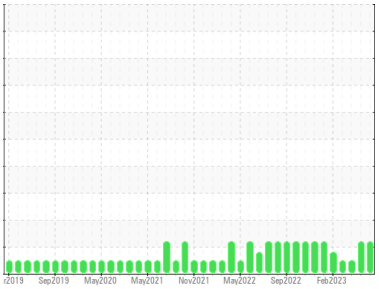
PROBLEM SUMMARY

Sample Rating Trend

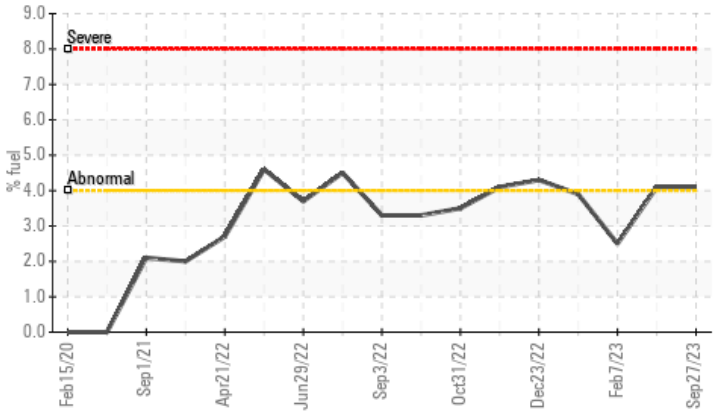


FUEL

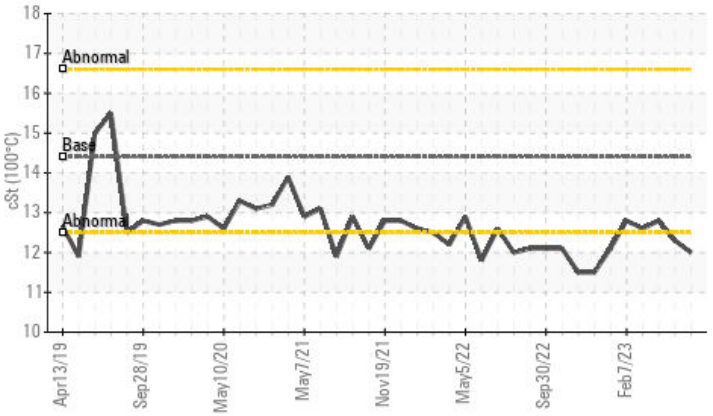
Machine Id
CAIRO (S/N 60346927)
Component
Starboard Genset
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (6 GAL)

COMPONENT CONDITION SUMMARY

▲ Fuel Dilution



▲ Viscosity @ 100°C



RECOMMENDATION

We advise that you check the fuel injection system.
Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	NORMAL
Fuel	%	ASTM D3524	>4.0	▲ **4.1**	▲ 4.1	<1.0
Visc @ 100°C	cSt	ASTM D445	14.4	▲ **12.0**	▲ 12.3	12.8

Customer Id: AMELOU
Sample No.: MW0047426
Lab Number: 05969502
Test Package: MAR 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Sean Felton +1 919-379-4092
sfelton@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
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

15 Aug 2023 Diag: Don Baldridge

FUEL

We advise that you check the fuel injection system. Resample at the next service interval to monitor.All component wear rates are normal. There is a moderate amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

22 Jul 2023 Diag: Don Baldridge

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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

20 Mar 2023 Diag: Doug Bogart

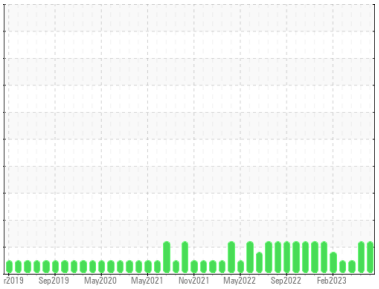
NORMAL

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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
CAIRO (S/N 60346927)
Component
Starboard Genset
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (6 GAL)

DIAGNOSIS

Recommendation
We advise that you check the fuel injection system. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is a moderate amount of fuel present in the oil.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**MW0047426**	MW0047417	MW0037588
Sample Date		Client Info		**27 Sep 2023**	15 Aug 2023	22 Jul 2023
Machine Age	hrs	Client Info		**9399**	8793	8508
Oil Age	hrs	Client Info		**508**	458	138
Oil Changed		Client Info		**Not Changd**	Not Changd	Changed
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**11**	9	6
Chromium	ppm	ASTM D5185m	>4	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**<1**	0	0
Titanium	ppm	ASTM D5185m		**17**	18	16
Silver	ppm	ASTM D5185m	>5	**0**	0	0
Aluminum	ppm	ASTM D5185m	>12	**0**	<1	1
Lead	ppm	ASTM D5185m	>17	**<1**	0	0
Copper	ppm	ASTM D5185m	>70	**<1**	<1	0
Tin	ppm	ASTM D5185m	>15	**<1**	0	<1
Vanadium	ppm	ASTM D5185m		**<1**	<1	<1
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	151	**67**	72	90
Barium	ppm	ASTM D5185m	0.4	**0**	0	0
Molybdenum	ppm	ASTM D5185m	250	**29**	33	29
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	0	**768**	825	807
Calcium	ppm	ASTM D5185m	2046	**1538**	1717	1589
Phosphorus	ppm	ASTM D5185m	1043	**686**	757	740
Zinc	ppm	ASTM D5185m	943	**816**	885	869
Sulfur	ppm	ASTM D5185m	5012	**3022**	3891	3836

