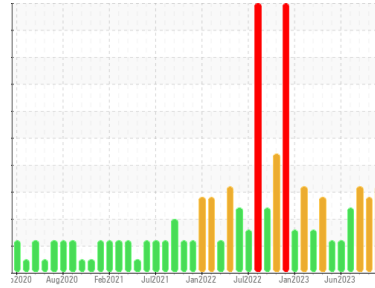




# OIL ANALYSIS REPORT

Sample Rating Trend



**DEGRADATION**



Area  
**Direct Strip Mill/Caster**  
 Machine Id  
**CH2.4 HYDRAULIC SYSTEM (DSC193) (S/N 1000024515)**  
 Component  
**Hydraulic System**  
 Fluid  
**HOUGHTON HOUGHTO-SAFE 620 (2730 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.

### Wear

All component wear rates are normal.

### ▲ 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		<b>WC0837567</b>	WC0837322	WC0837301
Sample Date	Client Info		<b>18 Jan 2024</b>	14 Nov 2023	27 Sep 2023
Machine Age	hrs	Client Info	<b>0</b>	0	0
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	<b>0</b>	0
Chromium	ppm	ASTM D5185(m)	>20	<b>0</b>	0
Nickel	ppm	ASTM D5185(m)	>20	<b>0</b>	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0
Silver	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1
Aluminum	ppm	ASTM D5185(m)	>20	<b>0</b>	0
Lead	ppm	ASTM D5185(m)	>20	<b>0</b>	0
Copper	ppm	ASTM D5185(m)	>20	<b>11</b>	6
Tin	ppm	ASTM D5185(m)	>20	<b>0</b>	0
Antimony	ppm	ASTM D5185(m)		<b>0</b>	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<b>1</b>	0
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	0
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0
Magnesium	ppm	ASTM D5185(m)		<b>0</b>	<1
Calcium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1
Phosphorus	ppm	ASTM D5185(m)		<b>&lt;1</b>	3
Zinc	ppm	ASTM D5185(m)		<b>&lt;1</b>	0
Sulfur	ppm	ASTM D5185(m)		<b>59</b>	57
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1

## CONTAMINANTS

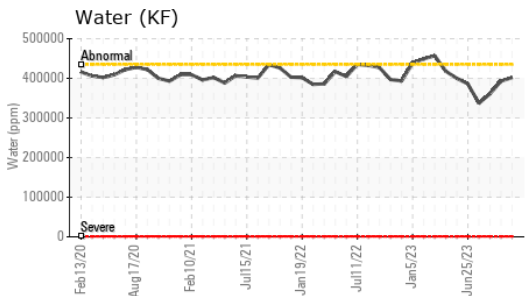
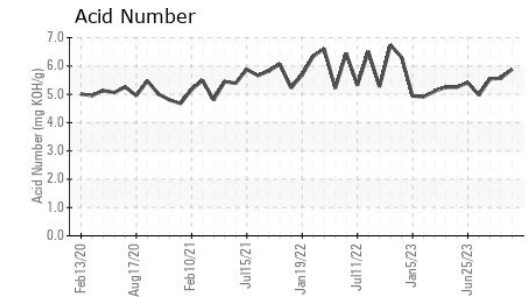
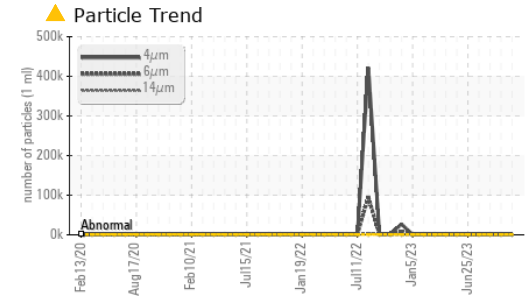
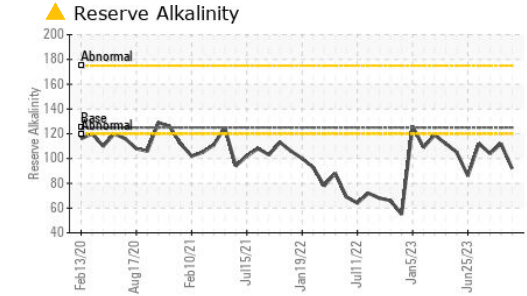
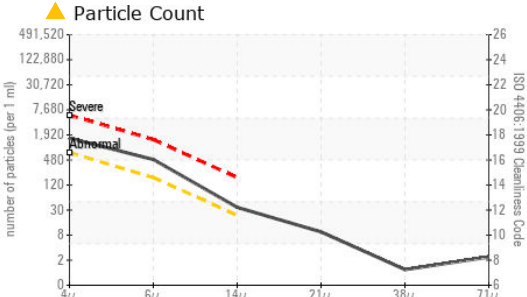
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	<b>&lt;1</b>	<1
Sodium	ppm	ASTM D5185(m)		<b>28</b>	20
Potassium	ppm	ASTM D5185(m)	>20	<b>31</b>	27
Water	%	ASTM D6304*	>43.5	<b>40.2</b>	39.3
ppm Water	ppm	ASTM D6304*	>435000	<b>402000</b>	393000

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>640	<b>▲ 1399</b>	585	▲ 657
Particles >6µm	ASTM D7647	>160	<b>▲ 433</b>	▲ 232	▲ 229
Particles >14µm	ASTM D7647	>20	<b>▲ 31</b>	▲ 36	▲ 21
Particles >21µm	ASTM D7647	>4	<b>▲ 8</b>	▲ 12	▲ 11
Particles >38µm	ASTM D7647	>3	<b>1</b>	2	2
Particles >71µm	ASTM D7647	>3	<b>2</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>16/14/11	<b>▲ 18/16/12</b>	▲ 16/15/12	▲ 17/15/12



# OIL ANALYSIS REPORT

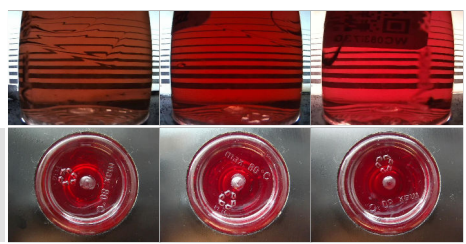


FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	<b>5.88</b>	5.57	5.54
Alkiline Reserve (Oils)	ml KOH/g	ASTM D1121*	<b>92</b>	112	104

VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	Visual*	NONE	NONE	NONE	
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	
Precipitate	scalar	Visual*	NONE	NONE	NONE	
Silt	scalar	Visual*	NONE	NONE	NONE	
Debris	scalar	Visual*	NONE	NONE	NONE	
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	
Appearance	scalar	Visual*	NORML	FRGLY	FRGLY	
Odor	scalar	Visual*	NORML	NORML	NORML	
Emulsified Water	scalar	Visual*	>43.5	>10%	NEG	>10%
Free Water	scalar	Visual*	<b>NEG</b>	NEG	NEG	

FLUID PROPERTIES	method	limit/base	current	history1	history2
pH	Scale 0-14	ASTM D1287*	<b>9.03</b>	9.38	9.03
Visc @ 40°C	cSt	ASTM D7279(m)	<b>39.0</b>	39.2	39.4

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.** : WC0837567 **Received** : 22 Jan 2024  
**Lab Number** : **02610457** **Diagnosed** : 30 Jan 2024  
**Unique Number** : 5711543 **Diagnostician** : Kevin Marson  
**Test Package** : IND 2 ( Additional Tests: KF, pH, ReserveAlk, TAN Man )

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

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.