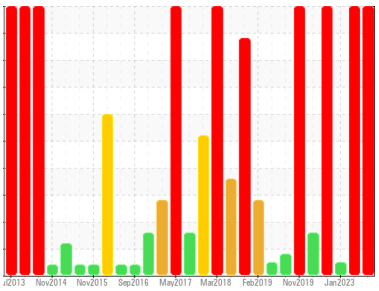
PROBLEM SUMMARY

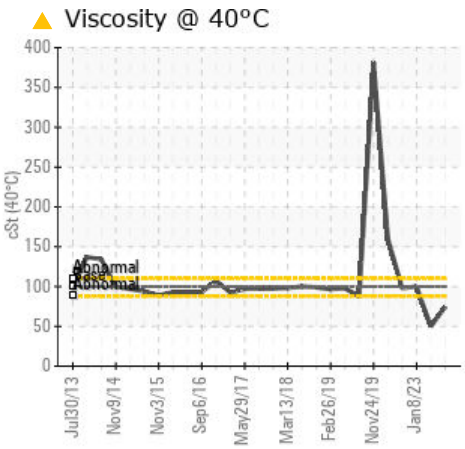
Sample Rating Trend

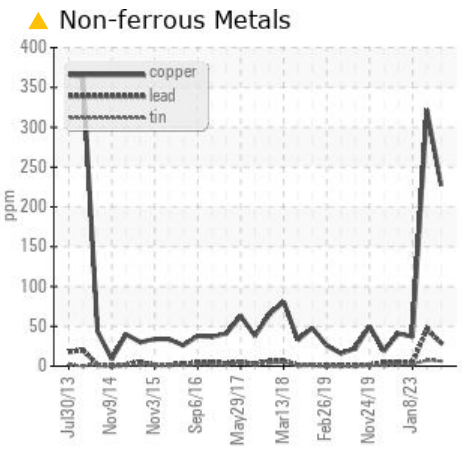


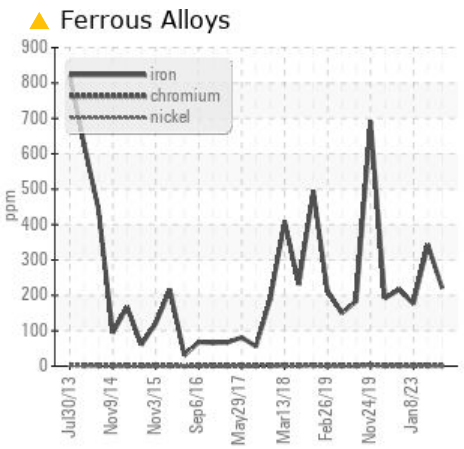
VISUAL METAL

Machine Id
BUCKER #2
Component
Gearbox
Fluid
SHELL OMALA 100 (20 LTR)

COMPONENT CONDITION SUMMARY



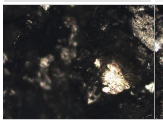
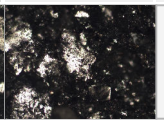




RECOMMENDATION

We advise that you check for visible metal particles in the oil. Wear particles and/or ppm levels are abnormally high indicating the need to review OEM limits with attention to components that may generate this type of wear. Include all test results and maintenance activities that have been performed since the abnormal condition was first detected in this review. We recommend that you drain the oil from the component if this has not already been done. An inspection for the source(s) of wear may be warranted at this time. We recommend an early resample to monitor this condition. 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).

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	NORMAL
Iron	ppm	ASTM D5185(m)	>200	▲ **221**	▲ 343	176
Titanium	ppm	ASTM D5185(m)		▲ **14**	▲ 11	10
Copper	ppm	ASTM D5185(m)	>200	▲ **227**	▲ 322	37
White Metal	scalar	Visual*	NONE	⬢ **HEAVY**	⬢ HEAVY	LIGHT
Visc @ 40°C	cSt	ASTM D7279(m)	100.0	▲ **74.5**	▲ 49.9	100
PrtFilter						*no image*

Customer Id: WEL191WEL
Sample No.: WC0851665
Lab Number: 02577598
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
Inspect Wear Source	---	---	?	An inspection for the source(s) of wear may be warranted at this time.
Monitor	---	---	?	Wear particles and/or ppm levels are abnormally high indicating the need to review OEM limits with attention to components that may generate this type of wear. Include all test results and maintenance activities that have been performed since the abnormal condition was first detected in this review.
Change Fluid	---	---	?	We recommend that you drain the oil from the component if this has not already been done.
Resample	---	---	?	We recommend an early resample to monitor this condition. 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).
Alert	---	---	?	Wear particles and/or ppm levels are abnormally high indicating the need to review OEM limits with attention to components that may generate this type of wear. Include all test results and maintenance activities that have been performed since the abnormal condition was first detected in this review.
Check For Visual Metal	---	---	?	We advise that you check for visible metal particles in the oil.

