



# OIL ANALYSIS REPORT

Sample Rating Trend

ISO

Area

## Direct Strip Mill/Finishing

Machine Id

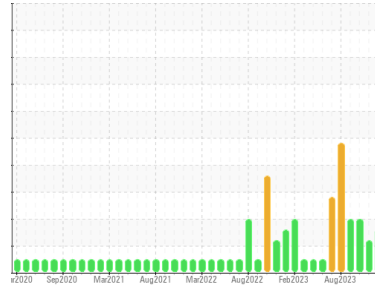
## PH3 HYDRAULIC SYSTEM (DSC004) (S/N 1000014662)

Component

### Hydraulic System

Fluid

### HOUGHTON HOUGHTO-SAFE 620 (15000 LTR)



#### DIAGNOSIS

##### Recommendation

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition.

##### Wear

All component wear rates are normal.

##### Contamination

There is a moderate amount of particulates (2 to 100 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 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 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>WC0837447</b>	WC0837329	WC0837404
Sample Date	Client Info		<b>18 Jan 2024</b>	13 Nov 2023	26 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	ATTENTION

#### WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>40	<b>0</b>	0	0
Chromium	ppm	ASTM D5185(m)	>4	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Aluminum	ppm	ASTM D5185(m)	>4	<b>0</b>	0	0
Lead	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Copper	ppm	ASTM D5185(m)	>60	<b>0</b>	0	0
Tin	ppm	ASTM D5185(m)	>4	<b>0</b>	0	0
Antimony	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0	0

#### ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	<1
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Calcium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Phosphorus	ppm	ASTM D5185(m)		<b>0</b>	2	0
Zinc	ppm	ASTM D5185(m)		<b>0</b>	0	0
Sulfur	ppm	ASTM D5185(m)		<b>56</b>	57	38
Lithium	ppm	ASTM D5185(m)		<b>0</b>	<1	0

#### CONTAMINANTS

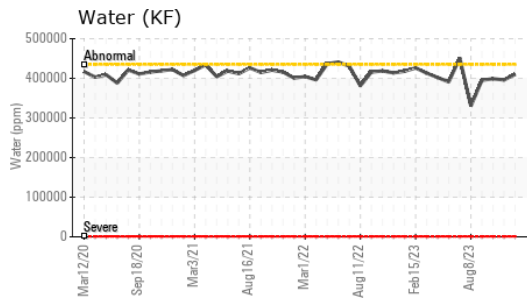
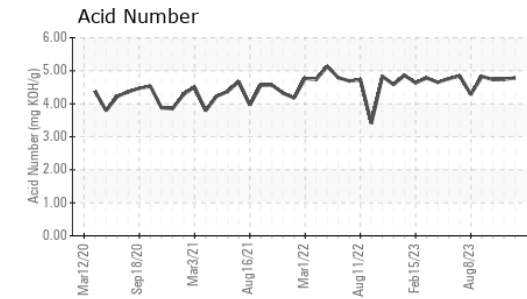
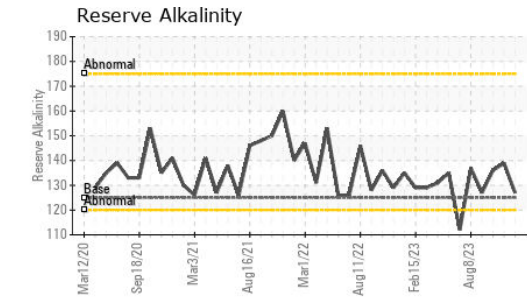
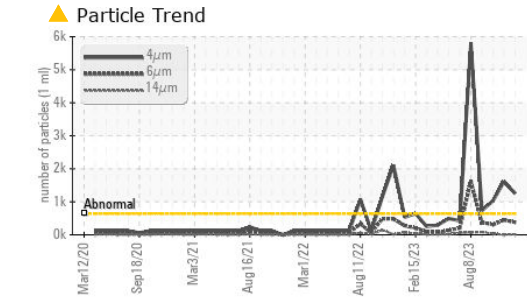
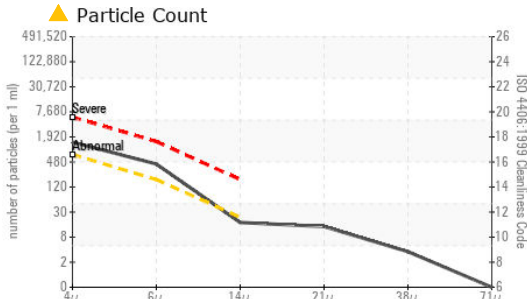
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	0	<1
Sodium	ppm	ASTM D5185(m)		<b>22</b>	18	17
Potassium	ppm	ASTM D5185(m)	>20	<b>23</b>	22	6
Water	%	ASTM D6304*	>43.5	<b>41.0</b>	39.6	39.9
ppm Water	ppm	ASTM D6304*	>435000	<b>410000</b>	396000	399000

#### FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>640	<b>▲ 1253</b>	▲ 1611	▲ 1031
Particles >6µm	ASTM D7647	>160	<b>▲ 377</b>	▲ 451	▲ 307
Particles >14µm	ASTM D7647	>20	<b>15</b>	7	▲ 29
Particles >21µm	ASTM D7647	>4	<b>▲ 12</b>	0	▲ 9
Particles >38µm	ASTM D7647	>3	<b>3</b>	0	0
Particles >71µm	ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>16/14/11	<b>▲ 17/16/11</b>	▲ 18/16/10	▲ 17/15/12



# OIL ANALYSIS REPORT

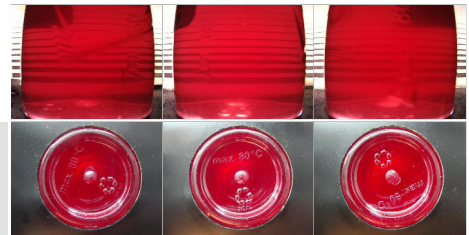


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		<b>4.78</b>	4.74	4.73
Alkiline Reserve (Oils)	ml KOH/g	ASTM D1121*	125	<b>127</b>	139	136

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	Visual*	NORML	<b>FRGLY</b>	NORML	FRGLY
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>43.5	<b>&gt;10%</b>	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>9.49</b>	9.59	9.39
Visc @ 40°C	cSt	ASTM D7279(m)		<b>43.3</b>	41.9	41.2

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom						



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **ALGOMA STEEL INC. - STORES DEPT.**  
**Sample No.** : WC0837447 **Received** : 22 Jan 2024  
**Lab Number** : **02610464** **Diagnosed** : 30 Jan 2024  
**Unique Number** : 5711550 **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.

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