



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
ENDEAVOR

Component
Bow Thruster

Fluid
SHELL ROTELLA T 30 (11 GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

WEAR

The copper level has decreased, but is still abnormal. All other component wear rates are normal.

CONTAMINATION

There is no indication of any contamination in the oil.

FLUID CONDITION

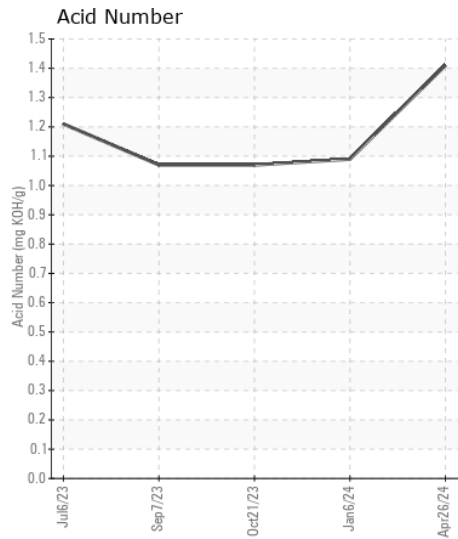
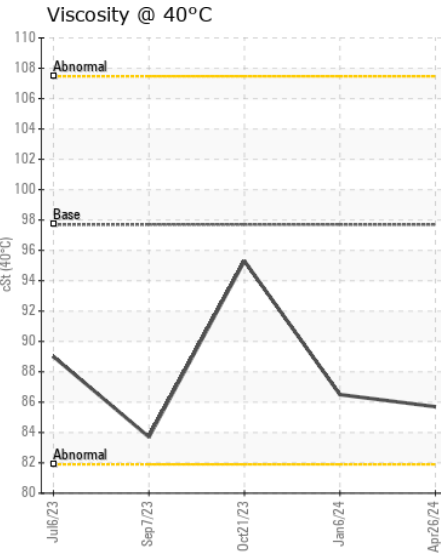
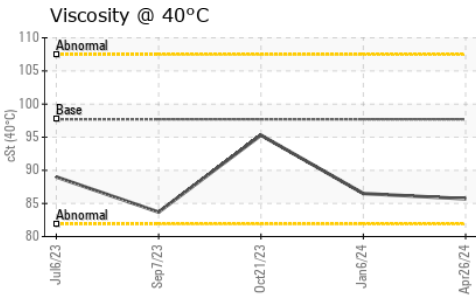
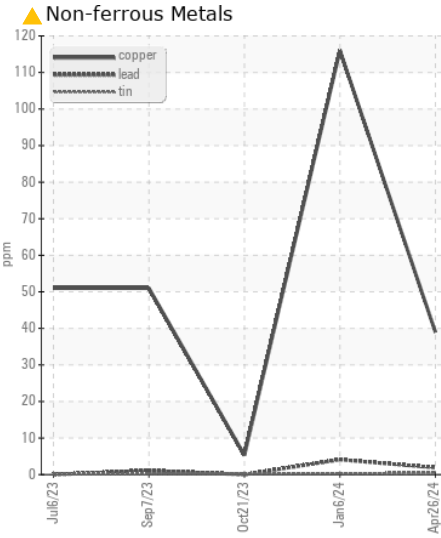
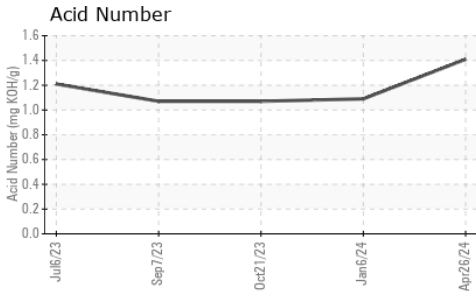
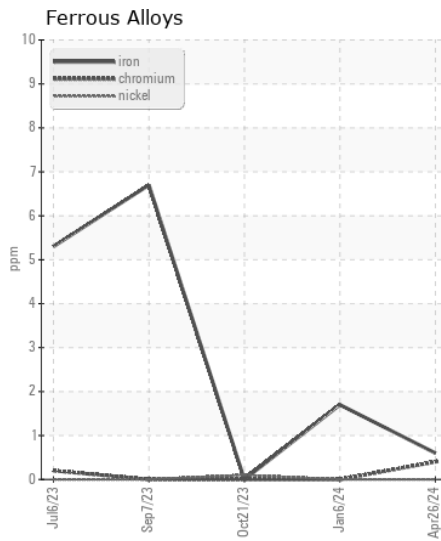
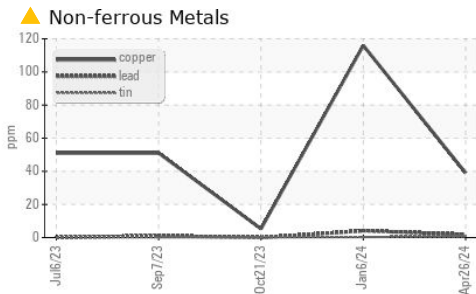
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0871822	WC0847411	WC0847397
Sample Date		Client Info		26 Apr 2024	06 Jan 2024	21 Oct 2023
Machine Age	hrs	Client Info		978	969	960
Oil Age	hrs	Client Info		8	35	3
Filter Age	hrs	Client Info		8	35	3
Oil Changed		Client Info		Not Changed	Changed	Not Changed
Filter Changed		Client Info		Not Changed	Changed	Not Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL

Iron	ppm	ASTM D5185m	>90	<1	2	0
Chromium	ppm	ASTM D5185m	>10	<1	0	0
Nickel	ppm	ASTM D5185m	>10	0	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	2
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>10	2	<1	1
Lead	ppm	ASTM D5185m	>20	2	4	0
Copper	ppm	ASTM D5185m	>20	▲ 39	▲ 116	5
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

Silicon	ppm	ASTM D5185m	>7	4	4	3
Potassium	ppm	ASTM D5185m	>20	2	0	3
Water		WC Method	>0.2	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	>0.2	NEG	NEG	NEG

Sodium	ppm	ASTM D5185m		0	3	<1
Boron	ppm	ASTM D5185m	0	86	254	52
Barium	ppm	ASTM D5185m		2	0	0
Molybdenum	ppm	ASTM D5185m	0	101	32	16
Manganese	ppm	ASTM D5185m		0	0	<1
Magnesium	ppm	ASTM D5185m		21	16	144
Calcium	ppm	ASTM D5185m	1890	2754	2404	2052
Phosphorus	ppm	ASTM D5185m	680	1164	710	953
Zinc	ppm	ASTM D5185m	750	1123	707	1135
Sulfur	ppm	ASTM D5185m		4303	4136	3905
Acid Number (AN)	mg KOH/g	ASTM D8045		1.41	1.09	1.07
Visc @ 40°C	cSt	ASTM D445	97.7	85.7	86.5	95.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0871822
Lab Number : 06177349
Unique Number : 11023402
Test Package : MAR 2
Received : 13 May 2024
Tested : 15 May 2024
Diagnosed : 15 May 2024 - Don Baldrige

CITY EXPERIENCES - SEAWARD EXPLORER
 2825 5TH AVENUE
 SAN DIEGO, CA
 US 92103
 Contact: PETER CHARBONNET

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)

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