



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Area

**JOE B WYATT**

Machine Id

**[JOE B WYATT] 008 647464-8**

Component

**Starboard Genset**

Fluid

**CHEVRON DELO 400 LE 15W40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0064544</b>	MW0064545	MW0064480
Sample Date		Client Info		<b>02 Jul 2024</b>	13 Jun 2024	07 May 2024
Machine Age	hrs	Client Info		<b>34954</b>	34565	34213
Oil Age	hrs	Client Info		<b>389</b>	346	378
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	---	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	<b>5</b>	6	7
Chromium	ppm	ASTM D5185m	>4	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	1
Silver	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>12	<b>2</b>	2	3
Lead	ppm	ASTM D5185m	>17	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>70	<b>0</b>	0	<1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

There is no indication of any contamination in the oil.

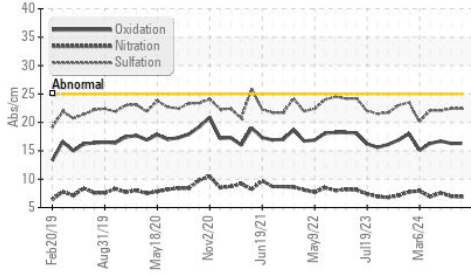
Silicon	ppm	ASTM D5185m	>25	<b>5</b>	5	6
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	2	0
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.1</b>	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.9</b>	7.0	7.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.4</b>	22.4	22.1
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

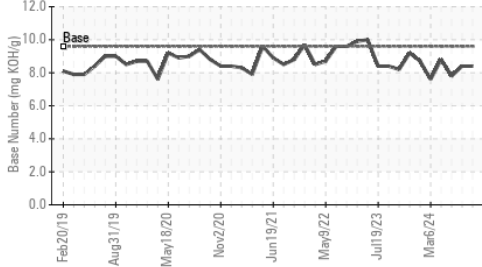
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>2</b>	1	<1
Boron	ppm	ASTM D5185m		<b>303</b>	309	459
Barium	ppm	ASTM D5185m		<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185m		<b>114</b>	114	109
Manganese	ppm	ASTM D5185m		<b>4</b>	3	2
Magnesium	ppm	ASTM D5185m		<b>585</b>	644	603
Calcium	ppm	ASTM D5185m		<b>1699</b>	1709	1562
Phosphorus	ppm	ASTM D5185m	1200	<b>844</b>	876	912
Zinc	ppm	ASTM D5185m	1300	<b>971</b>	1031	1080
Sulfur	ppm	ASTM D5185m	3200	<b>3191</b>	3362	3437
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.3</b>	16.3	16.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	<b>8.4</b>	8.4	7.8
Visc @ 100°C	cSt	ASTM D445	15.7	<b>12.9</b>	12.8	12.6

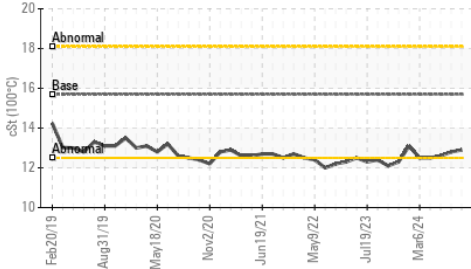
**FT-IR (Direct Trend)**



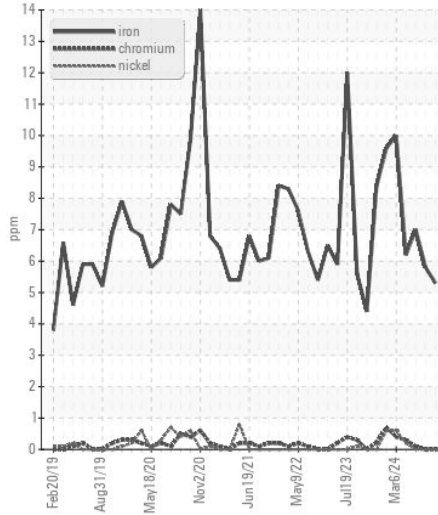
**Base Number**



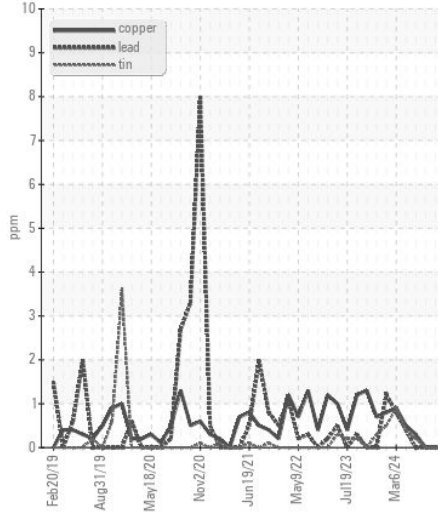
**Viscosity @ 100°C**



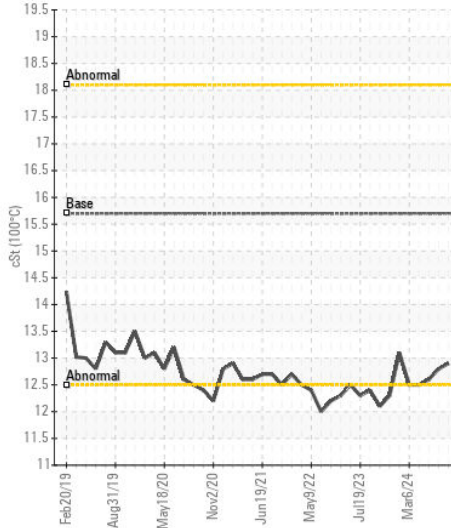
**Ferrous Alloys**



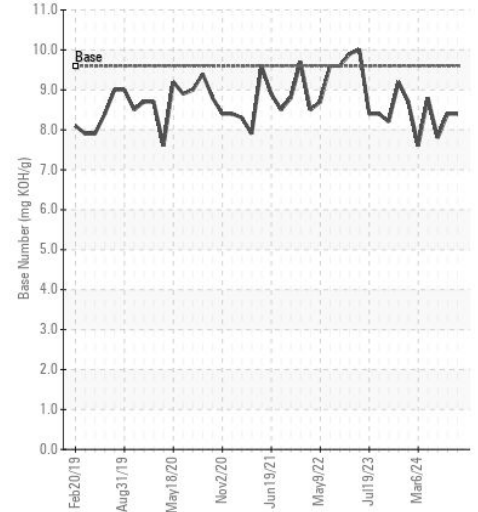
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

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

**Sample No.** : MW0064544

**Lab Number** : 06234320

**Unique Number** : 11123154

**Test Package** : MAR 2

**Received** : 11 Jul 2024

**Tested** : 12 Jul 2024

**Diagnosed** : 12 Jul 2024 - Wes Davis

**INGRAM BARGE**

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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)