



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
SIGNET MISCHIEF
Component
Starboard Steering
Fluid
CHEVRON RANDO HD 46 (70 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0059780	MW0045601	MW0051842
Sample Date		Client Info		02 Oct 2023	05 Jul 2023	11 Jun 2023
Machine Age	hrs	Client Info		18164	17889	17817
Oil Age	hrs	Client Info		933	659	587
Filter Age	hrs	Client Info		933	659	587
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	4	3	3
Chromium	ppm	ASTM D5185m	>15	0	0	0
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>5	0	<1	<1
Lead	ppm	ASTM D5185m	>10	<1	0	0
Copper	ppm	ASTM D5185m	>50	3	3	2
Tin	ppm	ASTM D5185m	>5	0	0	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

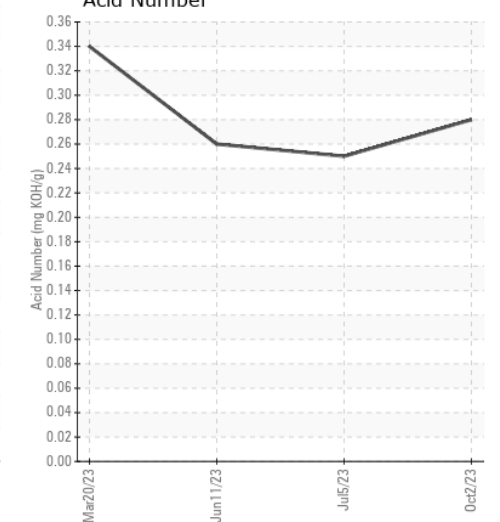
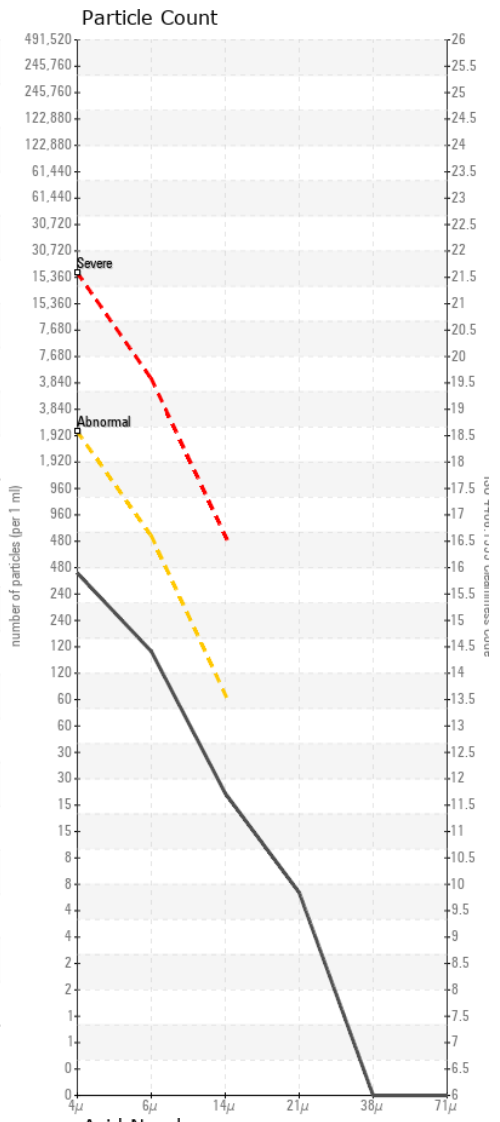
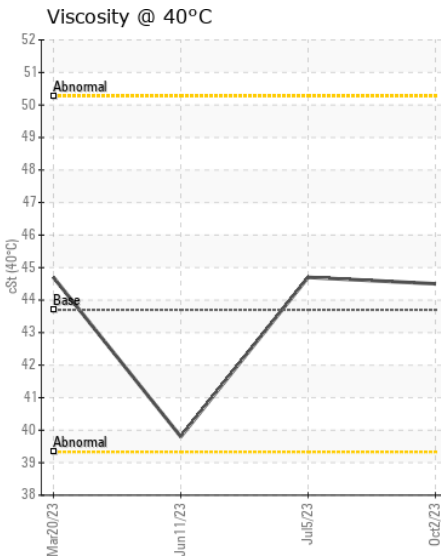
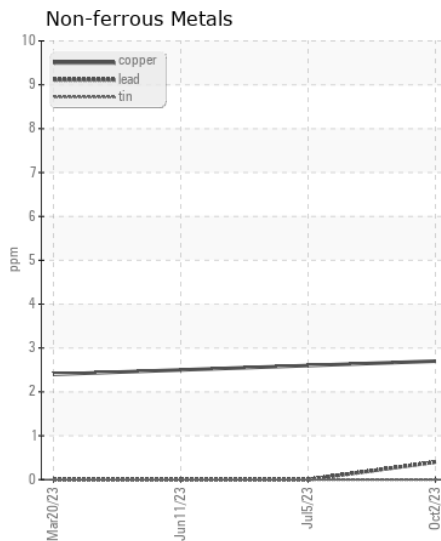
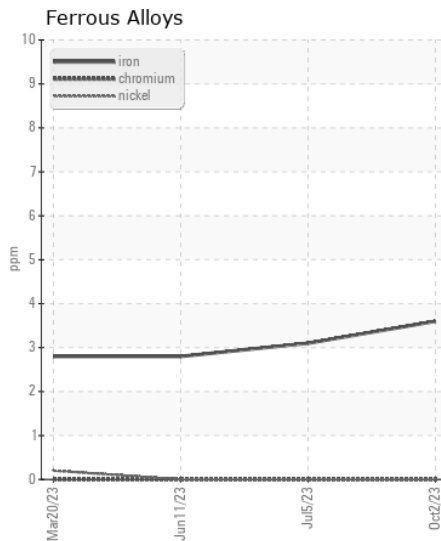
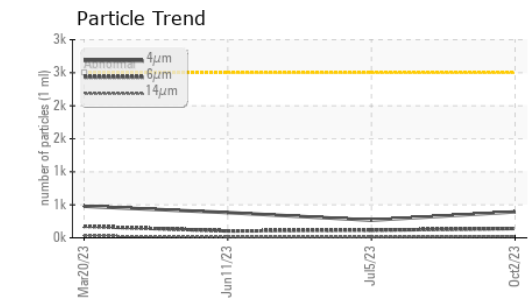
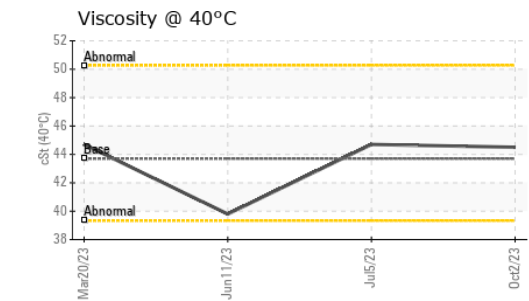
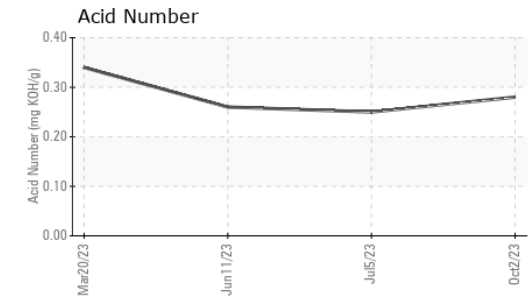
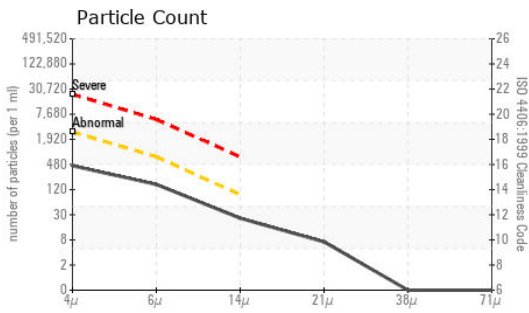
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>15	0	<1	0
Potassium	ppm	ASTM D5185m	>20	<1	0	0