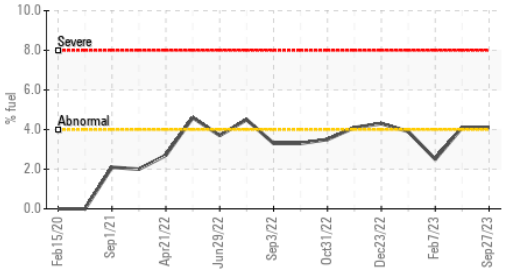
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**5**	5	4
Sodium	ppm	ASTM D5185m		**3**	4	3
Potassium	ppm	ASTM D5185m	>20	**3**	1	2
Fuel	%	ASTM D3524	>4.0	▲ **4.1**	▲ 4.1	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0.1**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**9.7**	9.8	8.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.4**	19.0	18.1

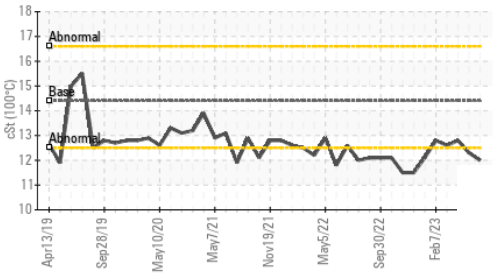
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**16.3**	15.5	13.7
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	**7.5**	7.7	8.4

OIL ANALYSIS REPORT

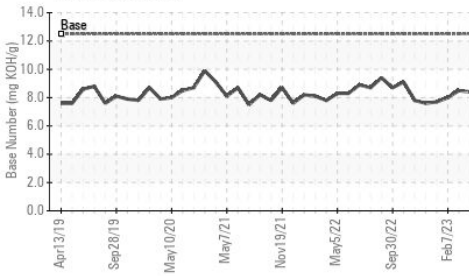
Fuel Dilution



Viscosity @ 100°C



Base Number

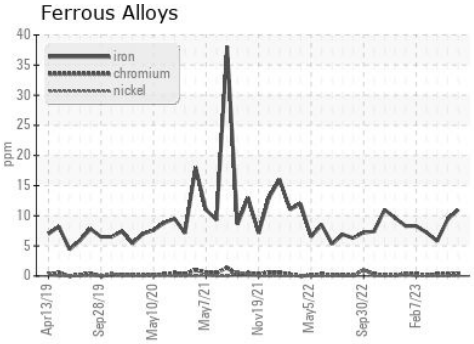


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

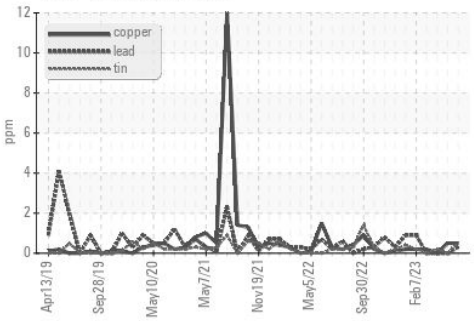
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	▲ **12.0**	▲ 12.3	12.8

GRAPHS

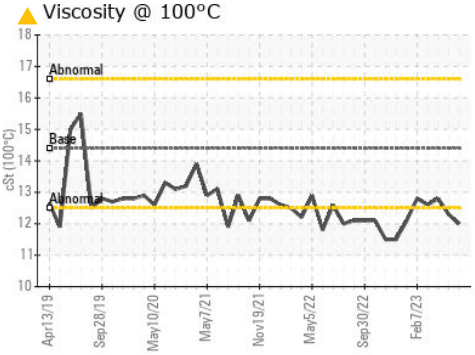
Ferrous Alloys



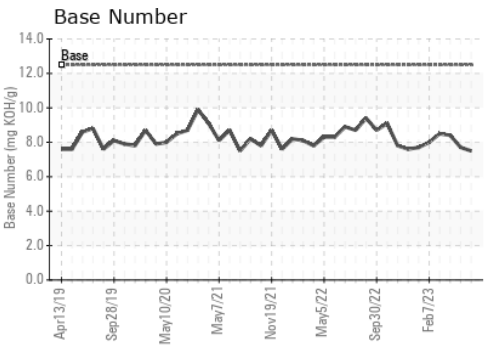
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0047426 **Received** : 04 Oct 2023
Lab Number : 05969502 **Diagnosed** : 06 Oct 2023
Unique Number : 10676053 **Diagnostician** : Sean Felton
Test Package : MAR 2 (Additional Tests: PercentFuel)

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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