



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area
SEAWARD EXPLORER
Machine Id
Explorer - Voith
Component
Starboard Fluid Coupling
Fluid
SHELL TELLUS T46 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0886562	WC0891234	WC0859385
Sample Date		Client Info		07 Feb 2024	24 Jan 2024	10 Nov 2023
Machine Age	hrs	Client Info		16555	15075	15961
Oil Age	hrs	Client Info		4	0	15961
Filter Age	hrs	Client Info		4	0	0
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Not Changd	N/A
Sample Status				ABNORMAL	ABNORMAL	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	5	<1	2
Chromium	ppm	ASTM D5185m	>10	0	0	0
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	1	0	0
Lead	ppm	ASTM D5185m	>50	<1	<1	0
Copper	ppm	ASTM D5185m	>75	53	▲ 80	45
Tin	ppm	ASTM D5185m	>10	0	0	0
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

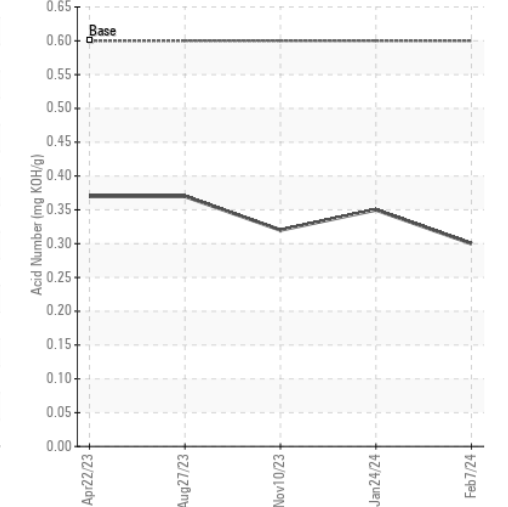
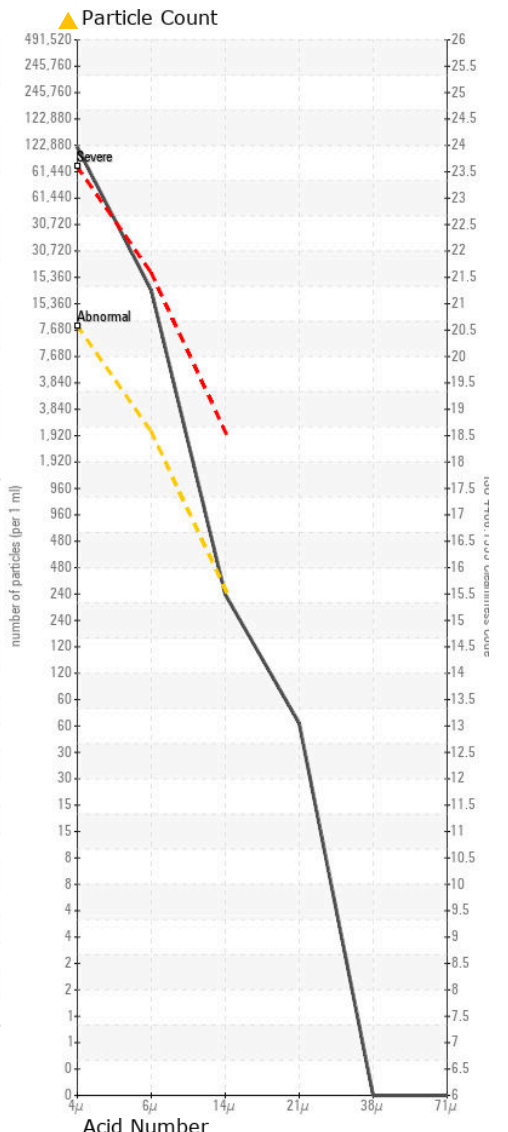
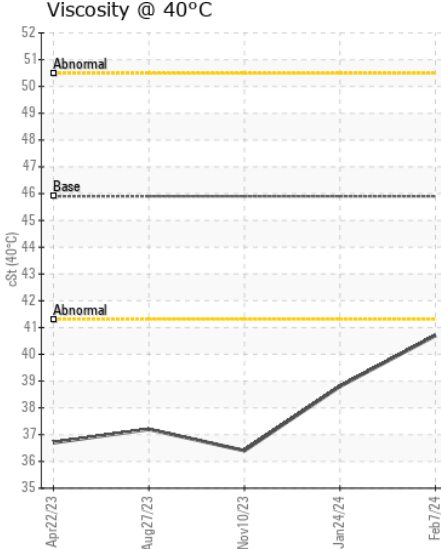
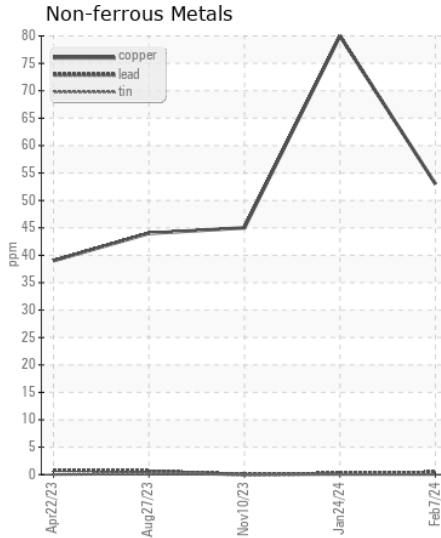
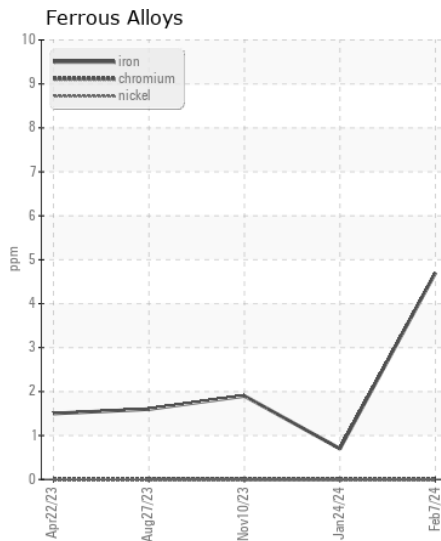
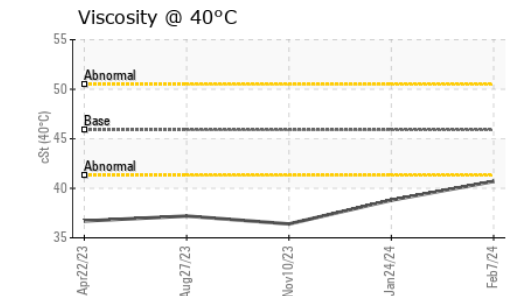
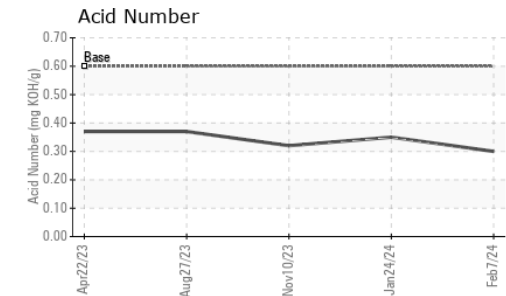
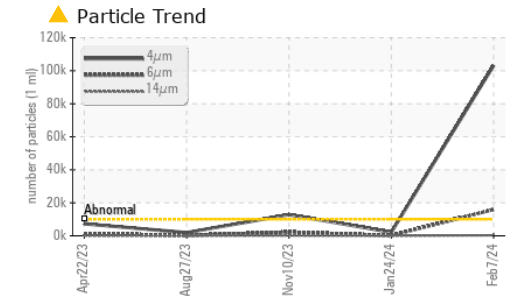
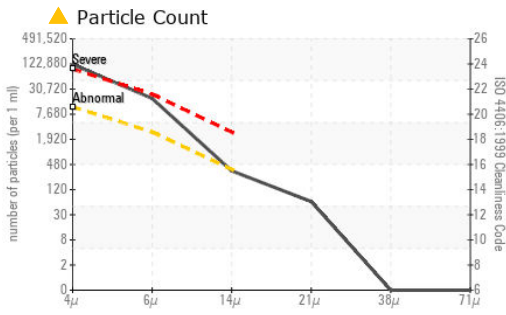
There is a high amount of silt (particulates < 14 microns in size) present in the fluid.

