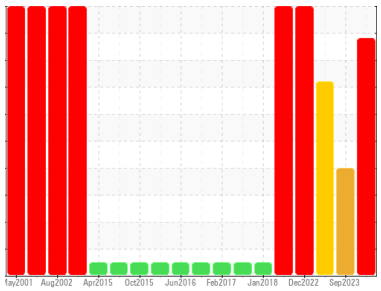
PROBLEM SUMMARY

Sample Rating Trend

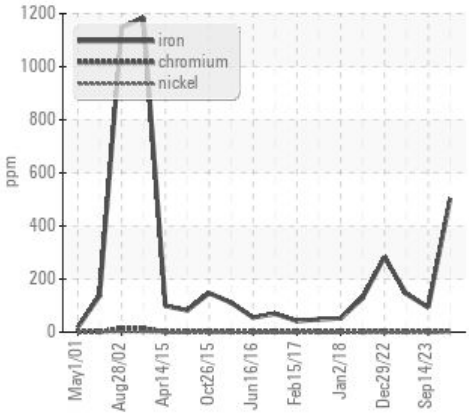


WEAR

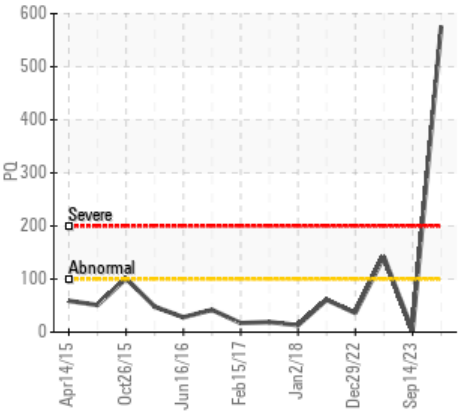
Area
11
Machine Id
11-0030-020-050 SANDER#1 GEARBOX#5
Component
11 Gearbox
Fluid
ESSO CYLESSTIC TK 680 (1 LTR)

COMPONENT CONDITION SUMMARY

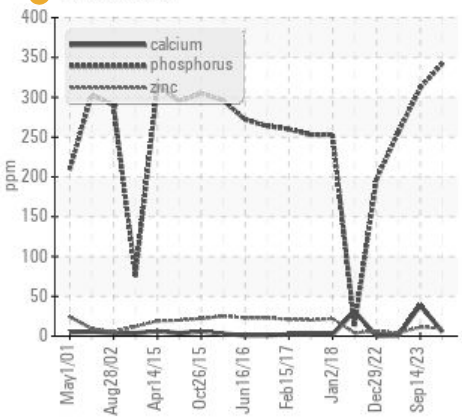
▲ Ferrous Alloys



▲ PQ



● Additives



RECOMMENDATION

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. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	SEVERE
PQ		ASTM D8184*		▲ 576	3	142
Iron	ppm	ASTM D5185(m)	>200	▲ 503	93	144

Customer Id: MACPEM
Sample No.: WC0857996
Lab Number: 02630005
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 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.
Check Fluid Source	---	---	?	Confirm the source of the lubricant being utilized for top-up/fill.

HISTORICAL DIAGNOSIS

DIRT

14 Sep 2023 Diag: Bill Quesnel

We advise that you check all areas where dirt 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. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. You have indicated that the oil has been changed to ESSO CYLESSTIC TK 680, however, it appears that this is a sample of the previous fluid SHELL OMALA S2 GX 320. Please confirm on your next oil sample that the oil has indeed been changed to ESSO CYLESSTIC TK 680.Aluminum ppm levels are noted. All other component wear rates are normal. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. Viscosity of sample indicates oil is within ISO 320 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 still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

WEAR

15 Jun 2023 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.Copper ppm levels are severe. Tin ppm levels are abnormal. Bearing and/or bushing wear is indicated. There is no indication of any contamination in the oil. Viscosity of sample indicates oil is within ISO 460 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.

