



Machine Id
ATLANTIS
Component
Starboard Genset
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (4 GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0057023	MW0057030	MW0057033
Sample Date		Client Info		15 Mar 2024	03 Sep 2023	31 Jul 2023
Machine Age	hrs	Client Info		36271	33878	33484
Oil Age	hrs	Client Info		500	33878	500
Filter Age	hrs	Client Info		500	33878	500
Oil Changed		Client Info		Changed	N/A	Changed
Filter Changed		Client Info		Changed	N/A	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

Piston and cylinder wear is indicated.

Iron	ppm	ASTM D5185m	>50	▲ 50	8	8
Chromium	ppm	ASTM D5185m	>4	3	1	<1
Nickel	ppm	ASTM D5185m	>2	2	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	▲ 14	4	3
Lead	ppm	ASTM D5185m	>17	2	0	0
Copper	ppm	ASTM D5185m	>70	4	<1	<1
Tin	ppm	ASTM D5185m	>15	1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

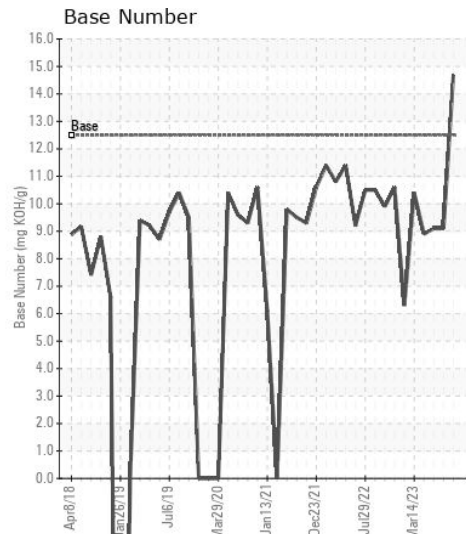
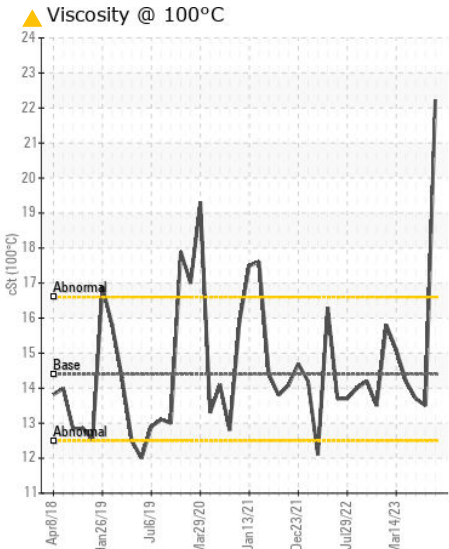
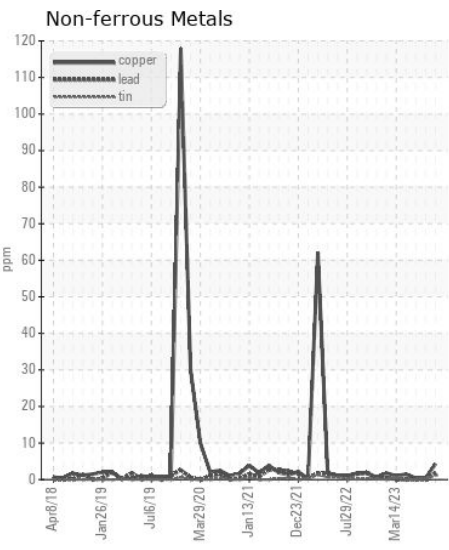
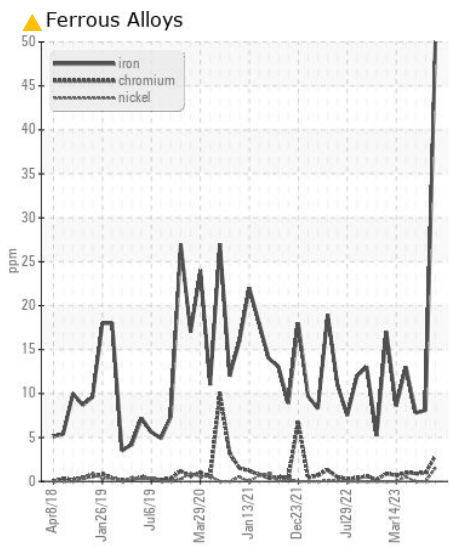
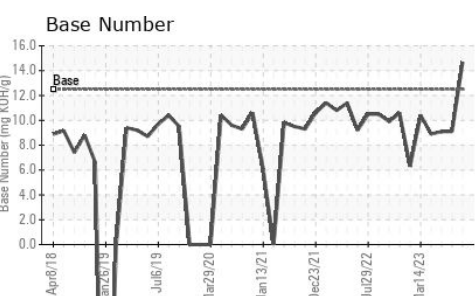
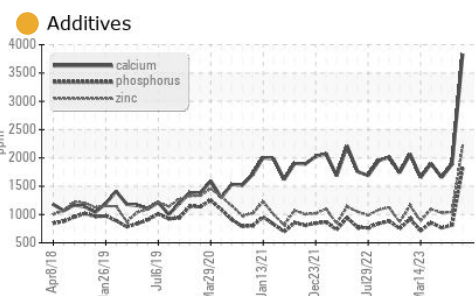
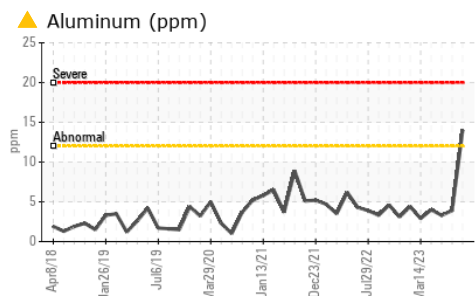
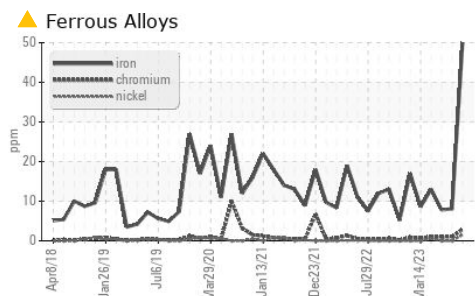
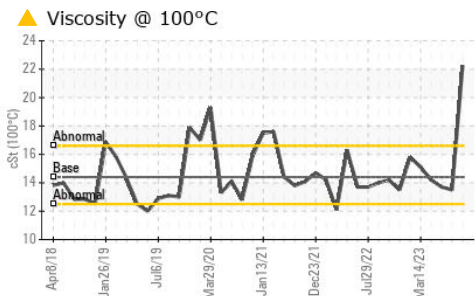
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	21	7	6
Potassium	ppm	ASTM D5185m	>20	3	1	3
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		5.8	0.5	0.4
