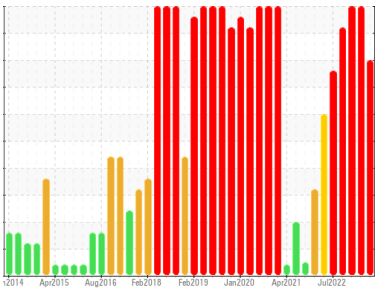
PROBLEM SUMMARY

Sample Rating Trend

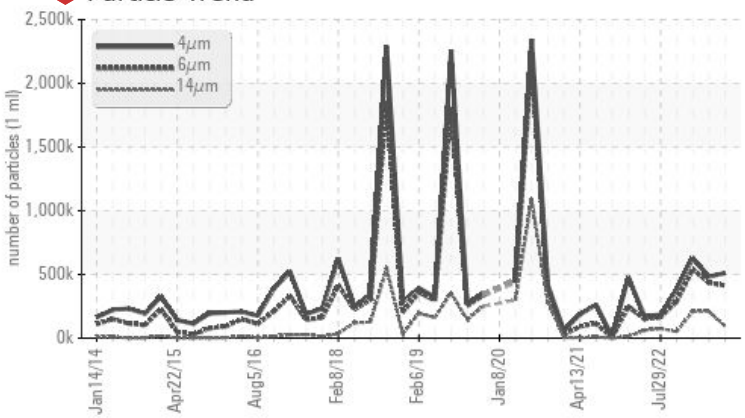


ISO

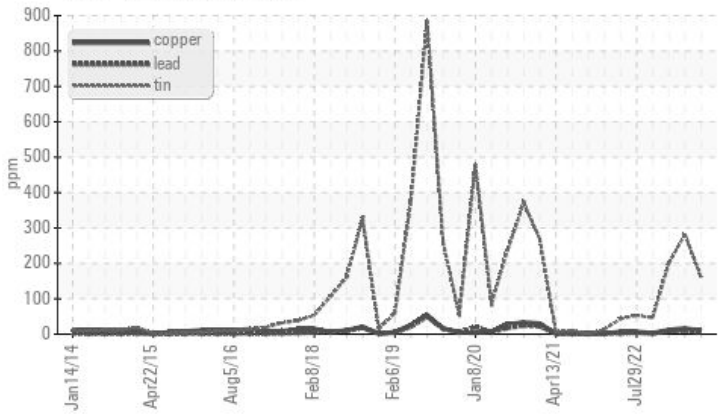
Area
6
Machine Id
6-3-652 Coal Mill Slide Shoe L/P Gear
Component
Pump
Fluid
MOBIL MOBILGEAR SHC 460 (300 LTR)

COMPONENT CONDITION SUMMARY

Particle Trend



Non-ferrous Metals



RECOMMENDATION

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.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	SEVERE
Tin	ppm	ASTM D5185(m)	>9	▲ **162**	⬢ 282	⬢ 200
Antimony	ppm	ASTM D5185(m)		▲ **24**	▲ 46	▲ 31
Particles >6µm		ASTM D7647	>20000	⬢ **412665**	⬢ 434538	⬢ 540089
Particles >14µm		ASTM D7647	>5000	⬢ **95101**	⬢ 210153	⬢ 208620
Particles >21µm		ASTM D7647	>1300	⬢ **18831**	⬢ 85953	⬢ 77140
Oil Cleanliness		ISO 4406 (c)	>--/21/19	⬢ **26/26/24**	⬢ 26/26/25	⬢ 26/26/25

Customer Id: STMBOW
Sample No.: WC0818167
Lab Number: 02560352
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. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF).
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

WEAR

04 Jan 2023 Diag: Kevin Marson

We advise that you check all areas where contaminants can enter the system. We recommend that you drain the oil from the component if this has not already been done. 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. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF). Resample in 30-45 days to monitor this situation.Tin ppm levels are severe. Antimony ppm levels are abnormal. Bearing and/or bushing wear is indicated. Particles >14µm are severely high. Particles >21µm are severely high. Particles >6µm and oil cleanliness are severely high. Particles >38µm are abnormally high. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code. 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

12 Dec 2022 Diag: Kevin Marson

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. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF). Resample in 30-45 days to monitor this situation. 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.Tin ppm levels are severe. Antimony ppm levels are abnormal. Lead ppm levels are noted. Bearing and/or bushing wear is indicated. Particles >14µm are severely high. Particles >21µm are severely high. Particles >6µm and oil cleanliness are severely high. Particles >38µm are abnormally high. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code. 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