Silicon	ppm	ASTM D5185m	>50	<1	<1	<1
Potassium	ppm	ASTM D5185m	>20	0	0	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>10000	▲ 103186	2162	● 12848
Particles >6µm		ASTM D7647	>2500	▲ 15909	165	2269
Particles >14µm		ASTM D7647	>320	297	12	108
Particles >21µm		ASTM D7647	>80	55	3	22
Particles >38µm		ASTM D7647	>20	0	0	2
Particles >71µm		ASTM D7647	>4	0	0	0
Oil Cleanliness		ISO 4406 (c)	>20/18/15	▲ 24/21/15	18/15/11	● 21/18/14
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	>0.1	NEG	NEG	NEG

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.

Sodium	ppm	ASTM D5185m		4	<1	4
Boron	ppm	ASTM D5185m	0	0	0	0
Barium	ppm	ASTM D5185m	0	0	<1	0
Molybdenum	ppm	ASTM D5185m	0	0	0	0
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m	0	0	0	0
Calcium	ppm	ASTM D5185m	48	73	106	63
Phosphorus	ppm	ASTM D5185m	337	300	334	343
Zinc	ppm	ASTM D5185m	426	325	395	445
Sulfur	ppm	ASTM D5185m	2280	1091	1408	1192
Acid Number (AN)	mg KOH/g	ASTM D8045	.6	0.30	0.35	0.32
Visc @ 40°C	cSt	ASTM D445	45.9	40.7	● 38.8	● 36.4



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0886562 **Received** : 29 Feb 2024
Lab Number : 06104500 **Tested** : 06 Mar 2024
Unique Number : 10902730 **Diagnosed** : 06 Mar 2024 - Jonathan Hester
Test Package : MAR 2 (Additional Tests: PRTCOUNT)

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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)