

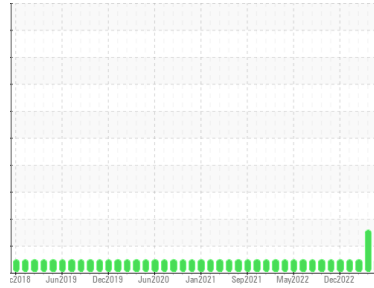


OIL ANALYSIS REPORT



Machine Id
MARK STAAB (S/N SAX00753)
 Component
Starboard Genset
 Fluid
CHEVRON DELO 400 XLE 15W40 (5 GAL)

Sample Rating Trend



NORMAL



DIAGNOSIS

Recommendation

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

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		MW0047590	MW0047578	MW0047566
Sample Date	Client Info		07 Jul 2023	25 May 2023	28 Mar 2023
Machine Age	hrs	Client Info	40188	39686	39202
Oil Age	hrs	Client Info	502	482	505
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	ABNORMAL	NORMAL

CONTAMINATION

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

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >62	8	7	9
Chromium	ppm	ASTM D5185m >3	<1	0	<1
Nickel	ppm	ASTM D5185m >2	0	0	<1
Titanium	ppm	ASTM D5185m	16	15	15
Silver	ppm	ASTM D5185m >5	0	0	0
Aluminum	ppm	ASTM D5185m >4	2	1	0
Lead	ppm	ASTM D5185m >25	0	0	<1
Copper	ppm	ASTM D5185m >274	1	1	1
Tin	ppm	ASTM D5185m >2	<1	0	0
Vanadium	ppm	ASTM D5185m	<1	0	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	61	63	64
Barium	ppm	ASTM D5185m	0	0	1
Molybdenum	ppm	ASTM D5185m	35	31	31
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	818	740	659
Calcium	ppm	ASTM D5185m	1758	1626	1485
Phosphorus	ppm	ASTM D5185m 760	762	688	658
Zinc	ppm	ASTM D5185m 830	918	843	810
Sulfur	ppm	ASTM D5185m 2770	4067	3557	2910

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	10	▲ 22	7
Sodium	ppm	ASTM D5185m	2	2	<1
Potassium	ppm	ASTM D5185m >20	4	2	3

INFRA-RED

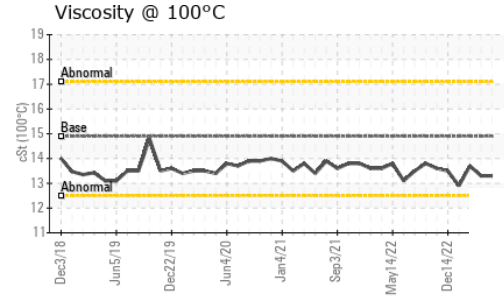
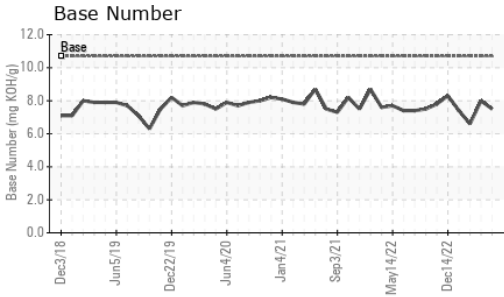
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0.3	0.2	0.2
Nitration	Abs/cm	*ASTM D7624 >20	9.8	9.9	9.2
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.6	19.5	18.0

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	17.0	15.3	15.4
Base Number (BN)	mg KOH/g	ASTM D2896 10.7	7.5	8.0	6.6



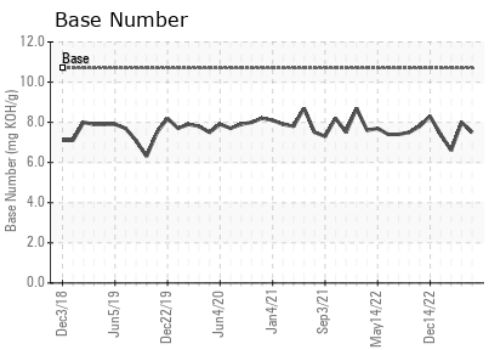
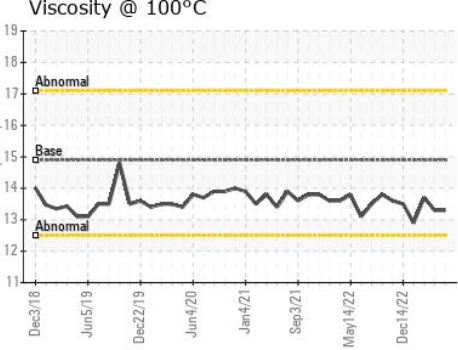
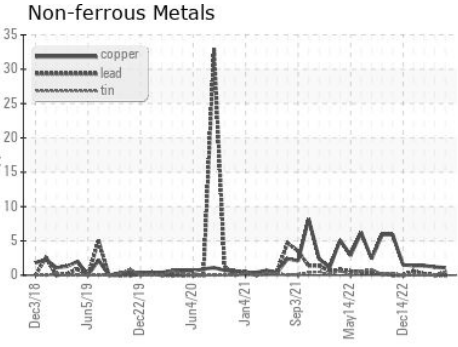
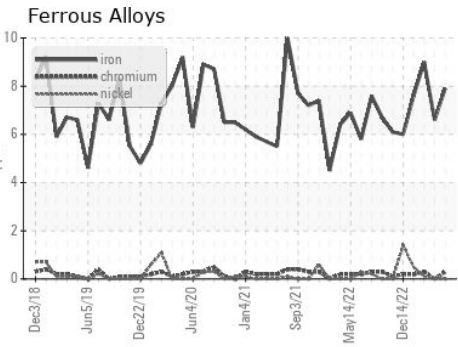
OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.9	13.3	13.3

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0047590 **Received** : 14 Jul 2023
Lab Number : 05899261 **Diagnosed** : 18 Jul 2023
Unique Number : 10560617 **Diagnostician** : Jonathan Hester
Test Package : MAR 2

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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)