HISTORICAL DIAGNOSIS

25 May 2023 Diag: Kevin Marson

VISUAL METAL

We advise that you check for visible metal particles in the oil. Wear particles and/or ppm levels are abnormally high indicating the need to review OEM limits with attention to components that may generate this type of wear. Include all test results and maintenance activities that have been performed since the abnormal condition was first detected in this review. We recommend that you drain the oil from the component if this has not already been done. Confirm the source of the lubricant being utilized for top-up/fill. An inspection for the source(s) of wear may be warranted at this time. We recommend an early resample to monitor this condition. 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).Copper and iron and lead ppm levels are abnormal. Titanium ppm levels are marginal. High concentration of visible metal present. Gear wear is indicated. Bearing and/or bushing 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. Viscosity of sample indicates oil is within ISO 46 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. 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

08 Jan 2023 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

19 Sep 2022 Diag: Kevin Marson

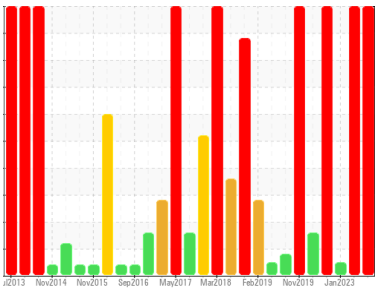
VISUAL METAL

We advise that you check for visible metal particles in the oil. Wear particles and/or ppm levels are abnormally high indicating the need to review OEM limits with attention to components that may generate this type of wear. Include all test results and maintenance activities that have been performed since the abnormal condition was first detected in this review. We recommend that you drain the oil from the component if this has not already been done. An inspection for the source(s) of wear may be warranted at this time. We recommend an early resample to monitor this condition. 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).PQ levels are abnormal. Iron ppm levels are abnormal. Moderate concentration of visible metal present. Gear wear is indicated. The high ferrous density (PQ) index indicates that abnormal wear is occurring. 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

OIL ANALYSIS REPORT

Sample Rating Trend



VISUAL METAL

Machine Id
BUCKER #2
Component
Gearbox
Fluid
SHELL OMALA 100 (20 LTR)

DIAGNOSIS

Recommendation

We advise that you check for visible metal particles in the oil. Wear particles and/or ppm levels are abnormally high indicating the need to review OEM limits with attention to components that may generate this type of wear. Include all test results and maintenance activities that have been performed since the abnormal condition was first detected in this review. We recommend that you drain the oil from the component if this has not already been done. An inspection for the source(s) of wear may be warranted at this time. We recommend an early resample to monitor this condition. 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).

Wear

Copper and iron ppm levels are abnormal. Titanium ppm levels are marginal. High concentration of visible metal present. Gear wear is indicated. Bearing and/or bushing wear is indicated. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

Viscosity of sample indicates oil is within ISO 68 range, advise investigate. 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		**WC0851665**	WC0822507	WC0777234
Sample Date		Client Info		**21 Aug 2023**	25 May 2023	08 Jan 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				**SEVERE**	SEVERE	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**36**	102	90
Iron	ppm	ASTM D5185(m)	>200	▲ **221**	▲ 343	176
Chromium	ppm	ASTM D5185(m)	>15	**1**	2	1
Nickel	ppm	ASTM D5185(m)	>15	**1**	1	<1
Titanium	ppm	ASTM D5185(m)		▲ **14**	▲ 11	10
Silver	ppm	ASTM D5185(m)		**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>25	**2**	2	2
Lead	ppm	ASTM D5185(m)	>100	**29**	▲ 46	4
Copper	ppm	ASTM D5185(m)	>200	▲ **227**	▲ 322	37
Tin	ppm	ASTM D5185(m)	>25	**6**	7	2
Antimony	ppm	ASTM D5185(m)	>5	**0**	0	<1
Vanadium	ppm	ASTM D5185(m)		**<1**	<1	<1
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

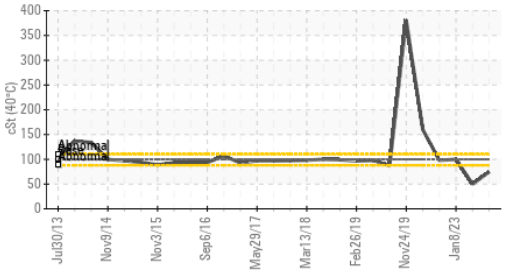
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	6.2	**3**	5	3
Barium	ppm	ASTM D5185(m)	0.0	**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)	0	**0**	<1	<1
Manganese	ppm	ASTM D5185(m)		**4**	5	2
Magnesium	ppm	ASTM D5185(m)	0	**14**	▲ 36	2
Calcium	ppm	ASTM D5185(m)	0.0	**12**	13	6
Phosphorus	ppm	ASTM D5185(m)	512	**296**	321	308
Zinc	ppm	ASTM D5185(m)	3.8	**69**	▲ 143	7
Sulfur	ppm	ASTM D5185(m)	8167	**6090**	▲ 3743	7706
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>50	**11**	12	7
Sodium	ppm	ASTM D5185(m)		**<1**	<1	<1
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	0

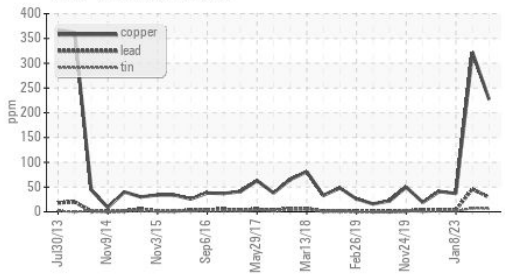
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		**0.14**	0.17	0.36