view report

VISUAL METAL

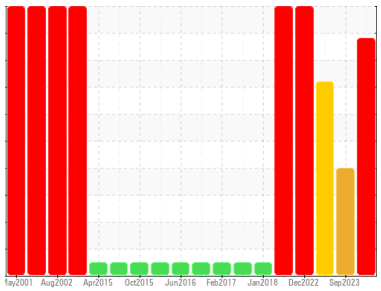
29 Dec 2022 Diag: Kevin Marson

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).Copper and tin ppm levels are severe. Iron ppm levels are abnormal. High concentration of visible metal present. 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 220 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.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
11
Machine Id
11-0030-020-050 SANDER#1 GEARBOX#5
Component
11 Gearbox
Fluid
ESSO CYLESSTIC TK 680 (1 LTR)

DIAGNOSIS

Recommendation
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. We recommend an early resample to monitor this condition.

Wear
Iron ppm levels are severe. PQ levels are abnormal. Gear wear is indicated. The high ferrous density (PQ) index indicates that abnormal wear is occurring.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
Additive levels indicate the addition of a different brand, or type of 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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0857996**	WC0841100	WC0820653
Sample Date		Client Info		**13 Mar 2024**	14 Sep 2023	15 Jun 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**	ABNORMAL	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*		▲ **576**	3	142
Iron	ppm	ASTM D5185(m)	>200	▲ **503**	93	144
Chromium	ppm	ASTM D5185(m)	>15	**5**	<1	1
Nickel	ppm	ASTM D5185(m)	>15	**2**	1	0
Titanium	ppm	ASTM D5185(m)		**1**	<1	0
Silver	ppm	ASTM D5185(m)		**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>25	**5**	● 40	<1
Lead	ppm	ASTM D5185(m)	>100	**6**	6	24
Copper	ppm	ASTM D5185(m)	>200	**158**	156	▲ 777
Tin	ppm	ASTM D5185(m)	>25	**22**	19	▲ 82
Antimony	ppm	ASTM D5185(m)	>5	**0**	0	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

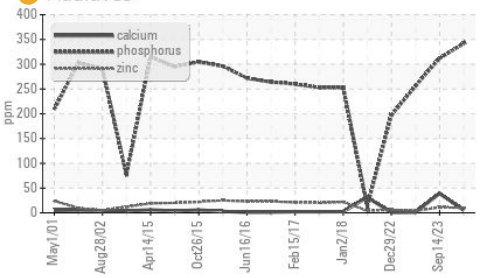
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**<1**	1	3
Barium	ppm	ASTM D5185(m)		**<1**	3	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**6**	1	2
Magnesium	ppm	ASTM D5185(m)		**<1**	8	<1
Calcium	ppm	ASTM D5185(m)		**6**	● 39	1
Phosphorus	ppm	ASTM D5185(m)		● **342**	● 312	256
Zinc	ppm	ASTM D5185(m)		**10**	11	4
Sulfur	ppm	ASTM D5185(m)		● **4586**	● 8156	6409
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>50	**13**	▲ 104	4
Sodium	ppm	ASTM D5185(m)		**4**	29	<1
Potassium	ppm	ASTM D5185(m)	>20	**<1**	1	<1

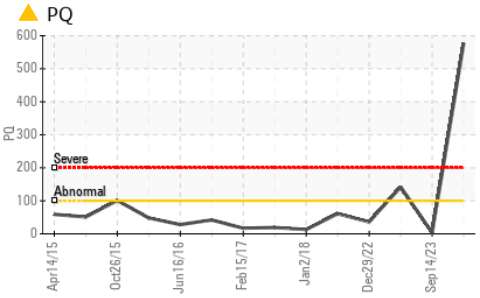
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		**0.56**	0.41	0.98

