



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area
SEAWARD EXPLORER
Machine Id
Explorer - Hydraulics
Component
2 Steering
Fluid
SHELL TELLUS T46 (--- GAL)

RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0886559	WC0886557	WC0891228
Sample Date		Client Info		07 Feb 2024	27 Jan 2024	24 Jan 2024
Machine Age	hrs	Client Info		6401	6396	7522
Oil Age	hrs	Client Info		6401	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

The copper level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>60	8	7	6
Chromium	ppm	ASTM D5185m	>12	2	<1	<1
Nickel	ppm	ASTM D5185m	>6	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>4	<1	2	0
Lead	ppm	ASTM D5185m	>12	2	<1	<1
Copper	ppm	ASTM D5185m	>30	▲ 60	▲ 66	18
Tin	ppm	ASTM D5185m		<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

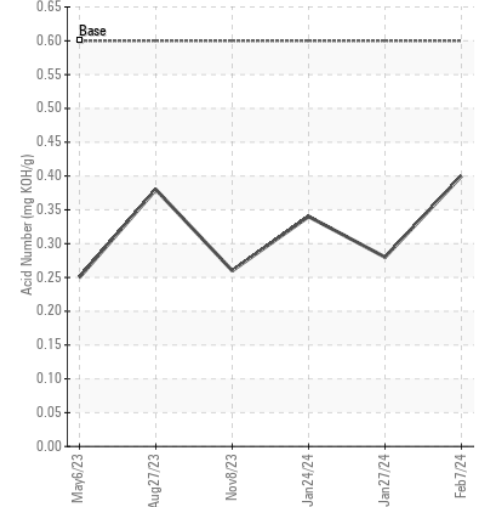
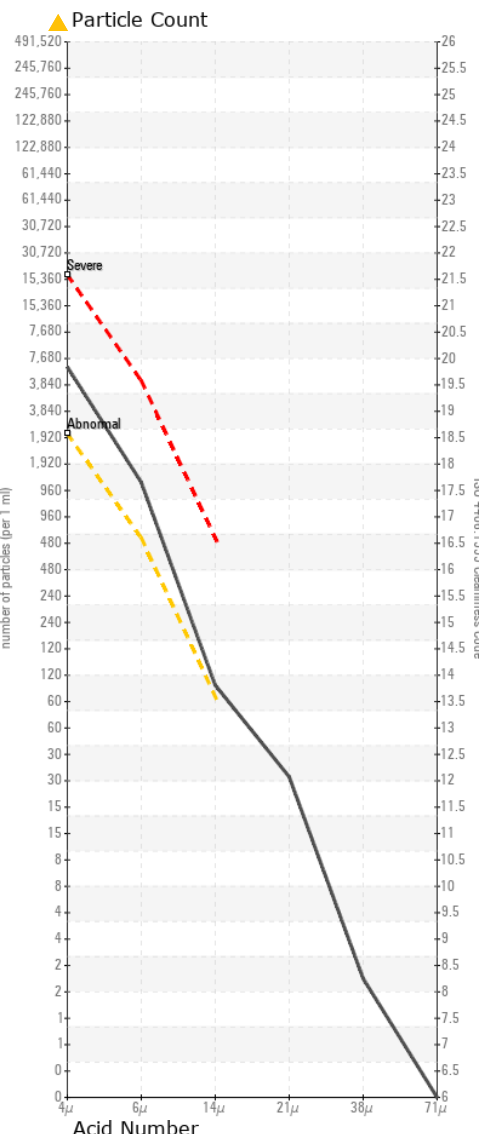
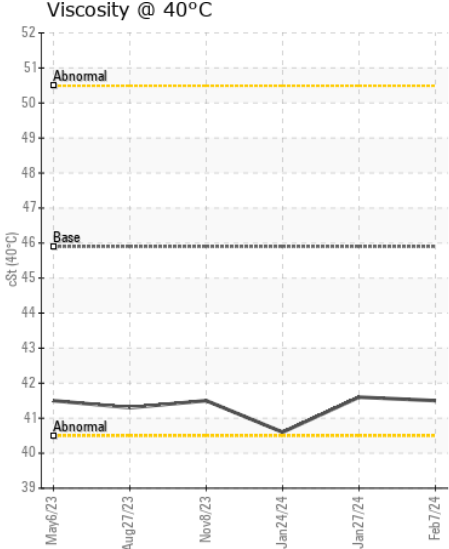
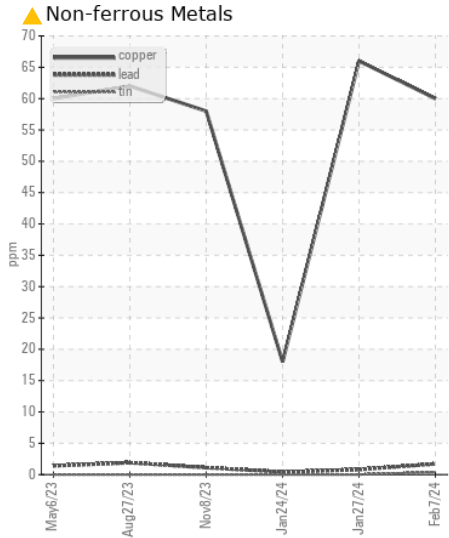
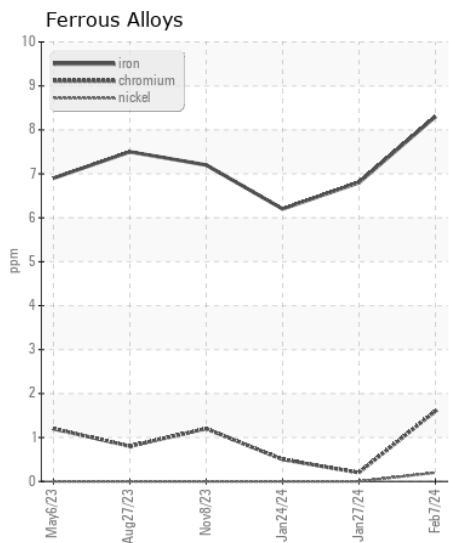
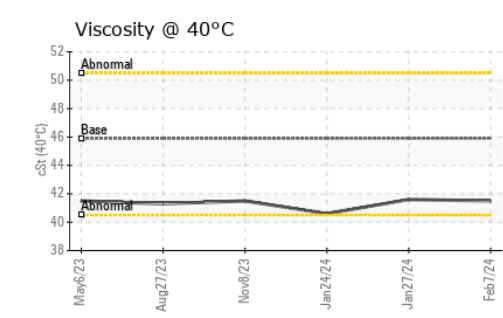
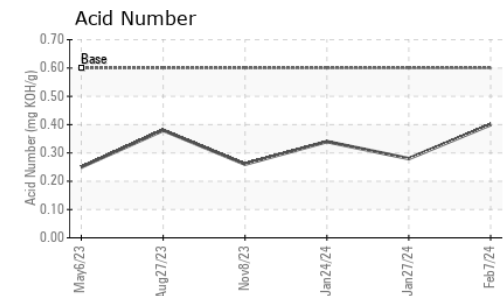
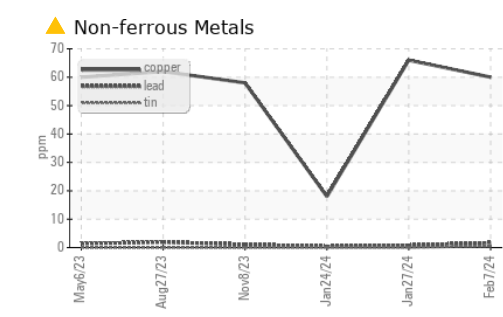
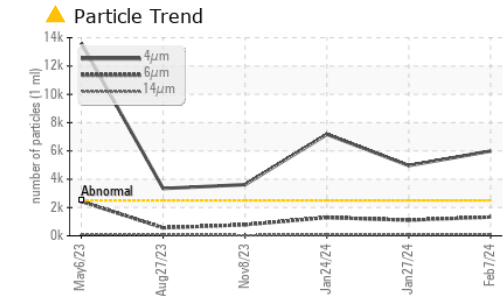
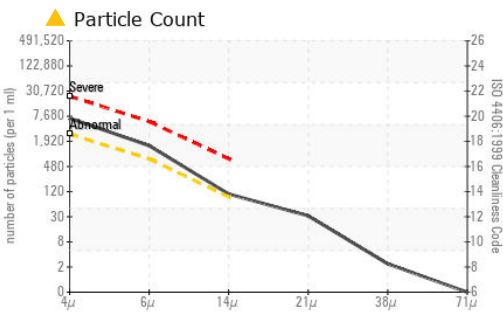
There is a high amount of particulates present in the fluid.

