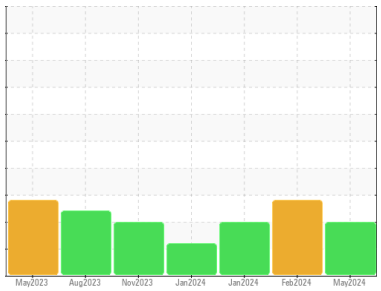
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

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

DIAGNOSIS

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

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

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

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0907674**	WC0886559	WC0886557
Sample Date		Client Info		**10 May 2024**	07 Feb 2024	27 Jan 2024
Machine Age	hrs	Client Info		**7700**	6401	6396
Oil Age	hrs	Client Info		**0**	6401	0
Oil Changed		Client Info		**N/A**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>60	**8**	8	7
Chromium	ppm	ASTM D5185m	>12	**2**	2	<1
Nickel	ppm	ASTM D5185m	>6	**<1**	<1	0
Titanium	ppm	ASTM D5185m		**<1**	<1	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>4	**2**	<1	2
Lead	ppm	ASTM D5185m	>12	**2**	2	<1
Copper	ppm	ASTM D5185m	>30	▲ **61**	▲ 60	▲ 66
Tin	ppm	ASTM D5185m		**<1**	<1	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	0	0
Barium	ppm	ASTM D5185m	0	**0**	0	5
Molybdenum	ppm	ASTM D5185m	0	**<1**	<1	0
Manganese	ppm	ASTM D5185m		**<1**	<1	0
Magnesium	ppm	ASTM D5185m	0	**1**	1	<1
Calcium	ppm	ASTM D5185m	48	**32**	35	37
Phosphorus	ppm	ASTM D5185m	337	**349**	353	320
Zinc	ppm	ASTM D5185m	426	**390**	399	386
Sulfur	ppm	ASTM D5185m	2280	**1384**	1449	1262

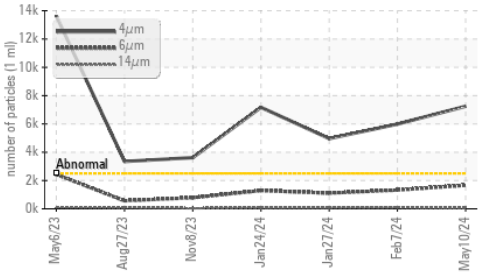
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>10	**2**	1	0
Sodium	ppm	ASTM D5185m		**4**	5	0
Potassium	ppm	ASTM D5185m	>20	**<1**	<1	<1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	▲ **7247**	▲ 5988	● 4964
Particles >6µm		ASTM D7647	>640	▲ **1664**	▲ 1323	● 1108
Particles >14µm		ASTM D7647	>80	**48**	▲ 93	74
Particles >21µm		ASTM D7647	>20	**6**	▲ 28	21
Particles >38µm		ASTM D7647	>4	**1**	2	1
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/13	▲ **20/18/13**	▲ 20/18/14	● 19/17/13

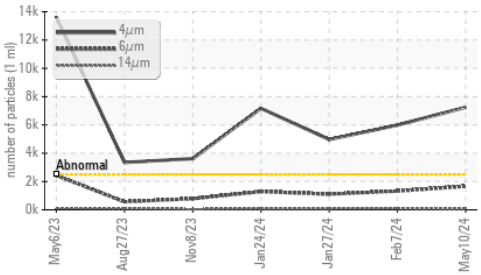
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	.6	**0.33**	0.40	0.28