ISO

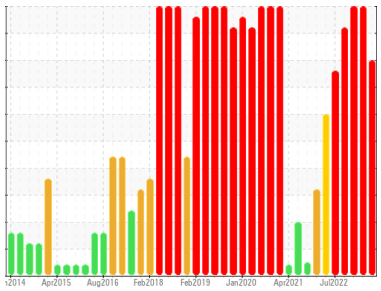
27 Nov 2022 Diag: Kevin Marson

We advise that you check all areas where contaminants can enter the system. We advise that you check for visible metal particles in the oil. 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. Confirm the source of the lubricant being utilized for top-up/fill. Resample in 30-45 days to monitor this situation.Tin ppm levels are abnormal. Light concentration of visible metal present. Bearing and/or gear wear is indicated. Bearing and/or bushing wear is indicated. Particles >14µm are severely high. Particles >21µm are severely high. Particles >6µm and oil cleanliness are severely high. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code. Additive levels indicate the addition of a different brand, or type of oil. 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

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
6
Machine Id
6-3-652 Coal Mill Slide Shoe L/P Gear
Component
Pump
Fluid
MOBIL MOBILGEAR SHC 460 (300 LTR)

DIAGNOSIS

Recommendation

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.

Wear

Tin and antimony ppm levels are abnormal. Bearing and/or bushing wear is indicated.

Contamination

There is a high amount of particulates (2 to 100 microns in size) present in the oil. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code.

Fluid Condition

The AN 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		**WC0818167**	WC	WC0754479
Sample Date		Client Info		**15 May 2023**	04 Jan 2023	12 Dec 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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>90	**9**	17	16
Chromium	ppm	ASTM D5185(m)	>5	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>5	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)	>3	**0**	<1	0
Silver	ppm	ASTM D5185(m)	>3	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>7	**1**	2	2
Lead	ppm	ASTM D5185(m)	>12	**6**	9	▲ 8
Copper	ppm	ASTM D5185(m)	>30	**9**	17	12
Tin	ppm	ASTM D5185(m)	>9	▲ **162**	● 282	● 200
Antimony	ppm	ASTM D5185(m)		▲ **24**	▲ 46	▲ 31
Vanadium	ppm	ASTM D5185(m)		**0**	<1	<1
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**2**	3	2

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	5.7	**9**	13	14
Barium	ppm	ASTM D5185(m)	0.0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	0.0	**0**	0	0
Manganese	ppm	ASTM D5185(m)	0.0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	0.0	**0**	0	0
Calcium	ppm	ASTM D5185(m)	0.0	**1**	<1	0
Phosphorus	ppm	ASTM D5185(m)	180	**437**	431	419
Zinc	ppm	ASTM D5185(m)	0.8	**2**	1	2
Sulfur	ppm	ASTM D5185(m)	4270	**4484**	4507	4549
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

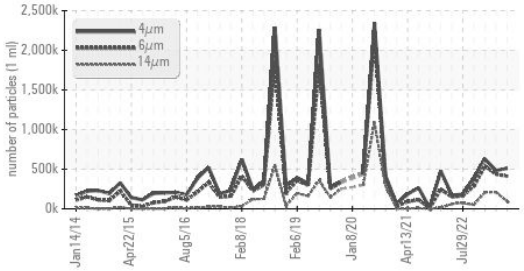
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>60	**2**	3	3
Sodium	ppm	ASTM D5185(m)		**<1**	<1	<1
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**510976**	482862	627183
Particles >6µm		ASTM D7647	>20000	● **412665**	● 434538	● 540089
Particles >14µm		ASTM D7647	>5000	● **95101**	● 210153	● 208620
Particles >21µm		ASTM D7647	>1300	● **18831**	● 85953	● 77140
Particles >38µm		ASTM D7647	>320	**36**	▲ 893	▲ 2116
Particles >71µm		ASTM D7647	>80	**0**	0	17
Oil Cleanliness		ISO 4406 (c)	>--/21/19	● **26/26/24**	● 26/26/25	● 26/26/25

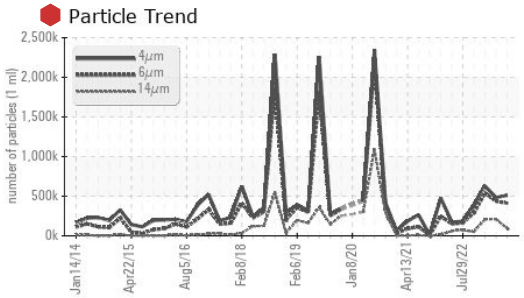
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.38	**0.80**	0.83	0.82

