



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
HAMILTON
Component
Starboard Main Engine
Fluid
CHEVRON DELO 710 LS (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW05774575	---	---
Sample Date		Client Info		31 Jan 2023	---	---
Machine Age	hrs	Client Info		11190	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				NORMAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	15	---	---
Chromium	ppm	ASTM D5185m	>8	2	---	---
Nickel	ppm	ASTM D5185m	>2	0	---	---
Titanium	ppm	ASTM D5185m	>3	0	---	---
Silver	ppm	ASTM D5185m	>2	0	---	---
Aluminum	ppm	ASTM D5185m	>15	2	---	---
Lead	ppm	ASTM D5185m	>18	8	---	---
Copper	ppm	ASTM D5185m	>80	22	---	---
Tin	ppm	ASTM D5185m	>14	8	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

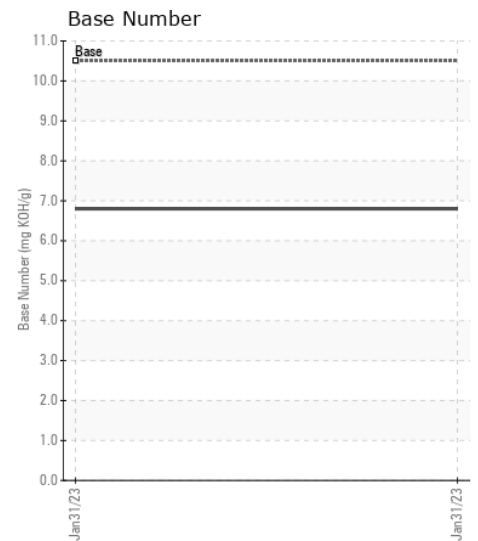
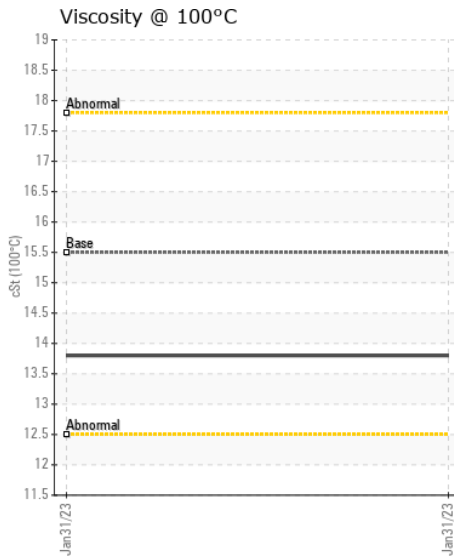
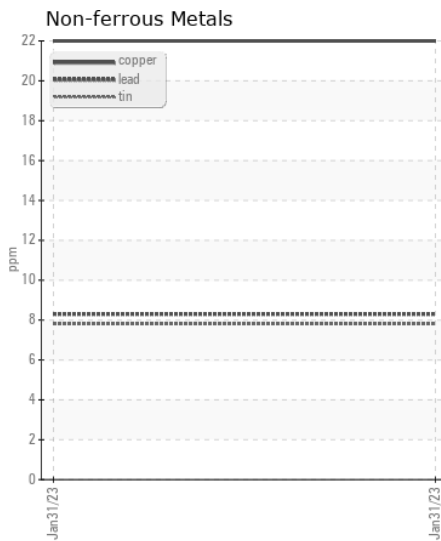
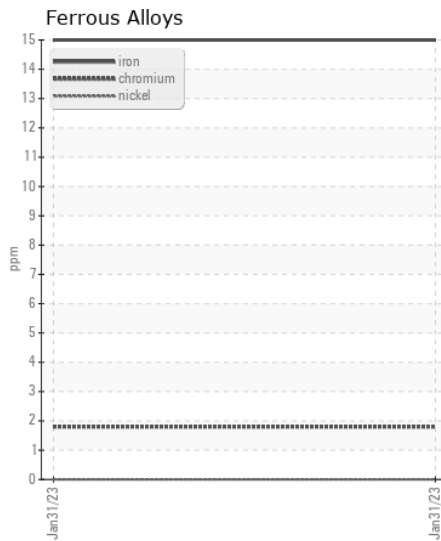
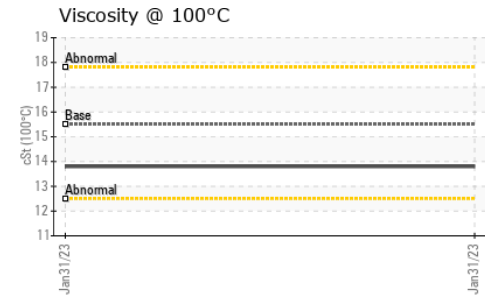
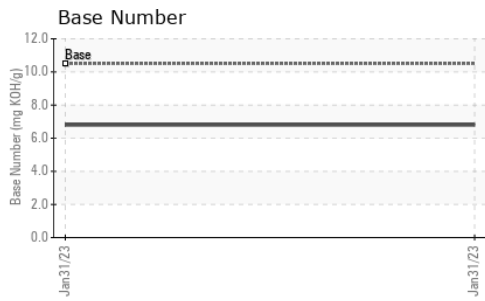
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	4	---	---
Potassium	ppm	ASTM D5185m	>20	1	---	---
Fuel		WC Method	>4.0	<1.0	---	---
Water		WC Method	>0.1	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844		0.6	---	---
Nitration	Abs/cm	*ASTM D7624	>20	8.5	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	16.0	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.1	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	<1	---	---
Boron	ppm	ASTM D5185m		38	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		41	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		18	---	---
Calcium	ppm	ASTM D5185m		3278	---	---
Phosphorus	ppm	ASTM D5185m		8	---	---
Zinc	ppm	ASTM D5185m		0	---	---
Sulfur	ppm	ASTM D5185m		2117	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	8.9	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	6.8	---	---
Visc @ 100°C	cSt	ASTM D445	15.5	13.8	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : MW05774575

Lab Number : 05774575

Unique Number : 10349192

Test Package : MAR 2

Received : 23 Feb 2023

Tested : 24 Feb 2023

Diagnosed : 24 Feb 2023 - Don Baldrige

ILLINOIS MARINE TOWING

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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)