



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

Machine Id  
**CAIRO (S/N 2080)**  
Component  
**Starboard Reduction Gear**  
Fluid  
**SCHAEFFER 209 MOLY UNIVERSAL GEARLUBE ISO 220 (150 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0047461</b>	MW0062436	MW0062374
Sample Date		Client Info		<b>20 Feb 2024</b>	27 Dec 2023	20 Nov 2023
Machine Age	hrs	Client Info		<b>49998</b>	48824	47970
Oil Age	hrs	Client Info		<b>49998</b>	48824	47970
Filter Age	hrs	Client Info		<b>49998</b>	48824	47970
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	>150	<b>54</b>	54	52
Chromium	ppm	ASTM D5185m	>10	<b>2</b>	<1	2
Nickel	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>3</b>	3	3
Lead	ppm	ASTM D5185m	>100	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185m	>50	<b>7</b>	8	10
Tin	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

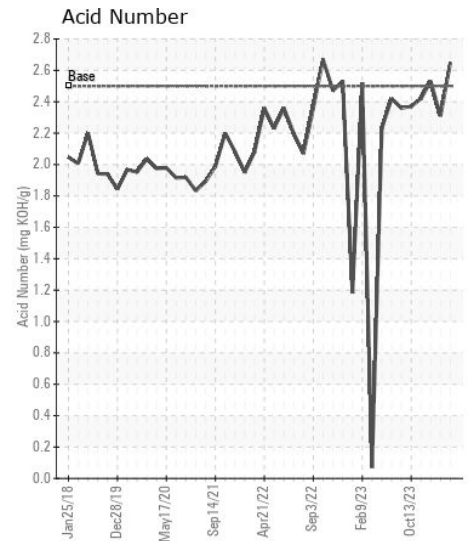
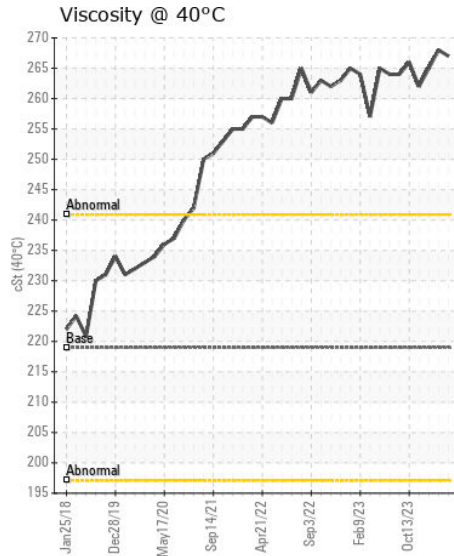
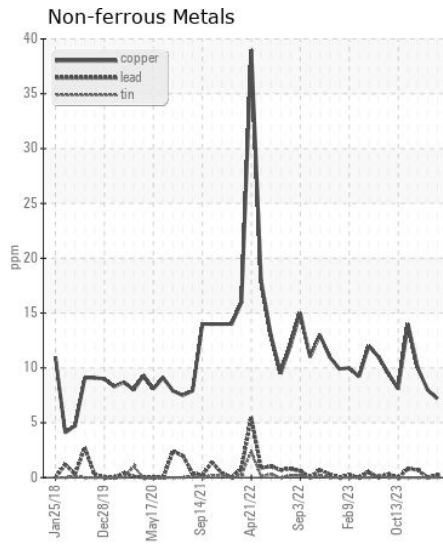
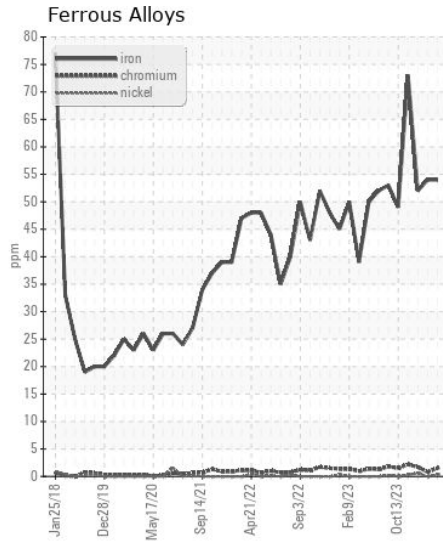
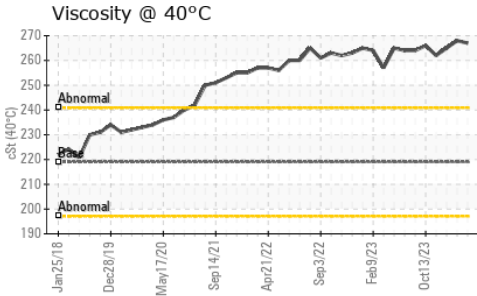
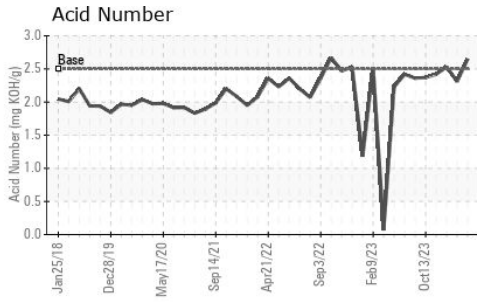
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	<b>8</b>	8	10
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	1	4
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>11</b>	12	9
Boron	ppm	ASTM D5185m	65	<b>15</b>	16	17
Barium	ppm	ASTM D5185m		<b>0</b>	0	5
Molybdenum	ppm	ASTM D5185m	325	<b>195</b>	202	220
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	1
Magnesium	ppm	ASTM D5185m		<b>0</b>	<1	4
Calcium	ppm	ASTM D5185m		<b>85</b>	83	86
Phosphorus	ppm	ASTM D5185m	875	<b>975</b>	999	924
Zinc	ppm	ASTM D5185m		<b>69</b>	65	67
Sulfur	ppm	ASTM D5185m	16000	<b>16437</b>	15554	19276
Acid Number (AN)	mg KOH/g	ASTM D8045	2.5	<b>2.65</b>	2.31	2.53
Visc @ 40°C	cSt	ASTM D445	219	<b>267</b>	268	265



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0047461  
**Lab Number** : 06104493  
**Unique Number** : 10902723  
**Test Package** : MAR 2

**Received** : 29 Feb 2024  
**Tested** : 01 Mar 2024  
**Diagnosed** : 03 Mar 2024 - Doug Bogart

**AMERICAN COMMERCIAL LINES**  
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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)

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