



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>MW0066385</b>	MW0066376	MW0062358
Sample Date		Client Info		<b>22 Apr 2024</b>	16 Apr 2024	16 Mar 2024
Machine Age	hrs	Client Info		<b>4138</b>	3990	3318
Oil Age	hrs	Client Info		<b>4138</b>	3990	3318
Filter Age	hrs	Client Info		<b>68</b>	3990	3318
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Changed</b>	Not Changd	N/A
Sample Status				<b>NORMAL</b>	NORMAL	ABNORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	<b>20</b>	18	16
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>1</b>	1	<1
Lead	ppm	ASTM D5185m	>100	<b>1</b>	2	<1
Copper	ppm	ASTM D5185m	>50	<b>4</b>	3	3
Tin	ppm	ASTM D5185m	>10	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

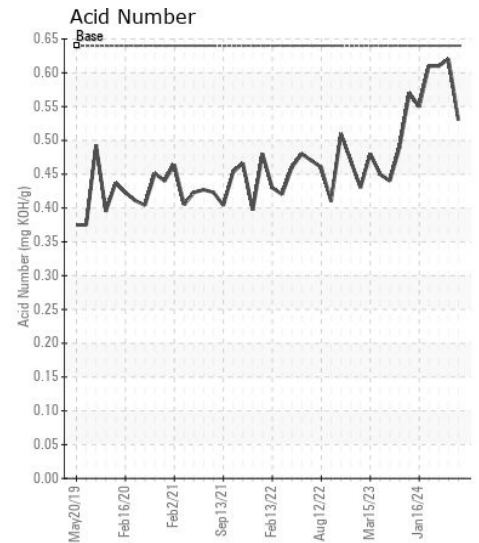
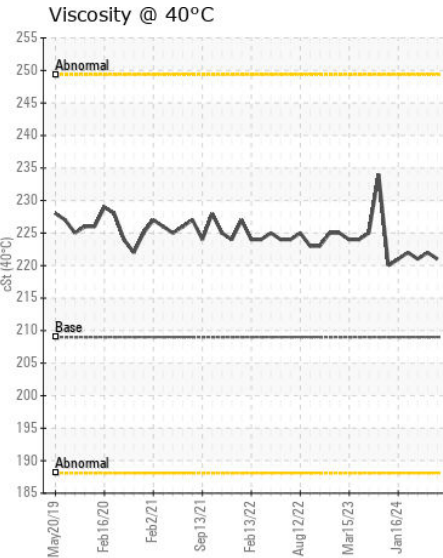
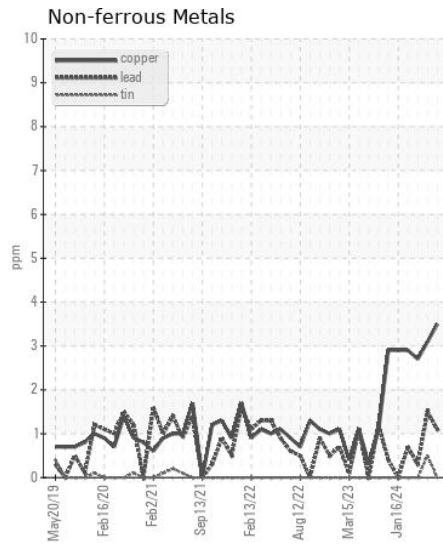
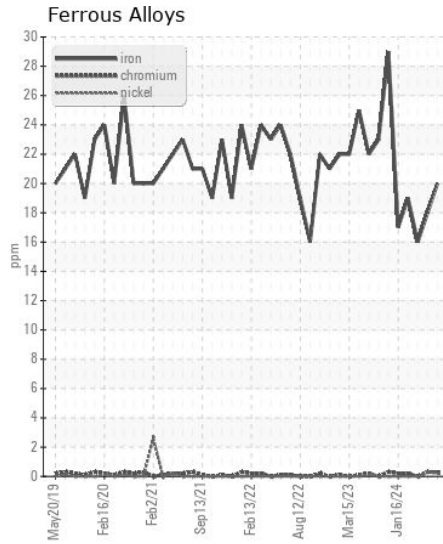
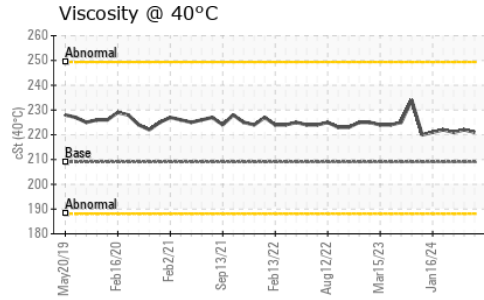
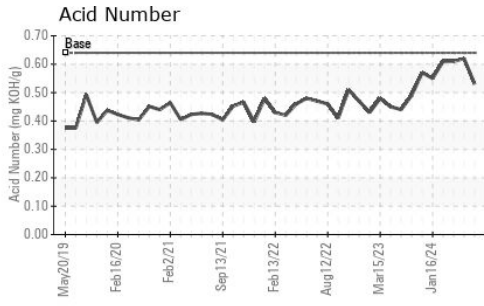
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	<b>3</b>	6	1
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	2	7
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>	0	3
Boron	ppm	ASTM D5185m	40	<b>10</b>	12	12
Barium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Molybdenum	ppm	ASTM D5185m		<b>3</b>	<1	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>2</b>	1	0
Calcium	ppm	ASTM D5185m		<b>101</b>	20	15
Phosphorus	ppm	ASTM D5185m	270	<b>166</b>	263	208
Zinc	ppm	ASTM D5185m		<b>8</b>	11	10
Sulfur	ppm	ASTM D5185m	8600	<b>5964</b>	7191	6670
Acid Number (AN)	mg KOH/g	ASTM D8045	0.64	<b>0.53</b>	0.62	0.61
Visc @ 40°C	cSt	ASTM D445	209	<b>221</b>	222	221



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0066385  
**Lab Number** : 06192948  
**Unique Number** : 11049700  
**Test Package** : MAR 2

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

**AMERICAN COMMERCIAL LINES**  
 PO BOX 610, 1701 E. MARKET STREET  
 JEFFERSONVILLE, IN  
 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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