



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

Area  
**PHILLIP M PFEFFER**  
Machine Id  
**[PHILLIP M PFEFFER] 003 647184-3**  
Component  
**Starboard Main Engine**  
Fluid  
**CHEVRON DELO 710 LE (325 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW06099318</b>	MW06076440	MW06049641
Sample Date		Client Info		<b>01 Feb 2024</b>	30 Jan 2024	01 Oct 2023
Machine Age	hrs	Client Info		<b>13405</b>	0	10464
Oil Age	hrs	Client Info		<b>250</b>	0	10464
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	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>15</b>	13	10
Chromium	ppm	ASTM D5185m	>8	<b>2</b>	2	2
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	>3	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>&lt;1</b>	2	2
Lead	ppm	ASTM D5185m	>18	<b>5</b>	8	6
Copper	ppm	ASTM D5185m	>80	<b>14</b>	14	14
Tin	ppm	ASTM D5185m	>14	<b>6</b>	7	7
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

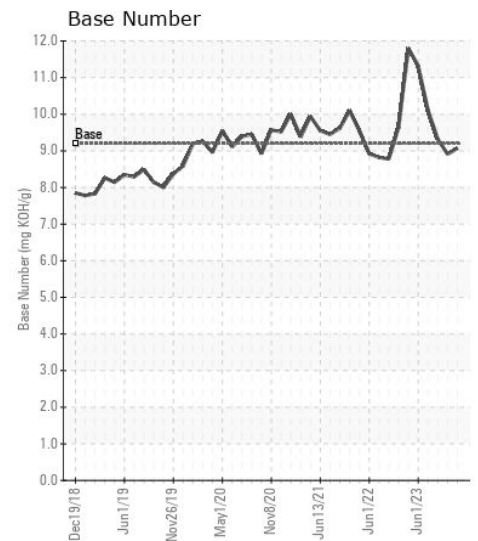
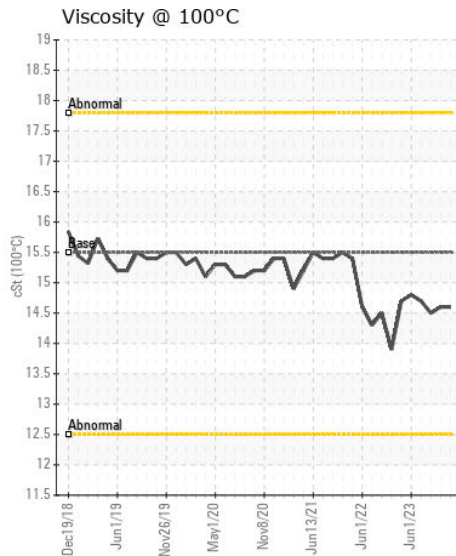
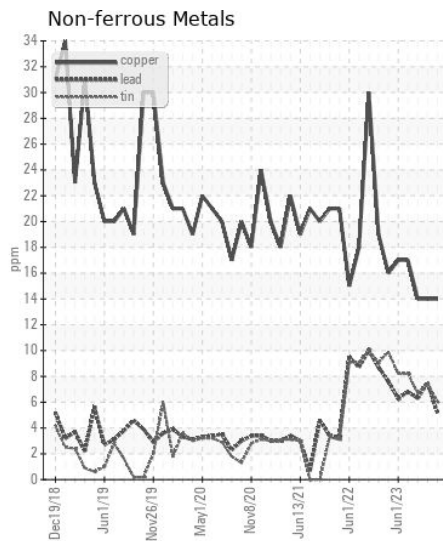
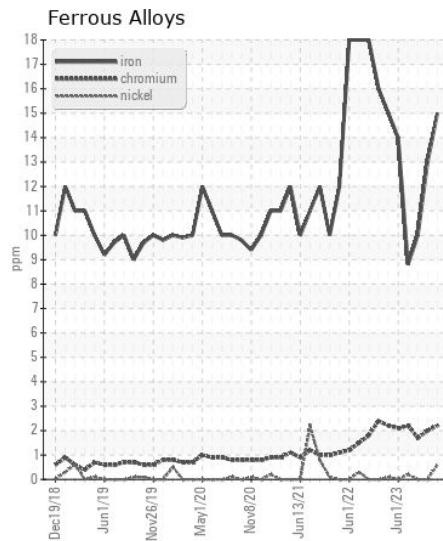
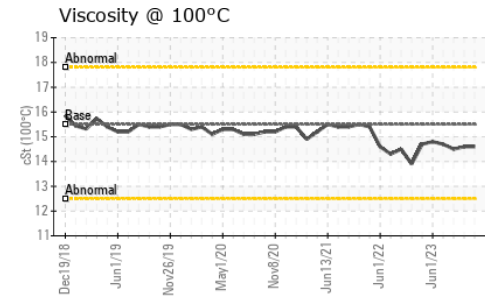
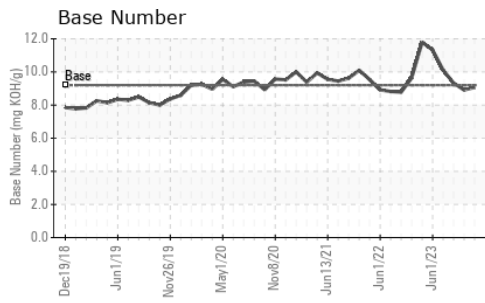
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>5</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	<1	<1
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	>3	<b>0.6</b>	0.8	0.9
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.4</b>	8.6	8.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.0</b>	17.8	17.3
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>	2	2
Boron	ppm	ASTM D5185m		<b>38</b>	39	35
Barium	ppm	ASTM D5185m		<b>5</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>44</b>	45	43
Manganese	ppm	ASTM D5185m		<b>2</b>	1	<1
Magnesium	ppm	ASTM D5185m		<b>15</b>	11	13
Calcium	ppm	ASTM D5185m		<b>3104</b>	3332	3361
Phosphorus	ppm	ASTM D5185m		<b>0</b>	0	6
Zinc	ppm	ASTM D5185m	10	<b>10</b>	0	0
Sulfur	ppm	ASTM D5185m		<b>2286</b>	2312	2290
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>9.1</b>	9.2	8.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.2	<b>9.07</b>	8.91	9.32
Visc @ 100°C	cSt	ASTM D445	15.5	<b>14.6</b>	14.6	14.5



Certificate L2367

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

**Sample No.** : MW06099318

**Lab Number** : 06099318

**Unique Number** : 10897548

**Test Package** : MAR 2

**Received** : 23 Feb 2024

**Tested** : 26 Feb 2024

**Diagnosed** : 26 Feb 2024 - Wes Davis

**INGRAM BARGE**

900 S 3RD ST

PADUCAH, KY

US 42003

Contact: JUSTIN WHEELER

justin.wheeler@ingrambarga.com

T:

F: (615)695-3697

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)