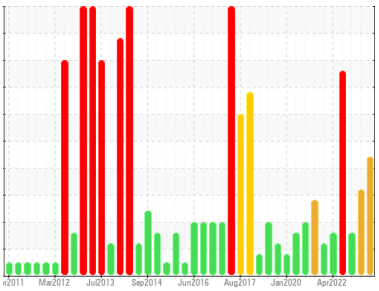
PROBLEM SUMMARY

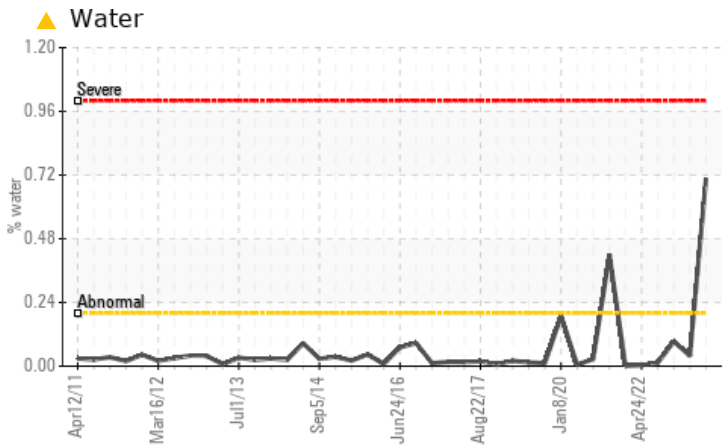
Sample Rating Trend



WATER

Area
UTL
Machine Id
UTL - PRI CLAR RIGHT SEC BULL GR (S/N 79031933)
Component
Gearbox
Fluid
SHELL OMALA 680 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for the source of water entry. We advise that you follow the water drain-off procedure for this component. We recommend you service the filters on this component if applicable. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to metal particles present in this sample.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL
Water	%	ASTM D6304	>0.2	▲ **0.706**	0.039	0.093
ppm Water	ppm	ASTM D6304	>2000	▲ **7060**	390	930
White Metal	scalar	*Visual	NONE	▲ **MODER**	▲ MODER	MODER
Emulsified Water	scalar	*Visual	>0.2	▲ **0.2%**	0.2%	▲ 0.2%
Free Water	scalar	*Visual		▲ **1.0**	▲ 1.0	▲ 1.0

Customer Id: KIMMOBUTL
Sample No.: RP0023531
Lab Number: 05937839
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component if applicable.
Water Drain-off	---	---	?	We advise that you follow the water drain-off procedure for this component.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Alert	---	---	?	We were unable to perform a particle count due to metal particles present in this sample.
Check Water Access	---	---	?	We advise that you check for the source of water entry.

HISTORICAL DIAGNOSIS

04 Jun 2023 Diag: Don Baldridge

WATER

We advise that you check for the source of water entry. We advise that you follow the water drain-off procedure for this component. We recommend you service the filters on this component if applicable. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to a high concentration of particles present in this sample.Moderate concentration of visible metal present. All component wear rates are normal. Moderate concentration of visible dirt/debris present in the oil. Free water present. The AN level is acceptable for this fluid.

view report

02 Mar 2023 Diag: Angela Borella

WATER

We advise that you check for the source of water entry. We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We advise that you follow the water drain-off procedure for this component. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to a high concentration of particles present in this sample.All component wear rates are normal. There is a light concentration of water present in the oil. Free water present. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

view report

25 Jan 2023 Diag: Don Baldridge

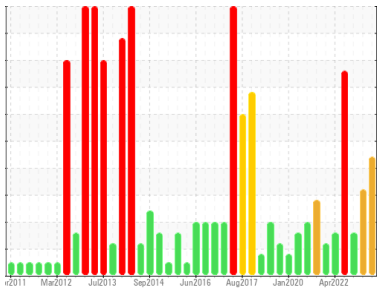
ISO

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WATER

Area
UTL
Machine Id
UTL - PRI CLAR RIGHT SEC BULL GR (S/N 79031933)
Component
Gearbox
Fluid
SHELL OMALA 680 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check for the source of water entry. We advise that you follow the water drain-off procedure for this component. We recommend you service the filters on this component if applicable. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to metal particles present in this sample.

Wear
Moderate concentration of visible metal present. All component wear rates are normal.

Contamination
Free water present. There is a moderate concentration of water present in the oil.

Fluid Condition
The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**RP0023531**	RP0023560	RP0006310
Sample Date		Client Info		**28 Aug 2023**	04 Jun 2023	02 Mar 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				**ABNORMAL**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		**43**	88	59
Iron	ppm	ASTM D5185m	>200	**30**	61	29
Chromium	ppm	ASTM D5185m	>15	**<1**	<1	0
Nickel	ppm	ASTM D5185m	>15	**0**	<1	0
Titanium	ppm	ASTM D5185m		**0**	0	<1
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**3**	0	<1
Lead	ppm	ASTM D5185m	>100	**0**	0	0
Copper	ppm	ASTM D5185m	>200	**0**	<1	<1
Tin	ppm	ASTM D5185m	>25	**0**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

