



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
SEAWARD EXPLORER
Machine Id
Explorer
Component
Starboard Reduction Gear
Fluid
MOBIL DELVAC 1640 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0859380	WC0886558	WC0891233
Sample Date		Client Info		07 Feb 2024	28 Jan 2024	24 Jan 2024
Machine Age	hrs	Client Info		16555	16551	15075
Oil Age	hrs	Client Info		16555	36	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		N/A	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	17	21	24
Chromium	ppm	ASTM D5185m	>10	<1	<1	0
Nickel	ppm	ASTM D5185m	>10	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	<1	2	1
Lead	ppm	ASTM D5185m	>100	<1	0	0
Copper	ppm	ASTM D5185m	>50	6	8	5
Tin	ppm	ASTM D5185m	>10	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

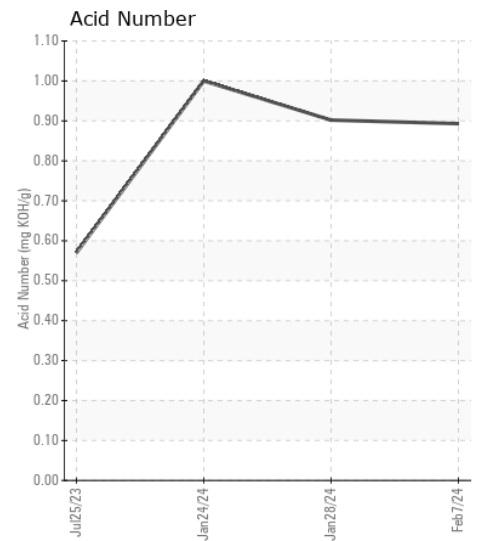
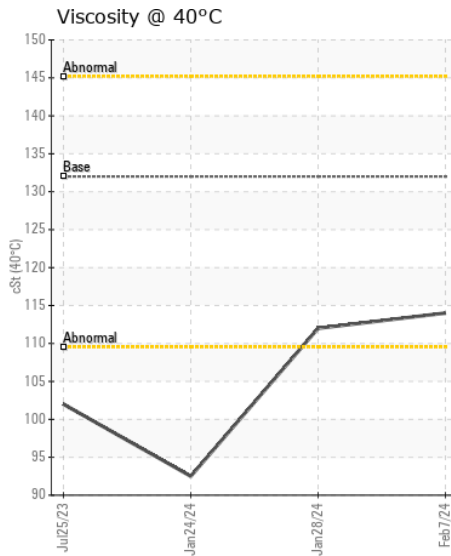
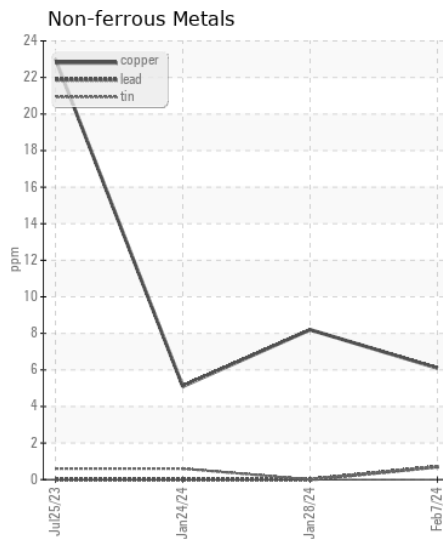
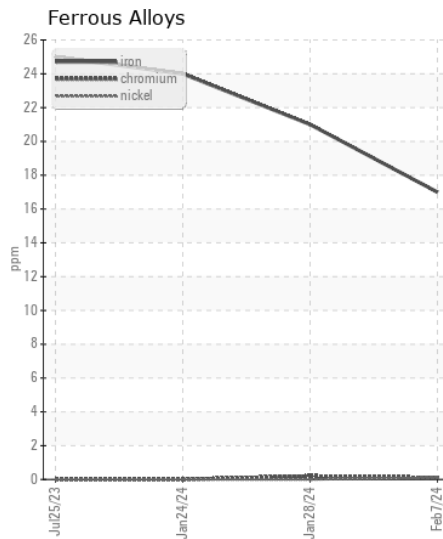
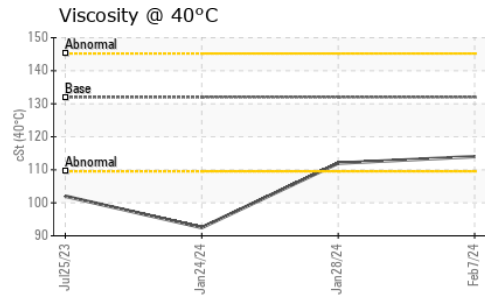
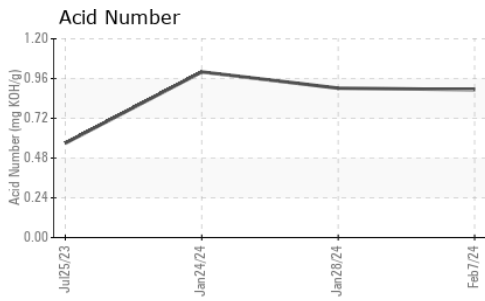
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	10	9	13
Potassium	ppm	ASTM D5185m	>20	0	2	0
Water		WC Method	>0.1	NEG	NEG	NEG
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 oil is suitable for further service.

Sodium	ppm	ASTM D5185m		3	0	8
Boron	ppm	ASTM D5185m		2	4	216
Barium	ppm	ASTM D5185m		0	6	0
Molybdenum	ppm	ASTM D5185m		3	3	37
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		287	279	29
Calcium	ppm	ASTM D5185m		3517	3208	2748
Phosphorus	ppm	ASTM D5185m		811	701	633
Zinc	ppm	ASTM D5185m		953	869	669
Sulfur	ppm	ASTM D5185m		3367	3263	4518
Acid Number (AN)	mg KOH/g	ASTM D8045		0.893	0.902	1.00
Visc @ 40°C	cSt	ASTM D445	132	114	112	92.5



Certificate L2367

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

Sample No. : WC0859380

Lab Number : 06104497

Unique Number : 10902727

Test Package : MAR 2

Received : 29 Feb 2024

Tested : 01 Mar 2024

Diagnosed : 03 Mar 2024 - Doug Bogart

SEAWARD SERVICES

222 PEARL ST

NEW ALBANY, IN

US 47150

Contact: PETER CHARBONNET

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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)