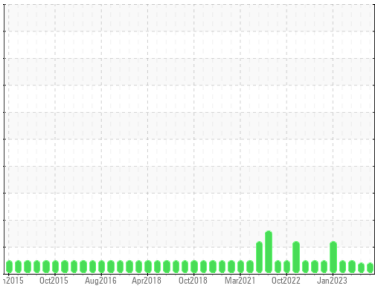
PROBLEM SUMMARY

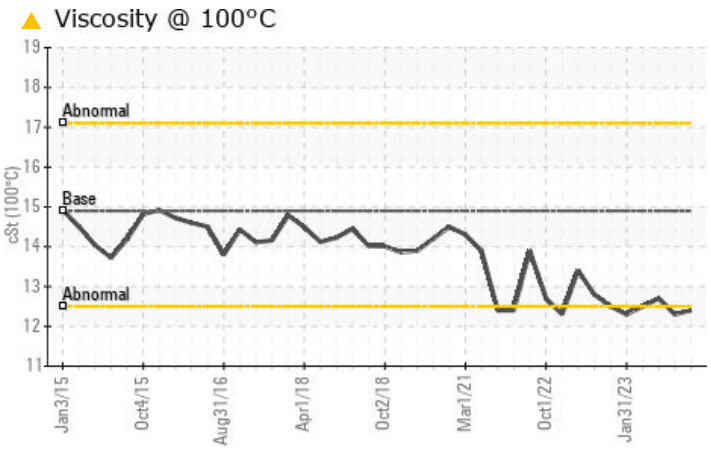
Sample Rating Trend



VISCOSITY

Area
ELEANOR G MCDONALD
Machine Id
[ELEANOR G MCDONALD] 008 552824-8
Component
Starboard Genset
Fluid
CHEVRON DELO 400 XLE 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				ATTENTION	ATTENTION	NORMAL
Visc @ 100°C	cSt	ASTM D445	14.9	▲ **12.4**	▲ 12.3	12.7

Customer Id: INGPAD
Sample No.: MW0046722
Lab Number: 05998384
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
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.

HISTORICAL DIAGNOSIS

22 Sep 2023 Diag: Jonathan Hester

VISCOSITY

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

01 May 2023 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.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

09 Apr 2023 Diag: Wes Davis

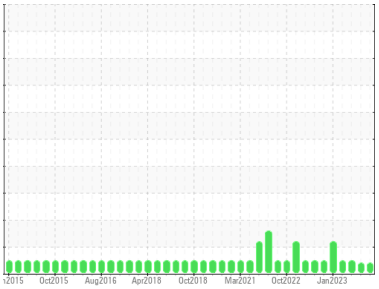
NORMAL

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.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



VISCOSITY

Area
ELEANOR G MCDONALD
Machine Id
[ELEANOR G MCDONALD] 008 552824-8
Component
Starboard Genset
Fluid
CHEVRON DELO 400 XLE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**MW0046722**	MW0046721	MW0051559
Sample Date		Client Info		**28 Oct 2023**	22 Sep 2023	01 May 2023
Machine Age	hrs	Client Info		**4383**	3995	3447
Oil Age	hrs	Client Info		**388**	398	251
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ATTENTION**	ATTENTION	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	**<1.0**	1.8	<1.0
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**5**	6	5
Chromium	ppm	ASTM D5185m	>4	**0**	<1	<1
Nickel	ppm	ASTM D5185m	>2	**<1**	0	0
Titanium	ppm	ASTM D5185m		**<1**	<1	0
Silver	ppm	ASTM D5185m	>5	**0**	0	0
Aluminum	ppm	ASTM D5185m	>12	**3**	3	<1
Lead	ppm	ASTM D5185m	>17	**2**	<1	0
Copper	ppm	ASTM D5185m	>70	**32**	35	2
Tin	ppm	ASTM D5185m	>15	**<1**	<1	0
Vanadium	ppm	ASTM D5185m		**<1**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**293**	278	370
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**117**	112	114
Manganese	ppm	ASTM D5185m		**2**	<1	<1
Magnesium	ppm	ASTM D5185m		**642**	598	653
Calcium	ppm	ASTM D5185m		**1527**	1522	1592
Phosphorus	ppm	ASTM D5185m	760	**673**	683	705
Zinc	ppm	ASTM D5185m	830	**874**	828	855
Sulfur	ppm	ASTM D5185m	2770	**2634**	2463	3023

