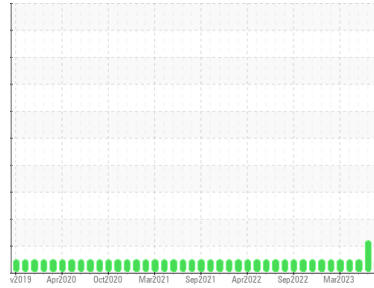




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
Direct Strip Mill/Finishing
 Machine Id
RM GLYCOL BLK (S/N DSC 197)
 Component
Hydraulic System
 Fluid
HOUGHTON HOUGHTO-SAFE 620 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.
 NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

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

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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0780858	WC0813705	WC0780796
Sample Date	Client Info		08 Aug 2023	22 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
Iron	ppm	ASTM D5185(m)	>20	0	<1
Chromium	ppm	ASTM D5185(m)	>20	0	<1
Nickel	ppm	ASTM D5185(m)	>20	0	0
Titanium	ppm	ASTM D5185(m)		0	0
Silver	ppm	ASTM D5185(m)		<1	0
Aluminum	ppm	ASTM D5185(m)	>20	0	0
Lead	ppm	ASTM D5185(m)	>20	0	0
Copper	ppm	ASTM D5185(m)	>20	0	1
Tin	ppm	ASTM D5185(m)	>20	0	0
Antimony	ppm	ASTM D5185(m)		0	0
Vanadium	ppm	ASTM D5185(m)		0	0
Beryllium	ppm	ASTM D5185(m)		0	0
Cadmium	ppm	ASTM D5185(m)		0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		2	<1
Barium	ppm	ASTM D5185(m)		1	0
Molybdenum	ppm	ASTM D5185(m)		0	<1
Manganese	ppm	ASTM D5185(m)		0	0
Magnesium	ppm	ASTM D5185(m)		2	<1
Calcium	ppm	ASTM D5185(m)		1	<1
Phosphorus	ppm	ASTM D5185(m)		<1	<1
Zinc	ppm	ASTM D5185(m)		0	0
Sulfur	ppm	ASTM D5185(m)		54	6
Lithium	ppm	ASTM D5185(m)		<1	<1

CONTAMINANTS

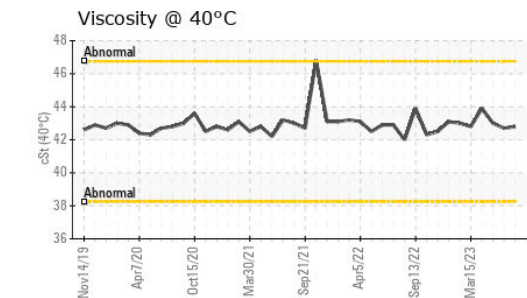
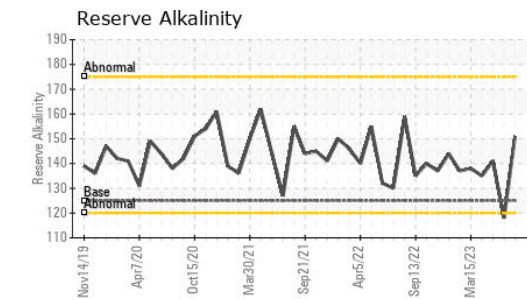
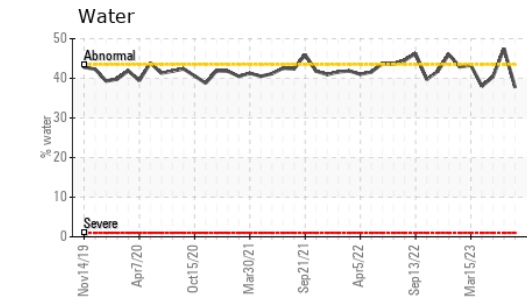
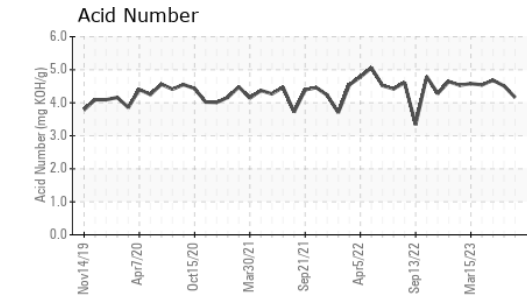
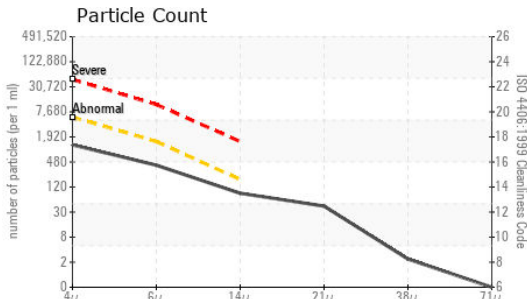
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	0	0
Sodium	ppm	ASTM D5185(m)		12	25
Potassium	ppm	ASTM D5185(m)	>20	21	14
Water	%	ASTM D6304*	>43.5	37.7	47.5
ppm Water	ppm	ASTM D6304*	>435000	377000	475000

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	1085	876	1028
Particles >6µm	ASTM D7647	>1300	353	241	207
Particles >14µm	ASTM D7647	>160	75	40	21
Particles >21µm	ASTM D7647	>40	37	17	8
Particles >38µm	ASTM D7647	>10	2	4	2
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	17/16/13	17/15/12	17/15/12



OIL ANALYSIS REPORT

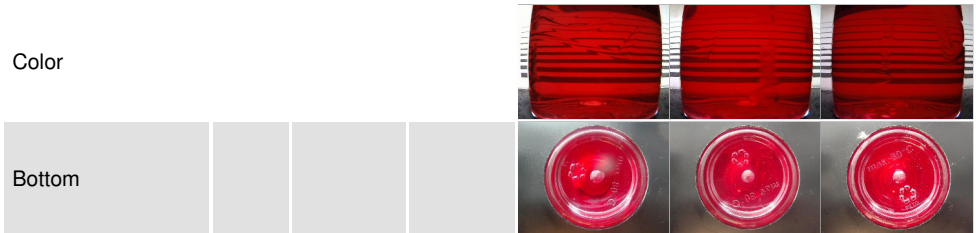


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		4.16	4.51	4.68
Alkiline Reserve (Oils)	ml KOH/g	ASTM D1121*	125	151	▲ 118	141

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	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	FRGLY	FRGLY	FRGLY
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>43.5	>10%	>10%	>10%
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
pH	Scale 0-14	ASTM D1287*		9.60	9.41	9.56
Visc @ 40°C	cSt	ASTM D7279(m)		42.8	42.7	43.0

SAMPLE IMAGES		method	limit/base	current	history1	history2
---------------	--	--------	------------	---------	----------	----------



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **ALGOMA STEEL INC. - STORES DEPT.**
Sample No. : WC0780858 **Received** : 11 Aug 2023 301 WALLACE TERRACE
Lab Number : **02575520** **Diagnosed** : 22 Aug 2023 SAULT STE MARIE, ON
Unique Number : 5620571 **Diagnostician** : Kevin Marson CA P6C 1K8
Test Package : IND 2 (Additional Tests: KF, pH, ReserveAlk, TAN Man)
 Contact: Algoma Reliability
 algomareliability@algoma.com

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