Silicon	ppm	ASTM D5185m	>10	1	0	<1
Potassium	ppm	ASTM D5185m	>20	<1	<1	0
Water		WC Method		NEG	NEG	NEG
Particles >4µm		ASTM D7647	>2500	▲ 5988	● 4964	▲ 7172
Particles >6µm		ASTM D7647	>640	▲ 1323	● 1108	● 1293
Particles >14µm		ASTM D7647	>80	▲ 93	74	67
Particles >21µm		ASTM D7647	>20	▲ 28	21	15
Particles >38µm		ASTM D7647	>4	2	1	1
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/13	▲ 20/18/14	● 19/17/13	▲ 20/17/13
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		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		5	0	2
Boron	ppm	ASTM D5185m	0	0	0	0
Barium	ppm	ASTM D5185m	0	0	5	0
Molybdenum	ppm	ASTM D5185m	0	<1	0	0
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m	0	1	<1	0
Calcium	ppm	ASTM D5185m	48	35	37	55
Phosphorus	ppm	ASTM D5185m	337	353	320	333
Zinc	ppm	ASTM D5185m	426	399	386	404
Sulfur	ppm	ASTM D5185m	2280	1449	1262	1444
Acid Number (AN)	mg KOH/g	ASTM D8045	.6	0.40	0.28	0.34
Visc @ 40°C	cSt	ASTM D445	45.9	41.5	41.6	40.6



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0886559 **Received** : 29 Feb 2024
Lab Number : 06104278 **Tested** : 01 Mar 2024
Unique Number : 10902508 **Diagnosed** : 02 Mar 2024 - Don Baldrige
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)