OIL ANALYSIS REPORT

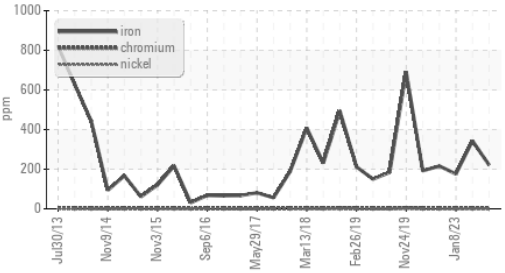
Viscosity @ 40°C



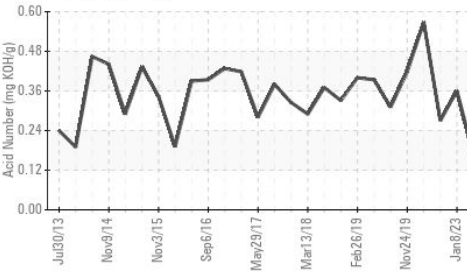
Non-ferrous Metals



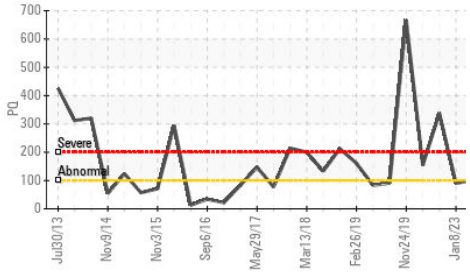
Ferrous Alloys



Acid Number

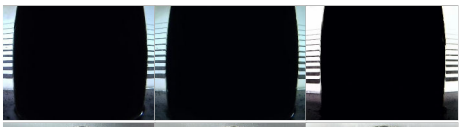
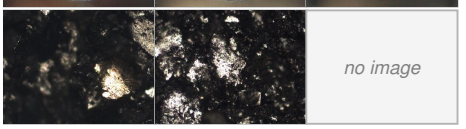


PQ



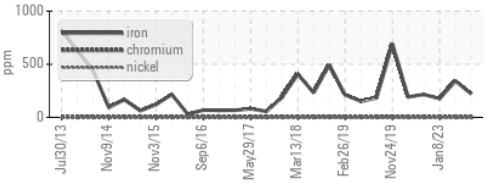
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**HEAVY**	HEAVY	LIGHT
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silt	scalar	Visual*	NONE	**MODER**	MODER	NONE
Debris	scalar	Visual*	NONE	**NONE**	NONE	NONE
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)	100.0	**74.5**	49.9	100

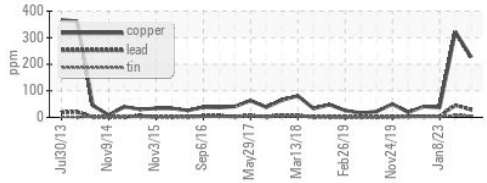
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					
PrtFilter					*no image*

GRAPHS

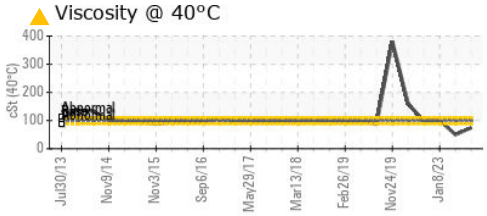
Ferrous Alloys



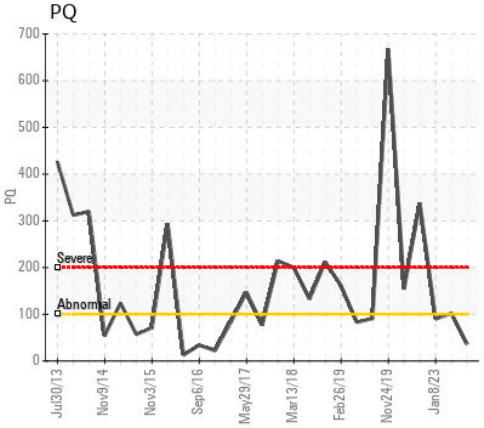
Non-ferrous Metals



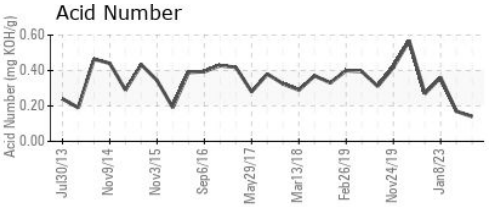
Viscosity @ 40°C



PQ



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0851665 **Received** : 22 Aug 2023
Lab Number : 02577598 **Diagnosed** : 24 Aug 2023
Unique Number : 5630658 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: Bottom, BottomAnalysis, FilterPatch)

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.

Welded Tube of Canada
191 Ridge Road
Welland, ON
CA L3B 5N7
Contact: Steve Holjak
sholjak@weldedtube.com
T: (905)669-1111
F: (905)695-1504