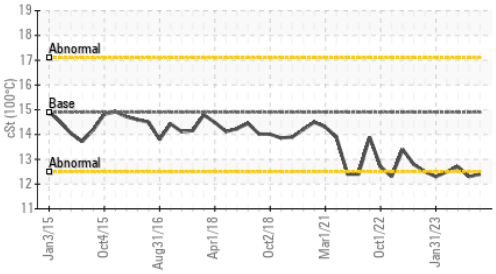
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**6**	6	6
Sodium	ppm	ASTM D5185m		**0**	1	<1
Potassium	ppm	ASTM D5185m	>20	**<1**	<1	<1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0.1**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**7.0**	7.9	6.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.8**	22.6	22.5

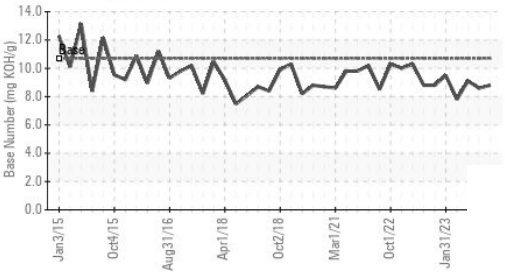
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**17.1**	17.6	15.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	**8.8**	8.6	9.1

OIL ANALYSIS REPORT

▲ Viscosity @ 100°C



Base Number

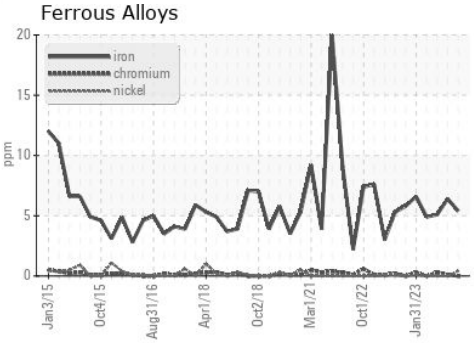


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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

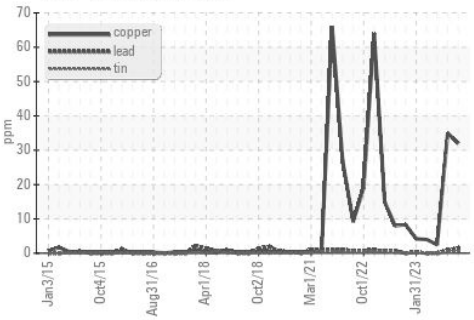
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.9	▲ **12.4**	▲ 12.3	12.7

GRAPHS

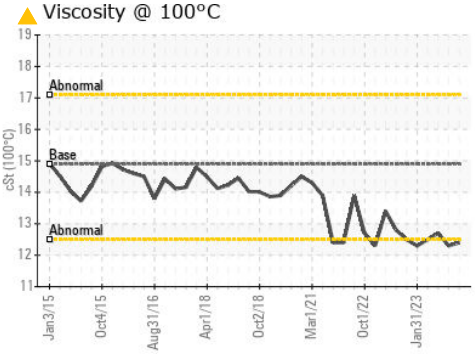
Ferrous Alloys



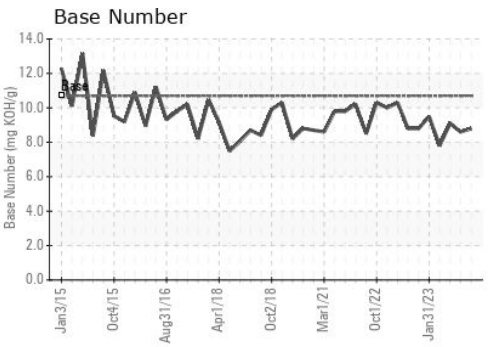
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0046722
Lab Number : 05998384
Unique Number : 10726744
Test Package : MAR 2

Received : 03 Nov 2023
Diagnosed : 07 Nov 2023
Diagnostician : Sean Felton

Certificate L2367

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)

INGRAM BARGE
900 S 3RD ST
PADUCAH, KY
US 42003
Contact: DALE MORIE
dale.morie@ingrambarge.com
T: (270)415-4467
F: (615)695-3697