



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

Area  
**G ALLEN OLDHAM**  
Machine Id  
[G ALLEN OLDHAM] 003 530090-3  
Component  
Starboard Main Engine  
Fluid  
CHEVRON DELO 710 LE (150 GAL)

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0064782</b>	MW0060357	MW0060365
Sample Date		Client Info		<b>01 Jun 2024</b>	01 Dec 2023	01 Nov 2023
Machine Age	hrs	Client Info		<b>6819</b>	5202	4462
Oil Age	hrs	Client Info		<b>6819</b>	5202	4462
Filter Age	hrs	Client Info		<b>230</b>	212	0
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>18</b>	17	16
Chromium	ppm	ASTM D5185m	>8	<b>2</b>	2	2
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	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>2</b>	2	1
Lead	ppm	ASTM D5185m	>18	<b>8</b>	7	5
Copper	ppm	ASTM D5185m	>80	<b>13</b>	15	15
Tin	ppm	ASTM D5185m	>14	<b>8</b>	8	7
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.

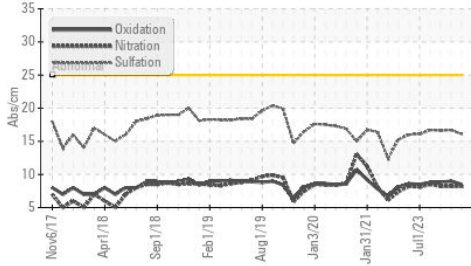
Silicon	ppm	ASTM D5185m	>20	<b>5</b>	6	6
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	4	0
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.5</b>	0.5	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.2</b>	8.2	8.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.1</b>	16.7	16.6
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**

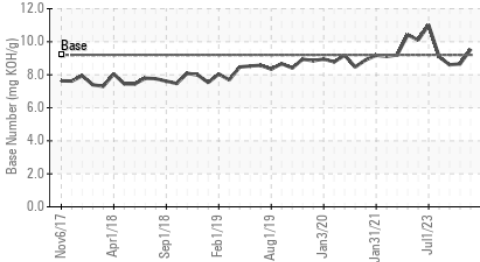
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	<b>4</b>	5	5
Boron	ppm	ASTM D5185m		<b>34</b>	35	32
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>47</b>	44	42
Manganese	ppm	ASTM D5185m		<b>2</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>12</b>	12	12
Calcium	ppm	ASTM D5185m		<b>3668</b>	3318	3202
Phosphorus	ppm	ASTM D5185m		<b>9</b>	6	7
Zinc	ppm	ASTM D5185m	10	<b>5</b>	0	0
Sulfur	ppm	ASTM D5185m		<b>2874</b>	2373	2308
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>8.5</b>	9.0	8.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.2	<b>9.54</b>	8.66	8.60
Visc @ 100°C	cSt	ASTM D445	15.5	<b>14.3</b>	14.3	14.1

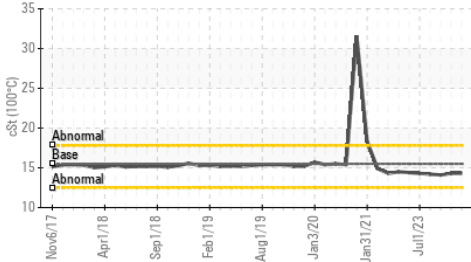
**FT-IR (Direct Trend)**



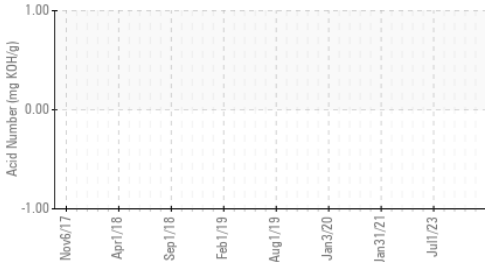
**Base Number**



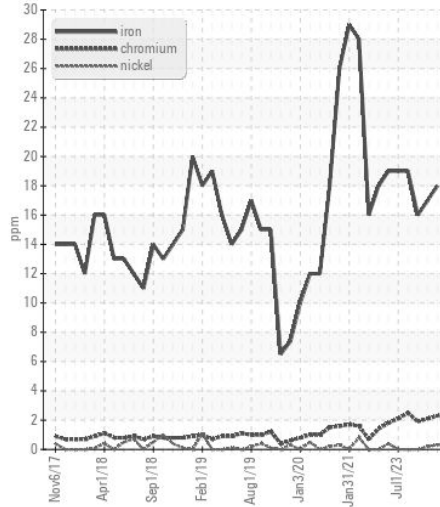
**Viscosity @ 100°C**



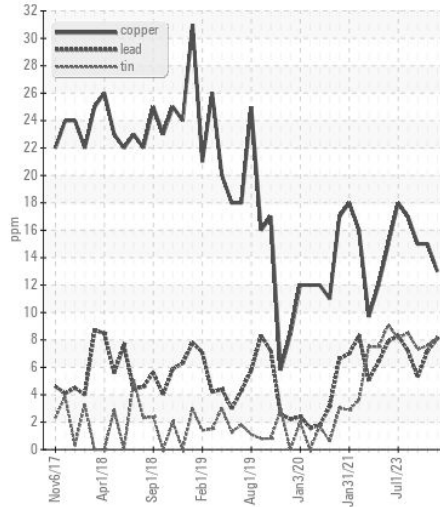
**Acid Number**



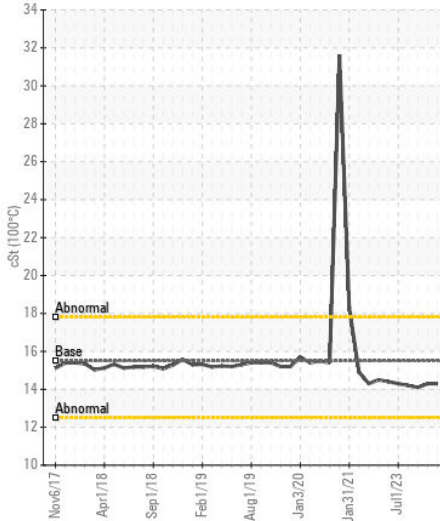
**Ferrous Alloys**



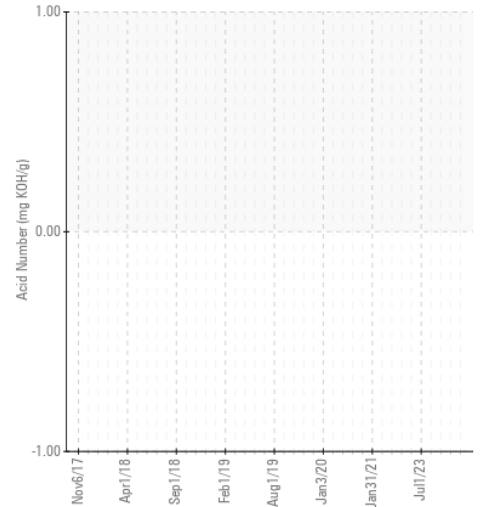
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Acid Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0064782 **Received** : 24 Jun 2024  
**Lab Number** : 06218420 **Tested** : 25 Jun 2024  
**Unique Number** : 11096617 **Diagnosed** : 25 Jun 2024 - Sean Felton  
**Test Package** : MAR 2 ( Additional Tests: TAN Man )

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)

**INGRAM BARGE**  
 900 S 3RD ST  
 PADUCAH, KY  
 US 42003

Contact: ALLEN WILLHELM  
 allen.willhelm@ingrambarga.com  
 T: (270)415-4467  
 F: (615)695-3697