Water		WC Method	>0.2	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>2500	393	267	382
Particles >6µm		ASTM D7647	>640	141	115	103
Particles >14µm		ASTM D7647	>80	22	12	15
Particles >21µm		ASTM D7647	>20	6	3	4
Particles >38µm		ASTM D7647	>4	0	0	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/13	16/14/12	15/14/11	16/14/11
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	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		0	<1	<1
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		<1	<1	<1
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		4	2	1
Calcium	ppm	ASTM D5185m		40	41	42
Phosphorus	ppm	ASTM D5185m		331	343	355
Zinc	ppm	ASTM D5185m		357	358	380
Sulfur	ppm	ASTM D5185m		829	980	999
Acid Number (AN)	mg KOH/g	ASTM D8045		0.28	0.25	0.26
Visc @ 40°C	cSt	ASTM D445	43.7	44.5	44.7	39.8



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0059780 **Received** : 05 Oct 2023
Lab Number : 05970330 **Diagnosed** : 09 Oct 2023
Unique Number : 10682280 **Diagnostician** : Don Baldrige
Test Package : MAR 2 (Additional Tests: PrtCount)

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)

MARITIME COMPANY
 3802 PORT RIVER RD
 PASCAGOULA, MS
 US 39567

Contact: MARK KOPSZYWA
 mark.kopszywa@signetmaritime.com

T:
 F: (228)769-0629