



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
NEWPORT
Component
Starboard Genset
Fluid
CHEVRON DELO 400 XLE 15W40 (5 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0062669	MW0062675	MW0045730
Sample Date		Client Info		16 Jun 2024	11 May 2024	12 Sep 2023
Machine Age	hrs	Client Info		17170	16750	15866
Oil Age	hrs	Client Info		420	884	500
Filter Age	hrs	Client Info		420	884	500
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	7	15	8
Chromium	ppm	ASTM D5185m	>4	0	0	0
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	11
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	2	5	<1
Lead	ppm	ASTM D5185m	>17	0	3	<1
Copper	ppm	ASTM D5185m	>70	<1	<1	<1
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	<1
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.

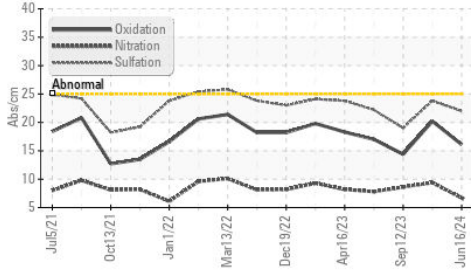
Silicon	ppm	ASTM D5185m	>25	3	6	4
Potassium	ppm	ASTM D5185m	>20	<1	0	3
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.2	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	6.7	9.4	8.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.0	23.8	19.0
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

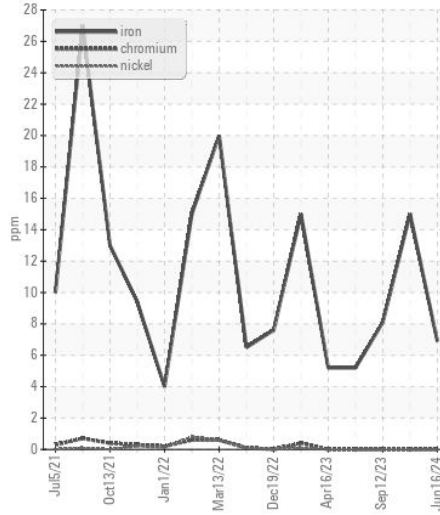
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<1	<1	4
Boron	ppm	ASTM D5185m		343	330	109
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		88	138	49
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		421	774	752
Calcium	ppm	ASTM D5185m		1535	1656	1719
Phosphorus	ppm	ASTM D5185m	760	1001	761	766
Zinc	ppm	ASTM D5185m	830	1265	901	936
Sulfur	ppm	ASTM D5185m	2770	3660	2851	3870
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.1	20.2	14.4
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	7.3	7.8	7.1
Visc @ 100°C	cSt	ASTM D445	14.9	13.8	14.1	14.3

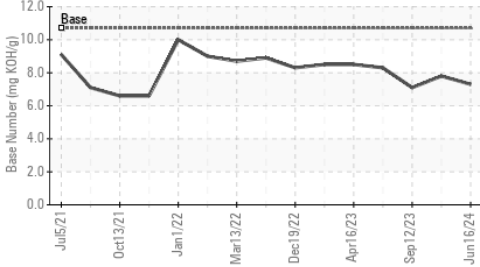
FT-IR (Direct Trend)



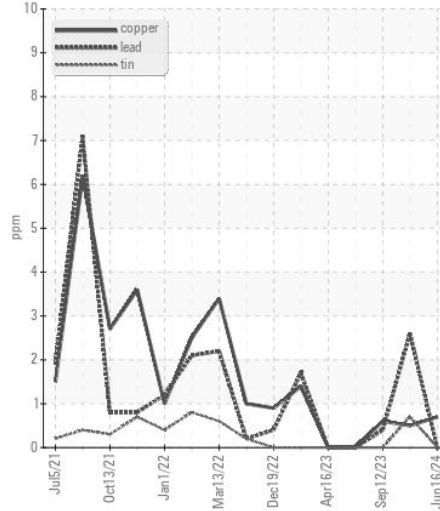
Ferrous Alloys



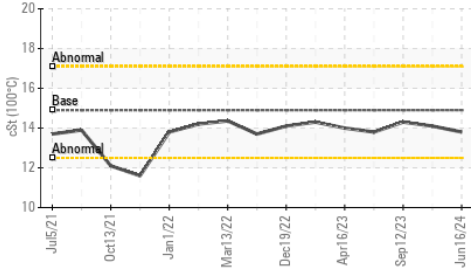
Base Number



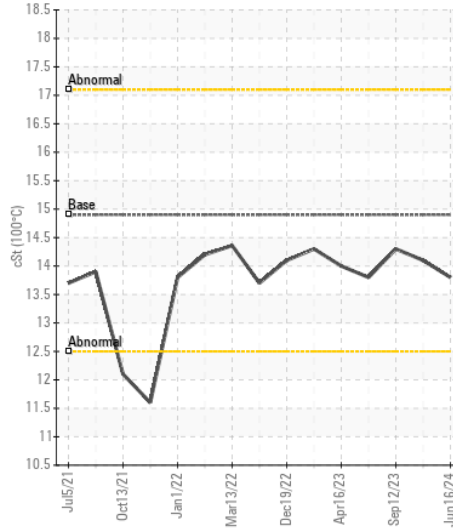
Non-ferrous Metals



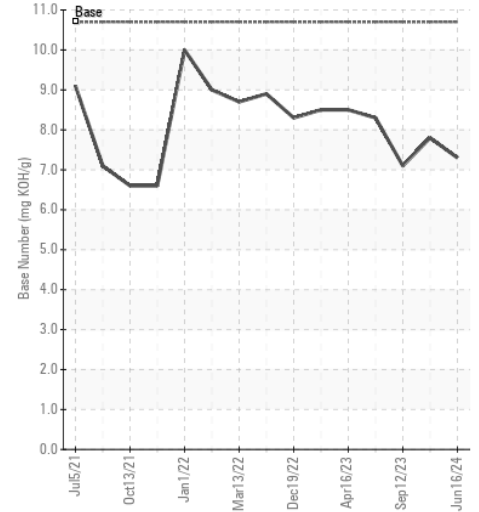
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0062669
Lab Number : 06219081
Unique Number : 11097278
Test Package : MAR 2

Received : 24 Jun 2024
Tested : 25 Jun 2024
Diagnosed : 26 Jun 2024 - Jonathan Hester

C & B MARINE
 50 E RIVERCENTER BLVD, SUITE 1180
 COVINGTON, KY
 US 41011

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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)