



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
SANDY LOU
Component
Starboard Genset
Fluid
CHEVRON DELO 400 SDE SAE 15W40 (3 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0047380	MW0047397	MW0047389
Sample Date		Client Info		13 Mar 2024	30 Jan 2024	28 Nov 2023
Machine Age	hrs	Client Info		32035	26389	25838
Oil Age	hrs	Client Info		208	551	286
Filter Age	hrs	Client Info		208	551	286
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	6	28	0
Chromium	ppm	ASTM D5185m	>4	<1	2	0
Nickel	ppm	ASTM D5185m	>2	<1	<1	0
Titanium	ppm	ASTM D5185m		19	13	0
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	4	7	<1
Lead	ppm	ASTM D5185m	>17	<1	15	0
Copper	ppm	ASTM D5185m	>70	0	4	<1
Tin	ppm	ASTM D5185m	>15	<1	1	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

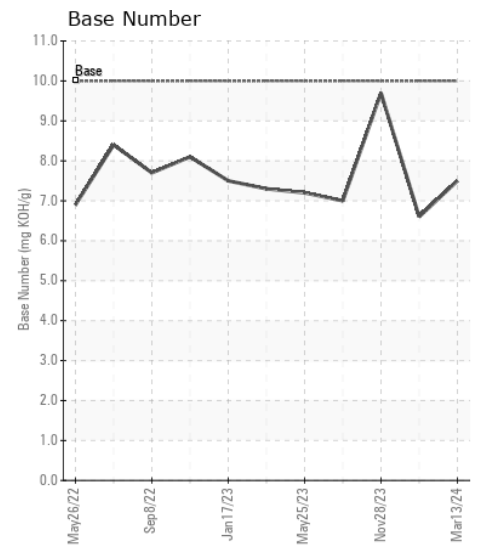
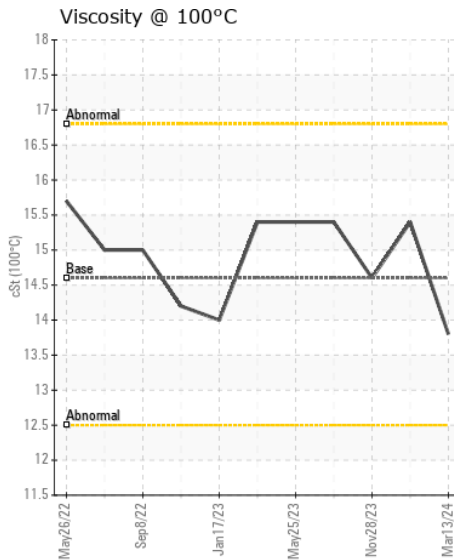
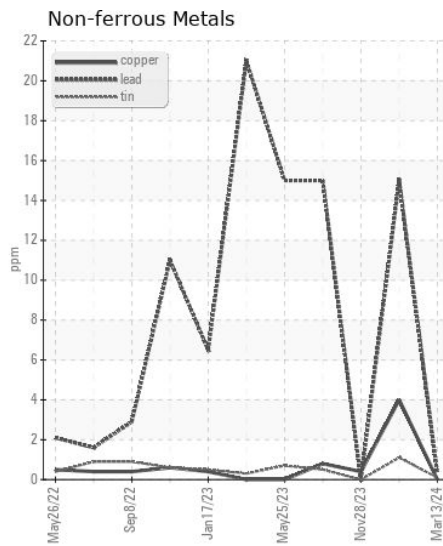
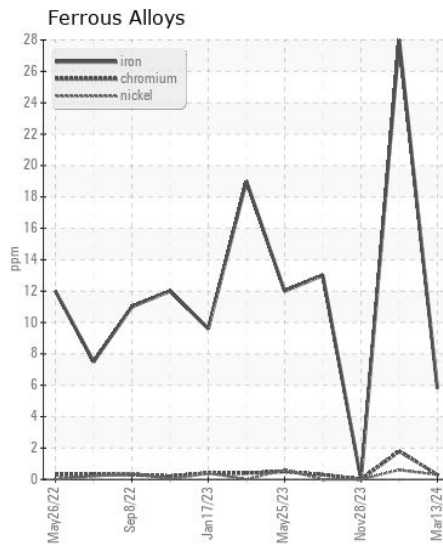
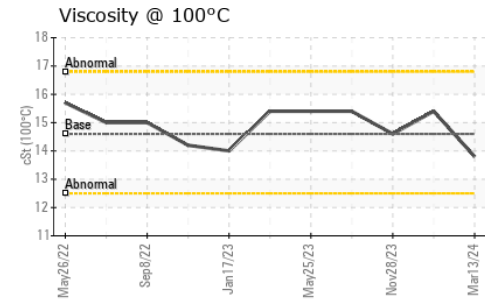
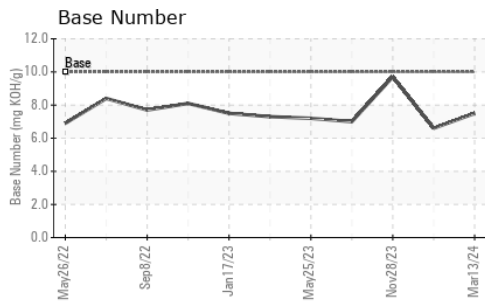
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	6	9	4
Potassium	ppm	ASTM D5185m	>20	7	▲ 754	0
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	9.1	14.0	14.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.8	23.5	21.3
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

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.

Sodium	ppm	ASTM D5185m		7	▲ 364	2
Boron	ppm	ASTM D5185m		141	21	2
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		53	116	54
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		993	640	911
Calcium	ppm	ASTM D5185m		2067	1429	1033
Phosphorus	ppm	ASTM D5185m	760	1064	665	1017
Zinc	ppm	ASTM D5185m	800	1190	817	1212
Sulfur	ppm	ASTM D5185m	3000	4804	2985	3031
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.9	21.3	18.4
Base Number (BN)	mg KOH/g	ASTM D2896	10	7.5	6.6	9.7
Visc @ 100°C	cSt	ASTM D445	14.6	13.8	15.4	14.6



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : MW0047380

Lab Number : 06121468

Unique Number : 10930301

Test Package : MAR 2

Received : 18 Mar 2024

Tested : 19 Mar 2024

Diagnosed : 21 Mar 2024 - Jonathan Hester

OSAGE MARINE

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US 63111

Contact: MIKE KESSLER

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T:

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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)