OIL ANALYSIS REPORT

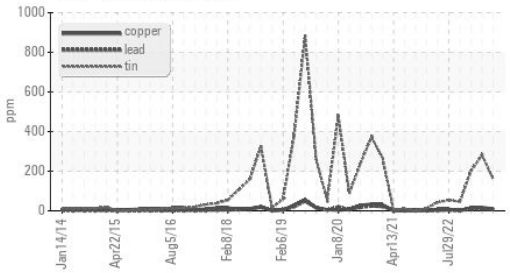
Particle Trend



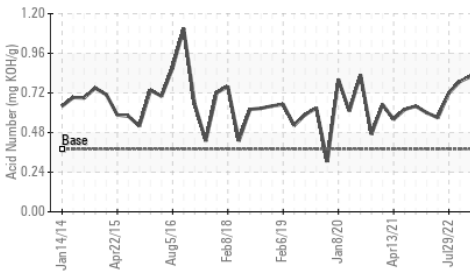
Particle Trend



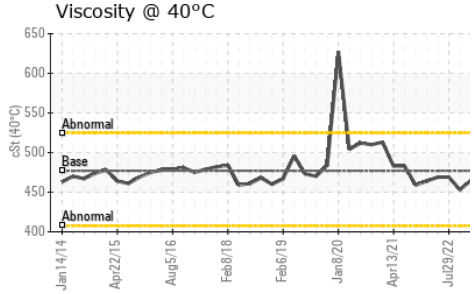
Non-ferrous Metals



Acid Number

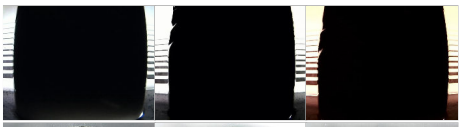


Viscosity @ 40°C



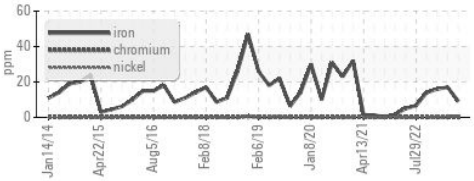
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silt	scalar	Visual*	NONE	**VLITE**	VLITE	NONE
Debris	scalar	Visual*	NONE	**NONE**	NONE	VLITE
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Appearance	scalar	Visual*	NORML	**NORML**	NORML	NORML
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*		**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)	477	**456**	463	465

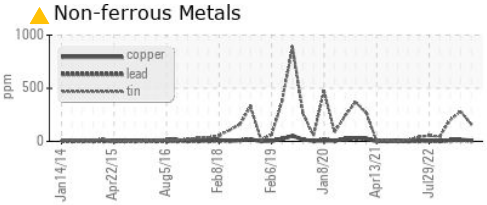
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					
PrtFilter			*no image*	*no image*	*no image*

GRAPHS

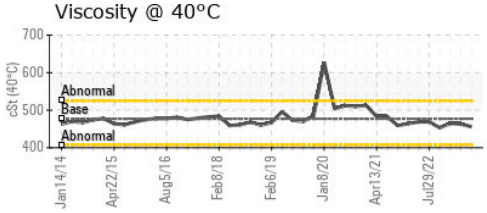
Ferrous Alloys



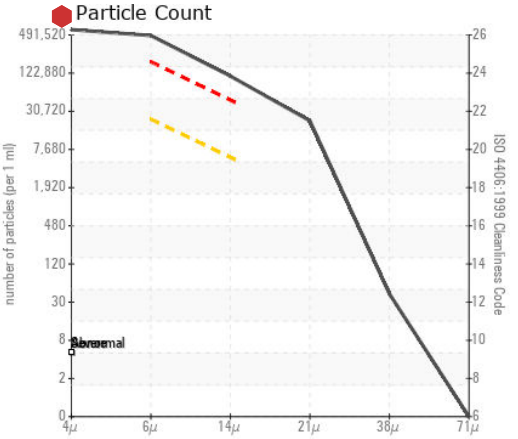
Non-ferrous Metals



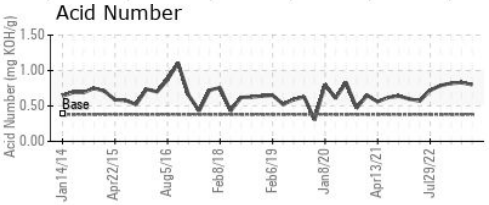
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0818167 **Received** : 29 May 2023
Lab Number : 02560352 **Diagnosed** : 30 May 2023
Unique Number : 5581392 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: 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.

ST. MARYS CEMENT CO.
400 BOWMANVILLE AVENUE
BOWMANVILLE, ON
CA L1C 7B5
Contact: Lou Traiforos
lou.traiforos@vcimentos.com
T: (905)440-5874
F: (905)623-4695