



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

Area  
**SUSAN JOHNSON**  
Machine Id  
[**SUSAN JOHNSON**] 003 569359-3  
Component  
**Starboard Main Engine**  
Fluid  
**CHEVRON DELO 710 LE (250 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0064772</b>	MW0058730	MW0058726
Sample Date		Client Info		<b>01 May 2024</b>	01 Dec 2023	01 Nov 2023
Machine Age	hrs	Client Info		<b>44511</b>	43931	43307
Oil Age	hrs	Client Info		<b>44511</b>	43931	43307
Filter Age	hrs	Client Info		<b>154</b>	71	103
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>12</b>	12	12
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	1	1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>1</b>	2	1
Lead	ppm	ASTM D5185m	>18	<b>3</b>	4	5
Copper	ppm	ASTM D5185m	>80	<b>15</b>	14	15
Tin	ppm	ASTM D5185m	>14	<b>4</b>	3	3
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.

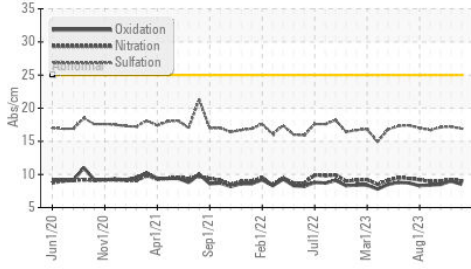
Silicon	ppm	ASTM D5185m	>20	<b>3</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	1	<1
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>1</b>	1.1	1.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.0</b>	9.2	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.9</b>	17.2	17.1
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**

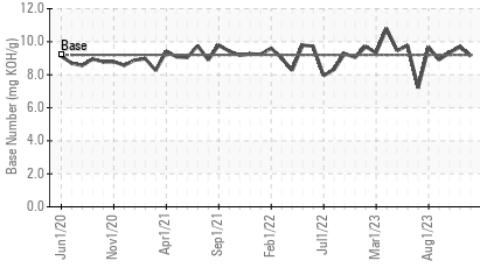
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	<b>1</b>	1	2
Boron	ppm	ASTM D5185m		<b>41</b>	36	35
Barium	ppm	ASTM D5185m		<b>1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>44</b>	43	43
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>56</b>	15	14
Calcium	ppm	ASTM D5185m		<b>3195</b>	3247	3300
Phosphorus	ppm	ASTM D5185m		<b>63</b>	8	6
Zinc	ppm	ASTM D5185m	10	<b>64</b>	0	8
Sulfur	ppm	ASTM D5185m		<b>2479</b>	2096	2201
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>8.5</b>	9.0	8.5
Base Number (BN)	mg KOH/g	ASTM D2896	9.2	<b>9.13</b>	9.69	9.33
Visc @ 100°C	cSt	ASTM D445	15.5	<b>14.5</b>	15.2	15.2

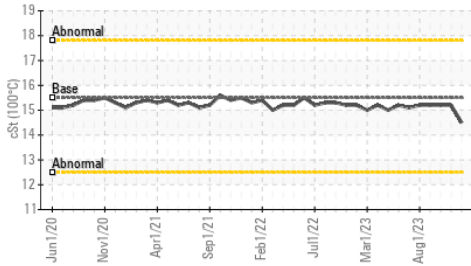
**FT-IR (Direct Trend)**



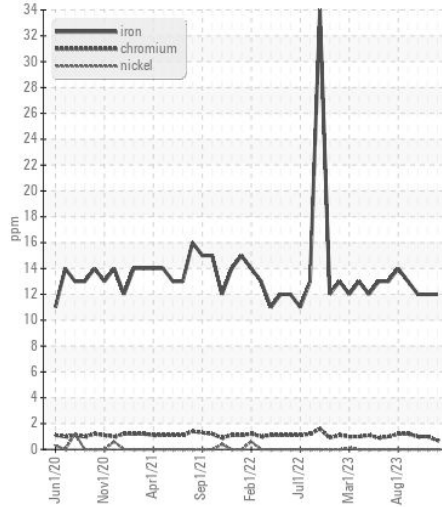
**Base Number**



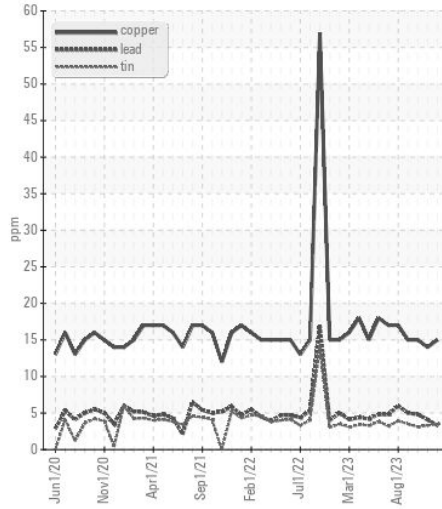
**Viscosity @ 100°C**



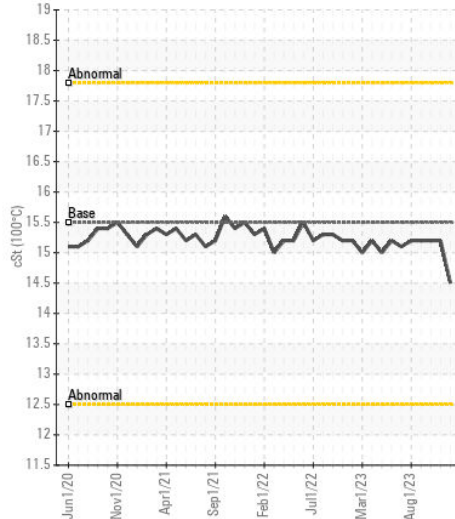
**Ferrous Alloys**



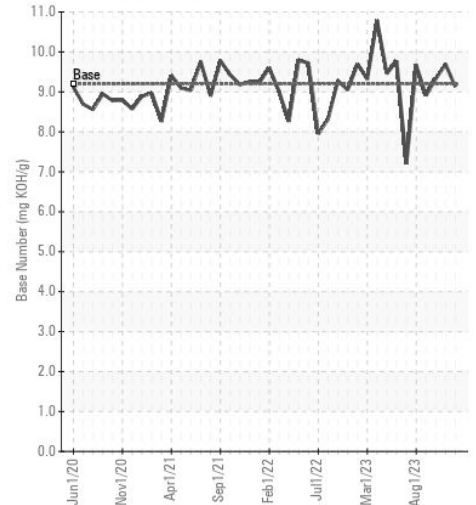
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0064772  
**Lab Number** : 06177892  
**Unique Number** : 11029218  
**Test Package** : MAR 2  
**Received** : 13 May 2024  
**Tested** : 14 May 2024  
**Diagnosed** : 15 May 2024 - Sean Felton

**INGRAM BARGE**  
 900 S 3RD ST  
 PADUCAH, KY  
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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)