OIL ANALYSIS REPORT

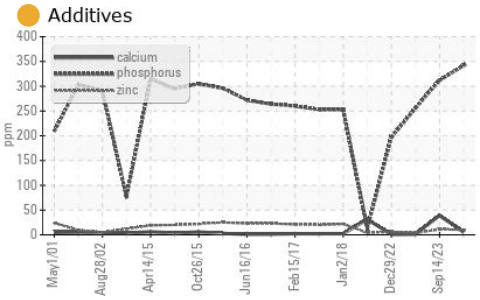
Additives



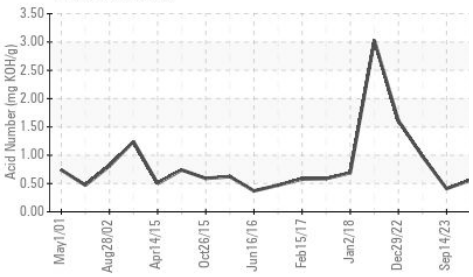
PQ



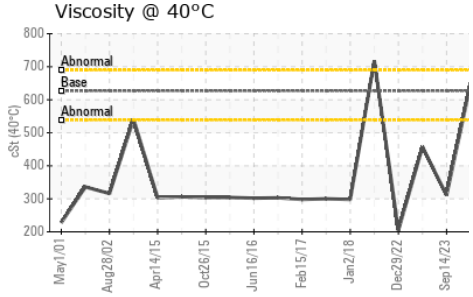
Additives



Acid Number



Viscosity @ 40°C



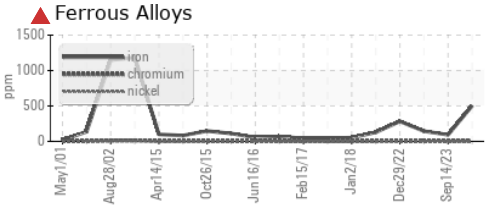
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	VLITE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silt	scalar	Visual*	NONE	**VLITE**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	**VLITE**	NONE	LIGHT
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)	627	**649**	▲ 311	▲ 457

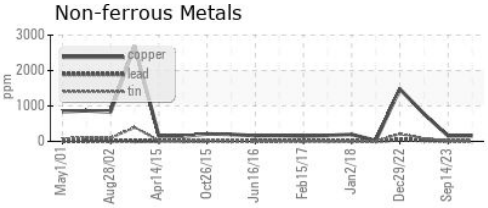
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					
PrtFilter			*no image*	*no image*	*no image*

GRAPHS

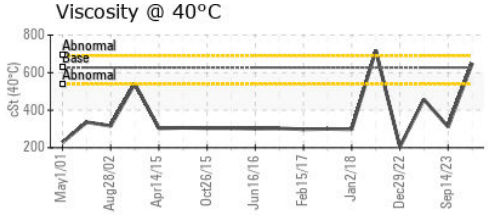
Ferrous Alloys



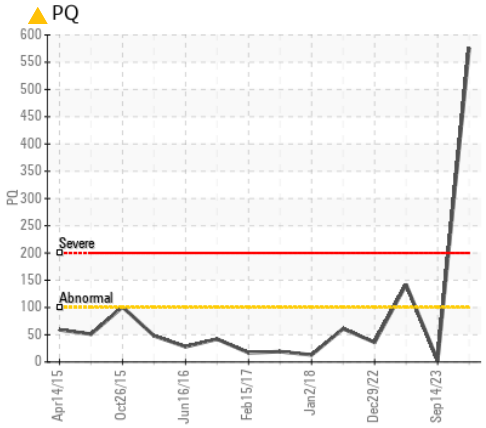
Non-ferrous Metals



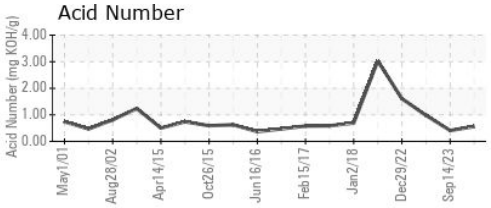
Viscosity @ 40°C



PQ



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0857996 **Received** : 18 Apr 2024
Lab Number : 02630005 **Tested** : 19 Apr 2024
Unique Number : 5763137 **Diagnosed** : 19 Apr 2024 - 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.

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