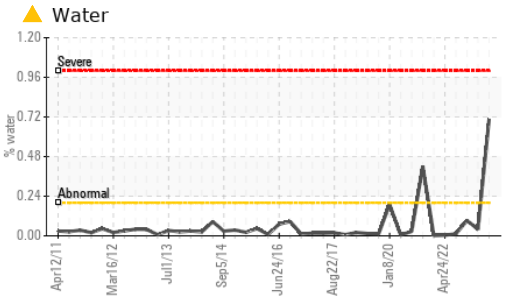
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	0	0
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**0**	0	0
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**<1**	0	4
Calcium	ppm	ASTM D5185m		**17**	6	8
Phosphorus	ppm	ASTM D5185m	512	**103**	239	123
Zinc	ppm	ASTM D5185m	3.8	**6**	0	8

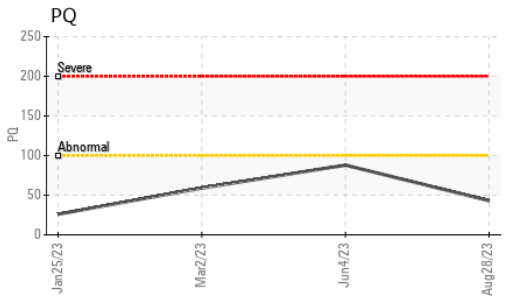
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**13**	14	10
Sodium	ppm	ASTM D5185m		**0**	0	0
Potassium	ppm	ASTM D5185m	>20	**0**	2	0
Water	%	ASTM D6304	>0.2	▲ **0.706**	0.039	0.093
ppm Water	ppm	ASTM D6304	>2000	▲ **7060**	390	930

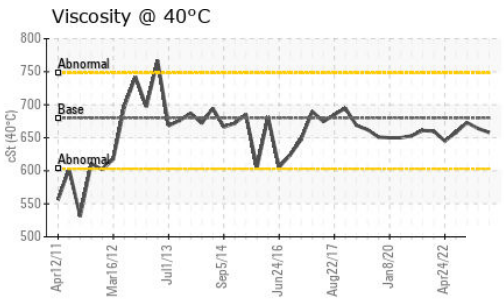
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	**---**	---	---
Particles >6µm		ASTM D7647	>5000	**---**	---	---
Particles >14µm		ASTM D7647	>640	**---**	---	---
Particles >21µm		ASTM D7647	>160	**---**	---	---
Particles >38µm		ASTM D7647	>40	**---**	---	---
Particles >71µm		ASTM D7647	>10	**---**	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	**---**	---	---

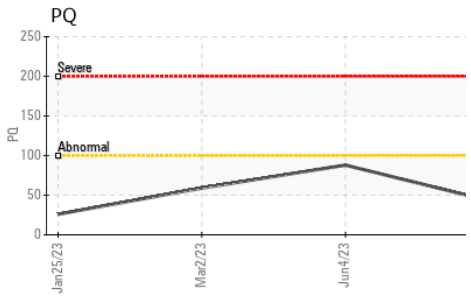
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.14**	0.57	0.40

OIL ANALYSIS REPORT



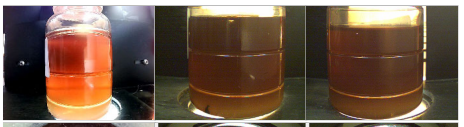




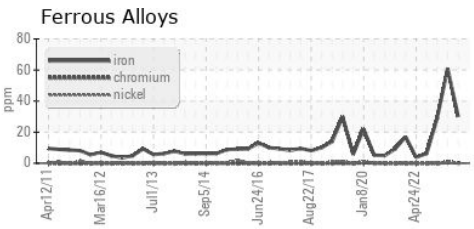


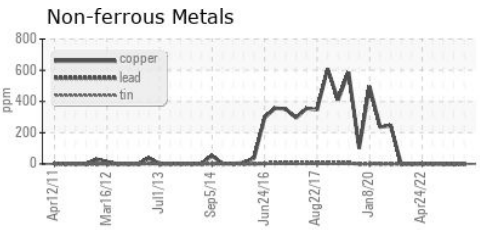
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	▲ **MODER**	▲ MODER	MODER
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	▲ MODER	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	▲ **0.2%**	0.2%	▲ 0.2%
Free Water	scalar	*Visual		▲ **1.0**	▲ 1.0	▲ 1.0

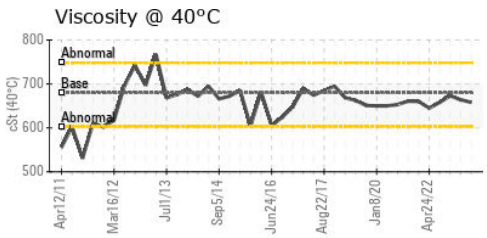
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	680	**658**	664	673

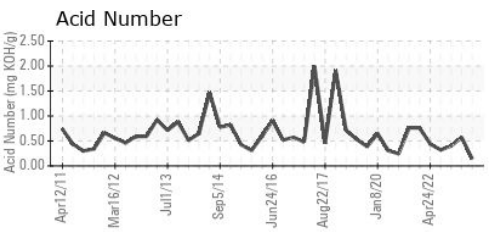
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS









Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0023531 **Received** : 29 Aug 2023
Lab Number : 05937839 **Diagnosed** : 14 Sep 2023
Unique Number : 10628451 **Diagnostician** : Doug Bogart
Test Package : IND 2 (Additional Tests: PQ, PrtCount)

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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