



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

Machine Id  
**HAL PANNELL (S/N 2355)**  
Component  
**Starboard Reduction Gear**  
Fluid  
**CHEVRON MEROPA 220 (250 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0069619</b>	MW0066385	MW0066376
Sample Date		Client Info		<b>18 May 2024</b>	22 Apr 2024	16 Apr 2024
Machine Age	hrs	Client Info		<b>4728</b>	4138	3990
Oil Age	hrs	Client Info		<b>658</b>	4138	3990
Filter Age	hrs	Client Info		<b>0</b>	68	3990
Oil Changed		Client Info		<b>N/A</b>	Not Changd	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	>150	<b>9</b>	20	18
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185m	>25	<b>3</b>	1	1
Lead	ppm	ASTM D5185m	>100	<b>&lt;1</b>	1	2
Copper	ppm	ASTM D5185m	>50	<b>2</b>	4	3
Tin	ppm	ASTM D5185m	>10	<b>0</b>	0	<1
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**

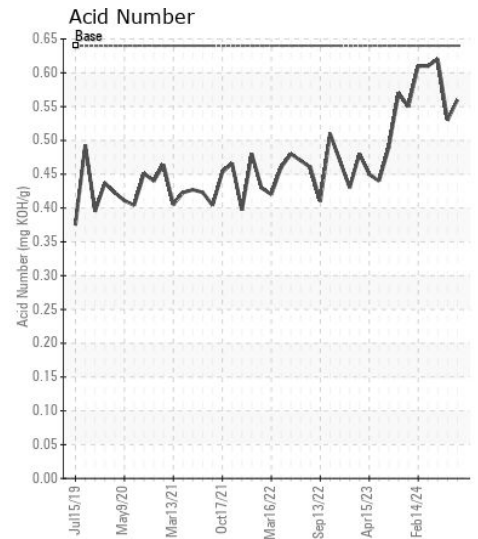
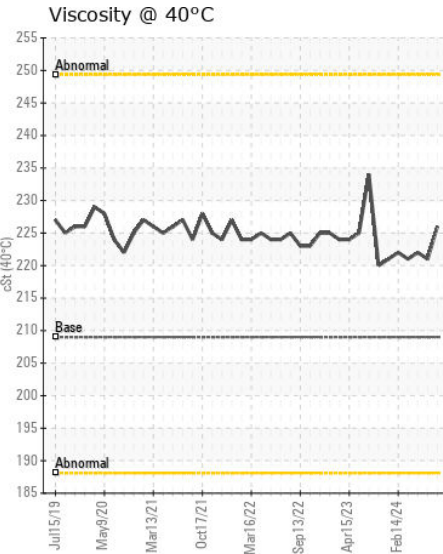
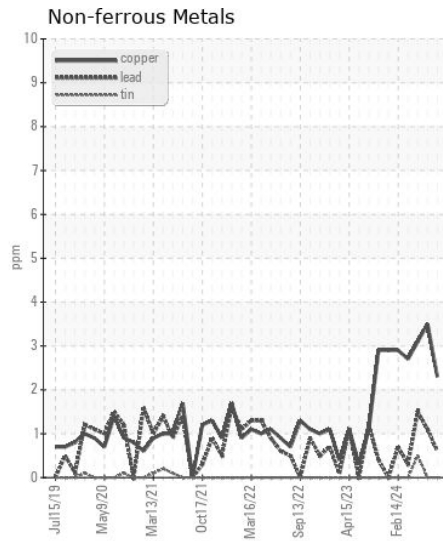
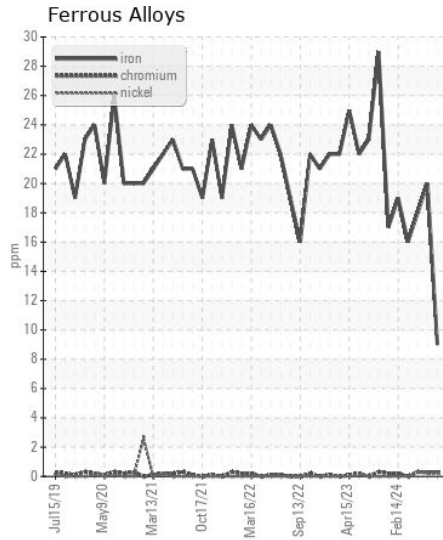
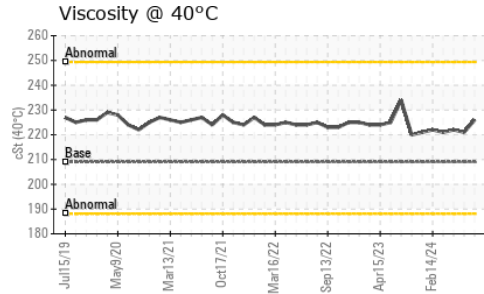
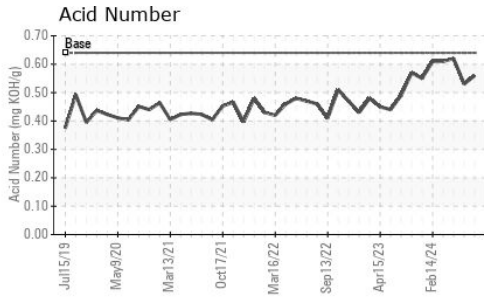
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	<b>2</b>	3	6
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	2	2
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>2</b>	2	0
Boron	ppm	ASTM D5185m	40	<b>6</b>	10	12
Barium	ppm	ASTM D5185m		<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m		<b>&lt;1</b>	3	<1
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>&lt;1</b>	2	1
Calcium	ppm	ASTM D5185m		<b>18</b>	101	20
Phosphorus	ppm	ASTM D5185m	270	<b>130</b>	166	263
Zinc	ppm	ASTM D5185m		<b>9</b>	8	11
Sulfur	ppm	ASTM D5185m	8600	<b>4962</b>	5964	7191
Acid Number (AN)	mg KOH/g	ASTM D8045	0.64	<b>0.56</b>	0.53	0.62
Visc @ 40°C	cSt	ASTM D445	209	<b>226</b>	221	222



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0069619  
**Lab Number** : 06192950  
**Unique Number** : 11049702  
**Test Package** : MAR 2

**Received** : 28 May 2024  
**Tested** : 30 May 2024  
**Diagnosed** : 30 May 2024 - Wes Davis

**AMERICAN COMMERCIAL LINES**  
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 US 47130  
 Contact: RONALD SCHNEIDER  
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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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