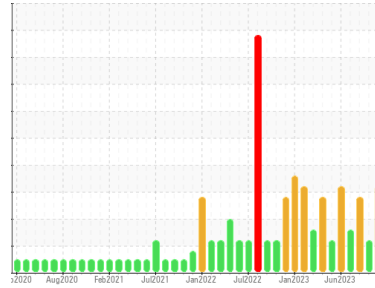




OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION



Area
Direct Strip Mill/Caster
 Machine Id
CH2.3 HYDRAULIC SYSTEM (DSC025) (S/N 1000024463)
 Component
Hydraulic System
 Fluid
HOUGHTON HOUGHTO-SAFE 620 (4500 LTR)

DIAGNOSIS

Recommendation

Due to the low reserve alkalinity it is advised that you contact HOUGHTON to assist in restoring the proper amine concentration. We recommend you service the filters on this component. 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.

Wear

Component wear rates appear to be normal (unconfirmed).

Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

Fluid Condition

The reserve alkalinity of this fluid is lower than acceptable. The AN level is acceptable for this fluid. The pH level of this fluid is within the acceptable limits. 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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0837566	WC0837321	WC0837300
Sample Date	Client Info		18 Jan 2024	14 Nov 2023	27 Sep 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	
Iron	ppm	ASTM D5185(m)	>20	0	0	0
Chromium	ppm	ASTM D5185(m)	>20	0	0	0
Nickel	ppm	ASTM D5185(m)	>20	0	0	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		<1	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	0	0	0
Lead	ppm	ASTM D5185(m)	>20	0	0	0
Copper	ppm	ASTM D5185(m)	>20	7	3	0
Tin	ppm	ASTM D5185(m)	>20	0	0	0
Antimony	ppm	ASTM D5185(m)		0	<1	0
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)		2	<1	<1
Barium	ppm	ASTM D5185(m)		<1	<1	<1
Molybdenum	ppm	ASTM D5185(m)		0	0	0
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)		<1	<1	<1
Calcium	ppm	ASTM D5185(m)		<1	<1	0
Phosphorus	ppm	ASTM D5185(m)		2	2	0
Zinc	ppm	ASTM D5185(m)		0	0	0
Sulfur	ppm	ASTM D5185(m)		57	59	39
Lithium	ppm	ASTM D5185(m)		<1	<1	0

CONTAMINANTS

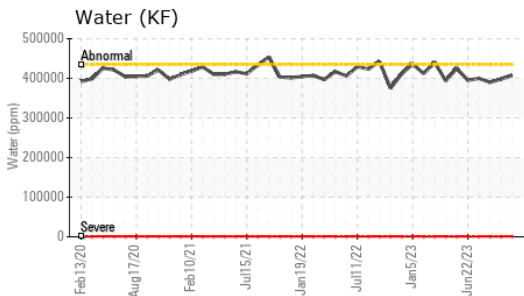
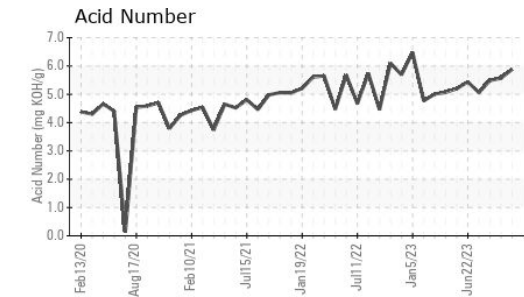
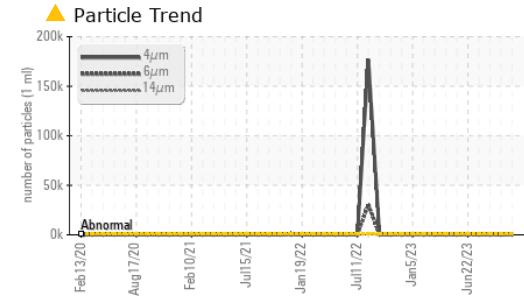
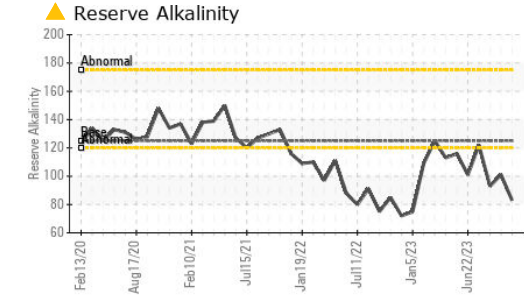
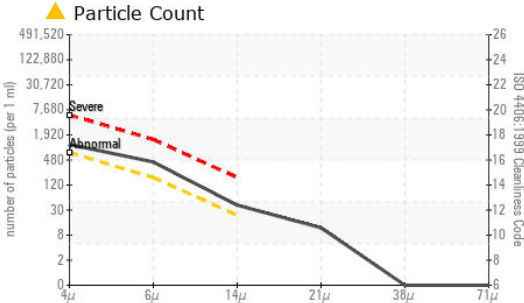
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>15	<1	<1	<1
Sodium	ppm	ASTM D5185(m)		28	23	22
Potassium	ppm	ASTM D5185(m)	>20	30	33	19
Water	%	ASTM D6304*	>43.5	40.7	39.8	39.0
ppm Water	ppm	ASTM D6304*	>435000	407000	398000	390000

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>640	▲ 993	10	▲ 689
Particles >6µm	ASTM D7647	>160	▲ 377	8	▲ 215
Particles >14µm	ASTM D7647	>20	▲ 35	0	15
Particles >21µm	ASTM D7647	>4	▲ 10	0	▲ 7
Particles >38µm	ASTM D7647	>3	0	0	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>16/14/11	▲ 17/16/12	10/10/7	▲ 17/15/11



OIL ANALYSIS REPORT



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		5.88	5.57	5.49
Alkiline Reserve (Oils)	ml KOH/g	ASTM D1121*	125	▲ 83	▲ 101	▲ 93

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	NORML	FRGLY
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>43.5	>10%	NEG	>10%
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
pH	Scale 0-14	ASTM D1287*		8.98	9.28	9.03
Visc @ 40°C	cSt	ASTM D7279(m)		37.3	38.4	38.3

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom						



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **ALGOMA STEEL INC. - STORES DEPT.**
Sample No. : WC0837566 **Received** : 22 Jan 2024
Lab Number : **02610456** **Diagnosed** : 25 Jan 2024
Unique Number : 5711542 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: KF, pH, ReserveAlk, TAN Man)

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.

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