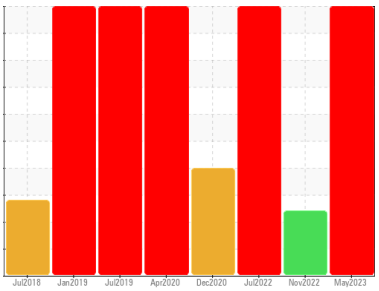
PROBLEM SUMMARY

Sample Rating Trend

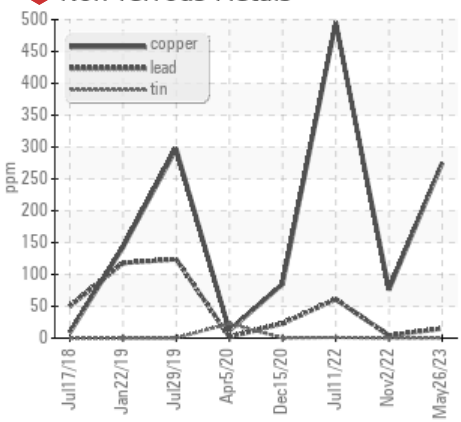


WEAR

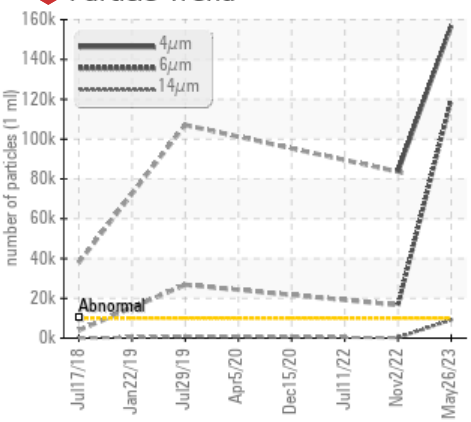
Area
106 Mill
Machine Id
#1 COIL BOX COMPRESSOR LUBE (PLS084)
Component
Bearing Lube
Fluid
R&O OIL ISO 68 (--- GAL)

COMPONENT CONDITION SUMMARY

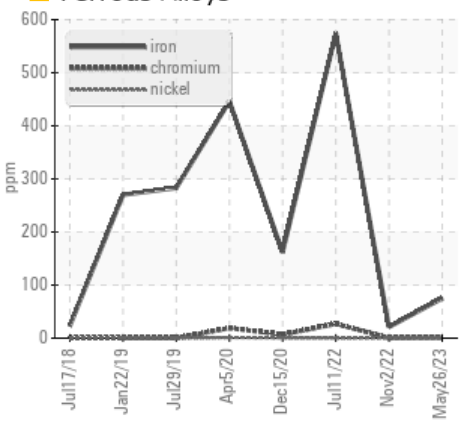
Non-ferrous Metals



Particle Trend



Ferrous Alloys



RECOMMENDATION

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	SEVERE
Iron	ppm	ASTM D5185(m)	>120	▲ **75**	21	⬢ 574
Copper	ppm	ASTM D5185(m)	>17	⬢ **275**	76	⬢ 495
Particles >4µm		ASTM D7647	>10000	⬢ **156877**	⬢ 83598	---
Particles >6µm		ASTM D7647	>2500	⬢ **119666**	▲ 16599	---
Particles >14µm		ASTM D7647	>160	⬢ **9160**	▲ 219	---
Particles >21µm		ASTM D7647	>40	⬢ **727**	38	---
Particles >38µm		ASTM D7647	>10	▲ **22**	2	---
Oil Cleanliness		ISO 4406 (c)	>20/18/14	⬢ **24/24/20**	⬢ 24/21/15	---

Customer Id: ALGSSM
Sample No.: WC0714522
Lab Number: 02561764
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Kevin Marson +1 (289)291-4644 x4644
Kevin.Marson@wearcheck.com

To change component or sample information:
Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
Alert	---	---	?	Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment.
Information Required	---	---	?	Please specify the brand, type, and viscosity of the oil on your next sample. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.
Check Breathers	---	---	?	The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather.
Check Dirt Access	---	---	?	We advise that you check all areas where contaminants can enter the system.
Filter Fluid	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

HISTORICAL DIAGNOSIS

ISO

02 Nov 2022 Diag: Kevin Marson

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) R&O OIL ISO 68. Please confirm. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. Oil Cleanliness are severely high. Particles >4µm are severely high. Particles >6µm are abnormally high. Particles >14µm are notably high. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

WEAR

11 Jul 2022 Diag: Kevin Marson

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample. Please provide more complete information on your next sample.Aluminum, chromium, copper, iron and lead ppm levels are severe. Bearing wear is indicated. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

view report

WEAR

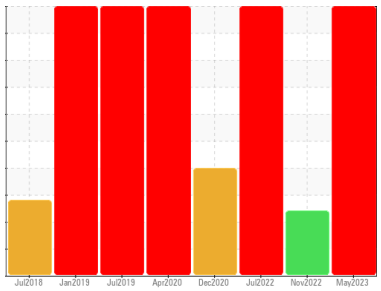
15 Dec 2020 Diag: Kevin Marson

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.Aluminum, chromium and iron ppm levels are abnormal. Copper and lead ppm levels are noted. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. There is no indication of any contamination in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
106 Mill
Machine Id
#1 COIL BOX COMPRESSOR LUBE (PLS084)
Component
Bearing Lube
Fluid
R&O OIL ISO 68 (--- GAL)

DIAGNOSIS

Recommendation

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

Copper ppm levels are severe. Iron ppm levels are noted. Bearing wear is indicated. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

Contamination

There is a high amount of particulates (2 to 100 microns in size) present in the oil.