Nitration	Abs/cm	*ASTM D7624	>20	23.2	12.0	10.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	42.5	24.1	23.7
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 oil viscosity is higher than normal. Additive levels indicate the addition of a different brand, or type of oil. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		3	3	<1
Boron	ppm	ASTM D5185m	151	● 469	223	214
Barium	ppm	ASTM D5185m	0.4	2	0	0
Molybdenum	ppm	ASTM D5185m	250	321	153	128
Manganese	ppm	ASTM D5185m		2	<1	<1
Magnesium	ppm	ASTM D5185m	0	● 1894	842	790
Calcium	ppm	ASTM D5185m	2046	● 3834	1888	1654
Phosphorus	ppm	ASTM D5185m	1043	● 1808	811	764
Zinc	ppm	ASTM D5185m	943	● 2204	1041	1030
Sulfur	ppm	ASTM D5185m	5012	5091	3078	3044
Oxidation	Abs/.1mm	*ASTM D7414	>25	36.4	22.6	21.1
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	14.68	9.1	9.1
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 22.23	13.5	13.7



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0057023
Lab Number : 06125431
Unique Number : 10939582
Test Package : MAR 2
Received : 21 Mar 2024
Tested : 27 Mar 2024
Diagnosed : 27 Mar 2024 - Jonathan Hester

C & B MARINE
 50 E RIVERCENTER BLVD, SUITE 1180
 COVINGTON, KY
 US 41011
 Contact: DAVID WESTRICH
 dwestrich@carlislebray.com
 T: (812)290-4063
 F: (859)655-7504

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)