug 2023 301 WALLACE TERRACE
Lab Number : **02575464** **Diagnosed** : 14 Aug 2023 SAULT STE MARIE, ON
Unique Number : 5620515 **Diagnostician** : Kevin Marson CA P6C 1K8
Test Package : IND 2 (Additional Tests: KF, PQ)

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.

Contact: Algoma Reliability
 algomareliability@algoma.com
 T: (705)206-1059
 F: (705)945-3585