Fluid Condition

The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0714522**	WC0714610	WC0496369
Sample Date		Client Info		**26 May 2023**	02 Nov 2022	11 Jul 2022
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				**SEVERE**	SEVERE	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG

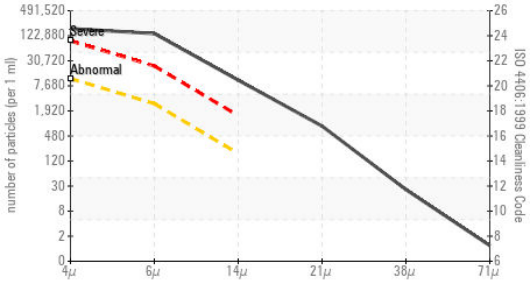
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**71**	0	350
Iron	ppm	ASTM D5185(m)	>120	▲ **75**	21	● 574
Chromium	ppm	ASTM D5185(m)	>5	**1**	<1	● 27
Nickel	ppm	ASTM D5185(m)	>20	**0**	0	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	1
Silver	ppm	ASTM D5185(m)		**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>4	**<1**	<1	● 15
Lead	ppm	ASTM D5185(m)	>30	**15**	4	● 61
Copper	ppm	ASTM D5185(m)	>17	● **275**	76	● 495
Tin	ppm	ASTM D5185(m)	>10	**0**	<1	1
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)	5	**0**	1	<1
Barium	ppm	ASTM D5185(m)	5	**0**	0	<1
Molybdenum	ppm	ASTM D5185(m)	5	**0**	0	0
Manganese	ppm	ASTM D5185(m)		**<1**	<1	6
Magnesium	ppm	ASTM D5185(m)	5	**0**	0	2
Calcium	ppm	ASTM D5185(m)	5	**0**	<1	11
Phosphorus	ppm	ASTM D5185(m)	100	**67**	49	898
Zinc	ppm	ASTM D5185(m)	25	**12**	23	42
Sulfur	ppm	ASTM D5185(m)	1500	**109**	184	41
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

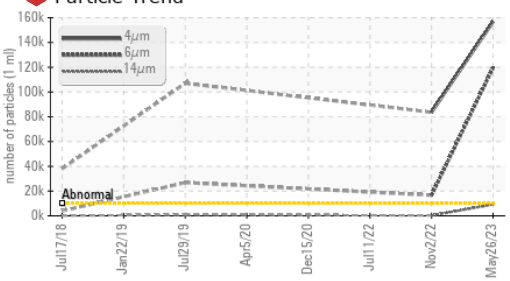
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**1**	1	24
Sodium	ppm	ASTM D5185(m)		**5**	<1	23
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1

OIL ANALYSIS REPORT

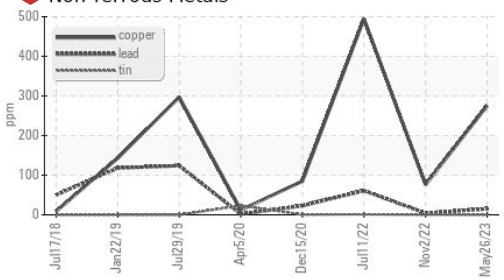
Particle Count



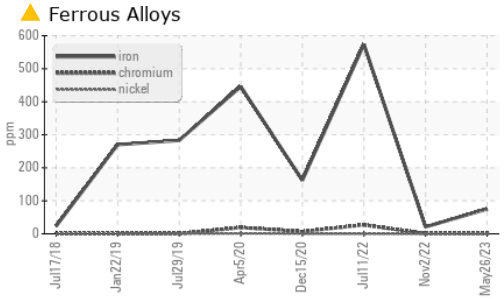
Particle Trend



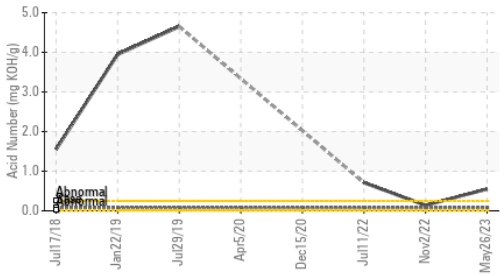
Non-ferrous Metals



Ferrous Alloys



Acid Number



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	**156877**	83598	---
Particles >6µm		ASTM D7647	>2500	**119666**	16599	---
Particles >14µm		ASTM D7647	>160	**9160**	219	---
Particles >21µm		ASTM D7647	>40	**727**	38	---
Particles >38µm		ASTM D7647	>10	**22**	2	---
Particles >71µm		ASTM D7647	>3	**1**	0	---
Oil Cleanliness		ISO 4406 (c)	>20/18/14	**24/24/20**	24/21/15	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.08	**0.55**	0.14	0.71

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	**NORML**	NORML	NORML
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	68	**67.4**	66.3	160

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. : WC0714522 **Received** : 05 Jun 2023
Lab Number : 02561764 **Diagnosed** : 07 Jun 2023
Unique Number : 5590805 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: PrtCount, 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.