OIL ANALYSIS REPORT

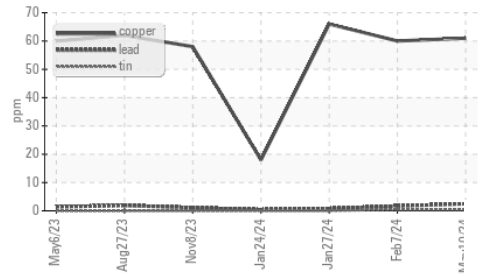
Particle Trend



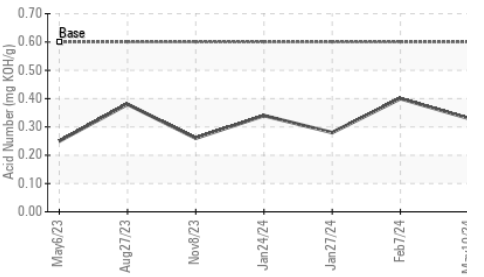
Particle Trend



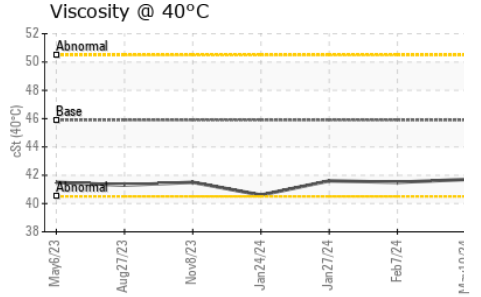
Non-ferrous Metals



Acid Number



Viscosity @ 40°C



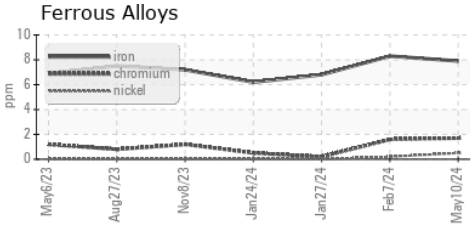
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**LIGHT**	NONE	NONE
Sand/Dirt	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	45.9	**41.7**	41.5	41.6

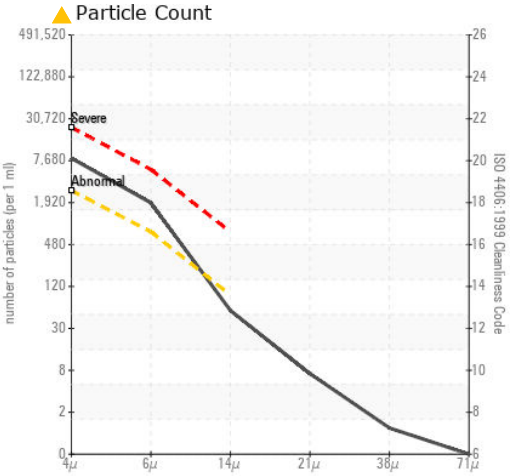
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

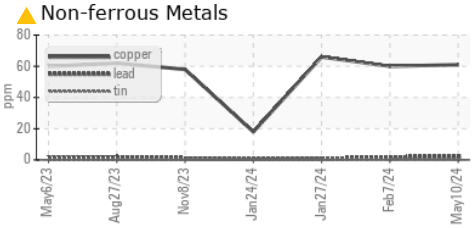
Ferrous Alloys



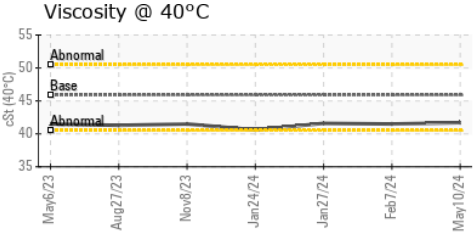
Particle Count



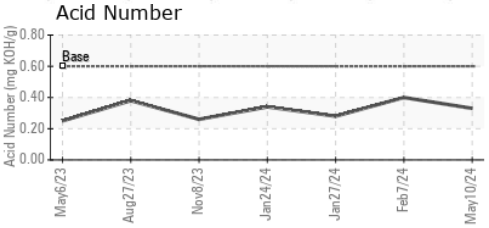
Non-ferrous Metals



Viscosity @ 40°C



Acid Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0907674 **Received** : 17 Jun 2024
Lab Number : 06211544 **Tested** : 18 Jun 2024
Unique Number : 11084408 **Diagnosed** : 18 Jun 2024 - Angela Borella
Test Package : MAR 2 (Additional Tests: PrtCount)

Certificate L2367

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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Report Id: SEANEW [WUSCAR] 06211544 (Generated: 06/18/2024 17:52:15) Rev: 1

Submitted By: PETER CHARBONNET