



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

Area  
**CHARLIE M EVERHART**  
Machine Id  
**[CHARLIE M EVERHART] 003 534782-3**  
Component  
**Starboard Main Engine**  
Fluid  
**CHEVRON DELO 400 LE 15W40 (30 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0064473</b>	MW0064469	MW0055288
Sample Date		Client Info		<b>01 Apr 2024</b>	01 Mar 2024	01 Feb 2024
Machine Age	hrs	Client Info		<b>14678</b>	13932	13326
Oil Age	hrs	Client Info		<b>971</b>	165	926
Filter Age	hrs	Client Info		<b>971</b>	165	440
Oil Changed		Client Info		<b>N/A</b>	Changed	Not Changd
Filter Changed		Client Info		<b>N/A</b>	Changed	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>10</b>	10	8
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m	>3	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>4</b>	7	3
Lead	ppm	ASTM D5185m	>18	<b>10</b>	14	18
Copper	ppm	ASTM D5185m	>80	<b>77</b>	51	28
Tin	ppm	ASTM D5185m	>14	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	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.

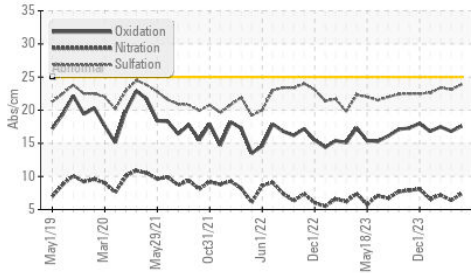
Silicon	ppm	ASTM D5185m	>20	<b>6</b>	9	5
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	<1	0
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.4</b>	6.4	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.9</b>	23.1	23.4
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**

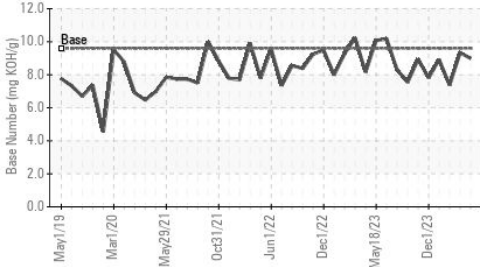
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	<b>0</b>	3	1
Boron	ppm	ASTM D5185m		<b>433</b>	534	395
Barium	ppm	ASTM D5185m		<b>2</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>126</b>	183	114
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>620</b>	930	606
Calcium	ppm	ASTM D5185m		<b>1509</b>	2158	1412
Phosphorus	ppm	ASTM D5185m	1200	<b>747</b>	1064	719
Zinc	ppm	ASTM D5185m	1300	<b>868</b>	1233	847
Sulfur	ppm	ASTM D5185m	3200	<b>2899</b>	3818	2428
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.6</b>	16.8	17.5
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	<b>8.99</b>	9.33	7.37
Visc @ 100°C	cSt	ASTM D445	15.7	<b>13.1</b>	13.1	12.6

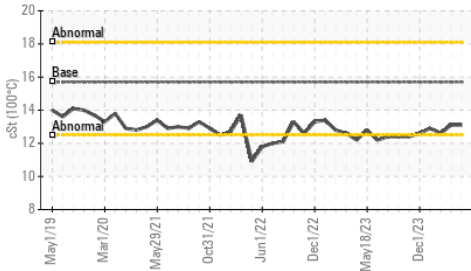
**FT-IR (Direct Trend)**



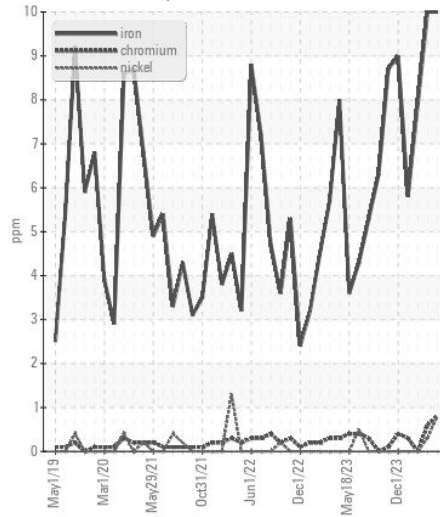
**Base Number**



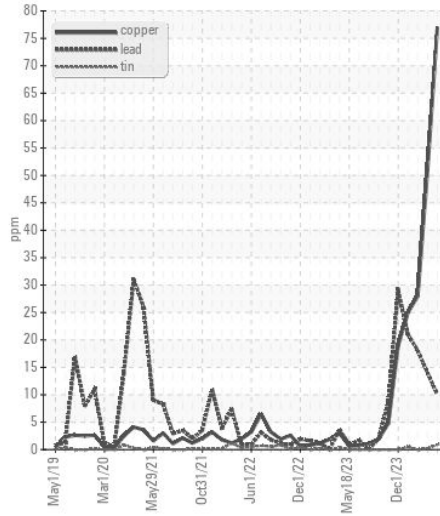
**Viscosity @ 100°C**



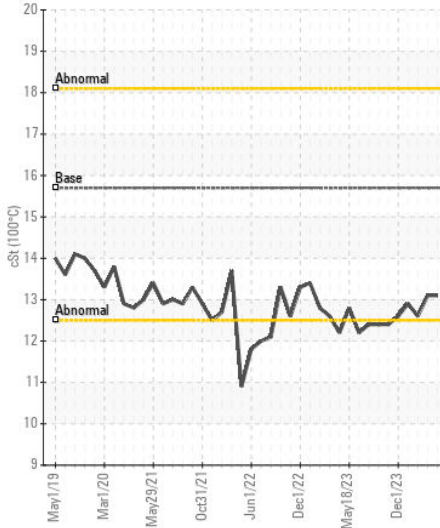
**Ferrous Alloys**



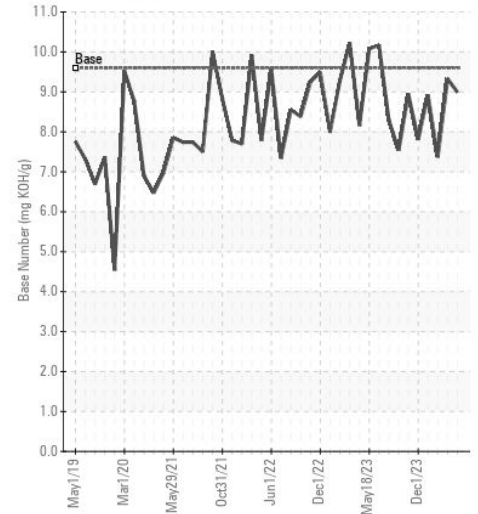
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

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

**Sample No.** : MW0064473

**Lab Number** : 06153822

**Unique Number** : 10989245

**Test Package** : MAR 2

**Received** : 18 Apr 2024

**Tested** : 22 Apr 2024

**Diagnosed** : 22 Apr 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)