



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
BARGE TRANSPORTATION

Machine Id
CHRIS MILLS 2.0

Component
Port Main Engine

Fluid
{not provided} (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KFS0003002	KFS0002675	---
Sample Date		Client Info		31 Jan 2024	02 Dec 2023	---
Machine Age	hrs	Client Info		500	0	---
Oil Age	hrs	Client Info		500	500	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Not Changd	Not Changd	---
Filter Changed		Client Info		Not Changd	N/A	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	2	3	---
Chromium	ppm	ASTM D5185m	>8	<1	<1	---
Nickel	ppm	ASTM D5185m	>2	<1	<1	---
Titanium	ppm	ASTM D5185m	>3	<1	<1	---
Silver	ppm	ASTM D5185m	>2	0	0	---
Aluminum	ppm	ASTM D5185m	>15	1	1	---
Lead	ppm	ASTM D5185m	>18	0	0	---
Copper	ppm	ASTM D5185m	>80	3	2	---
Tin	ppm	ASTM D5185m	>14	0	0	---
Vanadium	ppm	ASTM D5185m		0	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

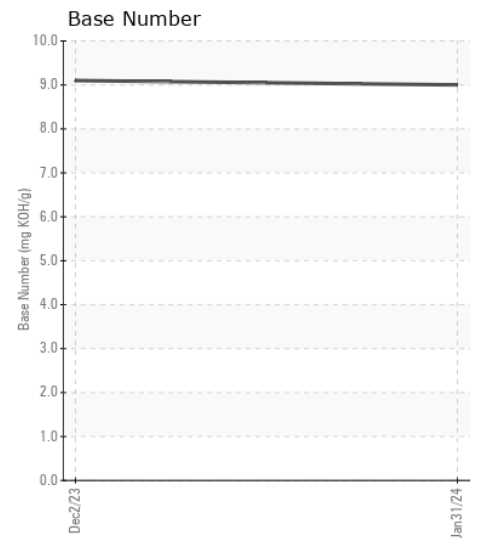
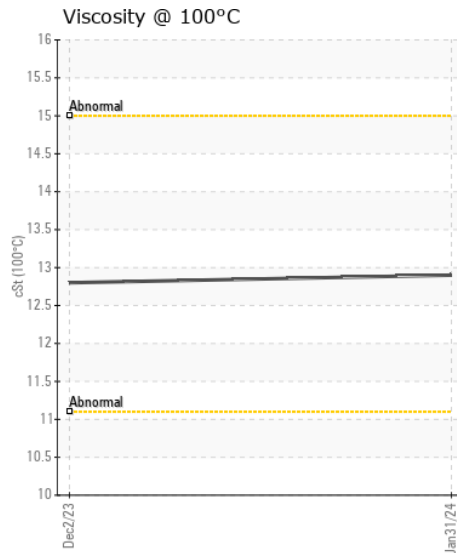
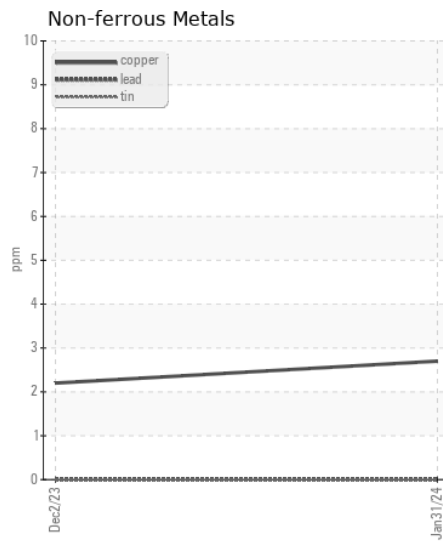
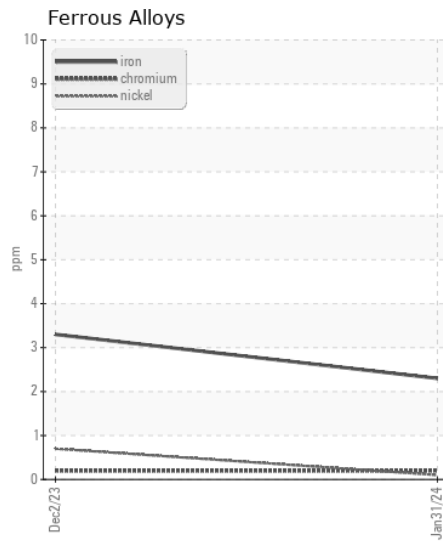
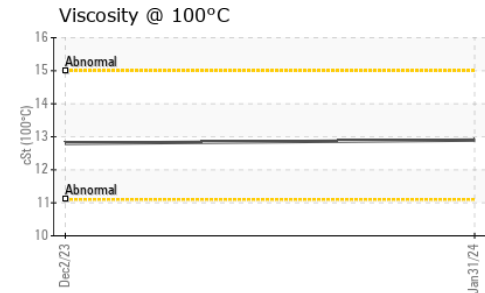
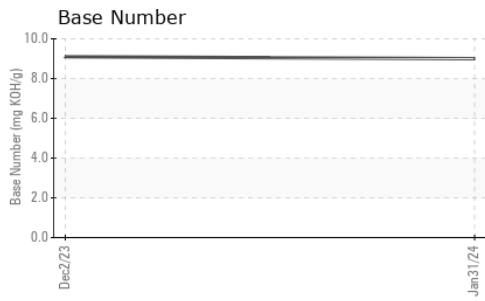
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	2	3	---
Potassium	ppm	ASTM D5185m	>20	2	2	---
Fuel		WC Method	>4.0	<1.0	<1.0	---
Water		WC Method	>0.1	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844		0	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	5.4	5.3	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.8	17.9	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.1	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	0	<1	---
Boron	ppm	ASTM D5185m		4	12	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		57	78	---
Manganese	ppm	ASTM D5185m		0	0	---
Magnesium	ppm	ASTM D5185m		869	1151	---
Calcium	ppm	ASTM D5185m		1021	1272	---
Phosphorus	ppm	ASTM D5185m		941	1151	---
Zinc	ppm	ASTM D5185m		1138	1503	---
Sulfur	ppm	ASTM D5185m		2904	3480	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.7	14.0	---
Base Number (BN)	mg KOH/g	ASTM D2896		9.0	9.1	---
Visc @ 100°C	cSt	ASTM D445		12.9	12.8	---



Certificate L2367

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

Sample No. : KFS0003002

Lab Number : 06087014

Unique Number : 10874459

Test Package : FLEET

Received : 13 Feb 2024

Tested : 14 Feb 2024

Diagnosed : 14 Feb 2024 - Wes Davis

M/V CHRIS MILLS

3501 STARLITE DR

PADUCAH, KY

US 42003

Contact: CHRIS MILLS

cmills@hfline.com

T:

F:

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)