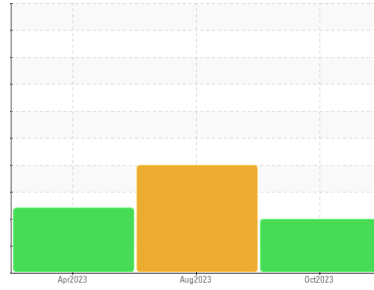




PROBLEM SUMMARY

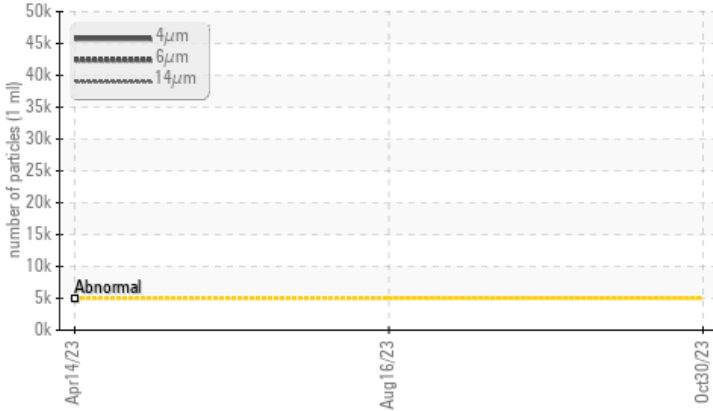
Area
OCEAN NAVIGATOR
 Machine Id
[OCEAN NAVIGATOR] OCEAN NAVIGATOR DECK
 Component
Crane
 Fluid
CASTROL HYSPIN AWH-M ISO 68 (180 LTR)

Sample Rating Trend



COMPONENT CONDITION SUMMARY

▲ Particle Trend



RECOMMENDATION

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

PROBLEMATIC TEST RESULTS

Sample Status	ASTM D7647	SEVERE	ABNORMAL	ABNORMAL
Particles >4µm	>5000	---	▲ 45466	---
Particles >6µm	>1300	---	▲ 7068	---
Particles >14µm	>160	---	▲ 391	---
Particles >21µm	>40	---	▲ 86	---
Oil Cleanliness	>19/17/14	---	▲ 23/20/16	---

Customer Id: VICNEWIN
 Sample No.: WC0824867
 Lab Number: 06006270
 Test Package: MAR 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

To change component or sample information:
 Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component.

HISTORICAL DIAGNOSIS

16 Aug 2023 Diag: Don Baldrige

WATER



We advise that you check for the source of water entry. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. All component wear rates are normal. Appearance is milky. There is a high concentration of water present in the oil. The AN level is acceptable for this fluid.

view report



14 Apr 2023 Diag: Angela Borella

WATER



Check seals and/or filters for points of contaminant entry. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. All component wear rates are normal. Appearance is hazy. There is a high concentration of water present in the oil. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

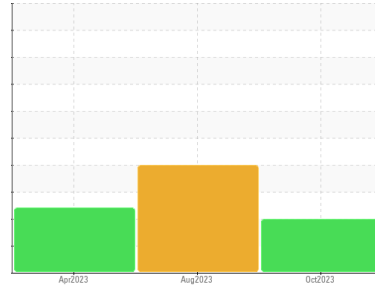
view report





OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
OCEAN NAVIGATOR
 Machine Id
[OCEAN NAVIGATOR] OCEAN NAVIGATOR DECK
 Component
Crane
 Fluid
CASTROL HYSPIN AWH-M ISO 68 (180 LTR)

DIAGNOSIS

Recommendation

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

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates 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		WC0824867	WC0824503	WC0667219
Sample Date	Client Info		30 Oct 2023	16 Aug 2023	14 Apr 2023
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	SEVERE	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >20	4	5	1
Chromium	ppm	ASTM D5185m >10	<1	<1	0
Nickel	ppm	ASTM D5185m >10	0	0	<1
Titanium	ppm	ASTM D5185m	<1	<1	0
Silver	ppm	ASTM D5185m	0	<1	<1
Aluminum	ppm	ASTM D5185m >10	0	0	0
Lead	ppm	ASTM D5185m >20	<1	<1	0
Copper	ppm	ASTM D5185m >20	<1	2	<1
Tin	ppm	ASTM D5185m >10	<1	<1	0
Vanadium	ppm	ASTM D5185m	0	<1	0
Cadmium	ppm	ASTM D5185m	0	3	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0	0
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	0	0	0
Manganese	ppm	ASTM D5185m	0	<1	<1
Magnesium	ppm	ASTM D5185m	<1	1	3
Calcium	ppm	ASTM D5185m	50	32	47
Phosphorus	ppm	ASTM D5185m	380	333	415
Zinc	ppm	ASTM D5185m	404	387	521
Sulfur	ppm	ASTM D5185m	3130	1263	3415

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	6	2	2
Sodium	ppm	ASTM D5185m	3	<1	<1
Potassium	ppm	ASTM D5185m >20	0	2	<1

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	▲ 45466	---	---
Particles >6µm	ASTM D7647	>1300	▲ 7068	---	---
Particles >14µm	ASTM D7647	>160	▲ 391	---	---
Particles >21µm	ASTM D7647	>40	▲ 86	---	---
Particles >38µm	ASTM D7647	>10	3	---	---
Particles >71µm	ASTM D7647	>3	0	---	---
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 23/20/16	---	---

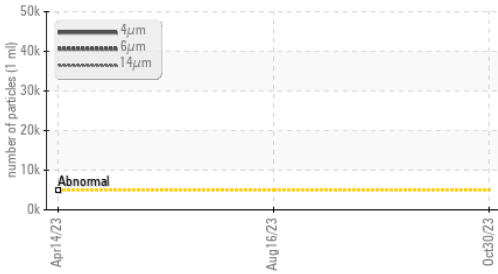
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 0.7	0.36	0.96	0.47

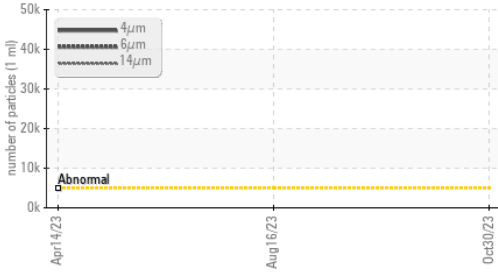


OIL ANALYSIS REPORT

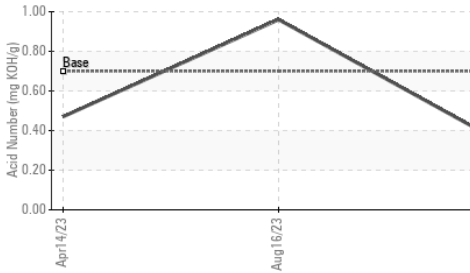
Particle Trend



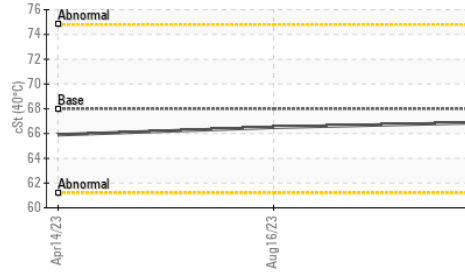
Particle Trend



Acid Number



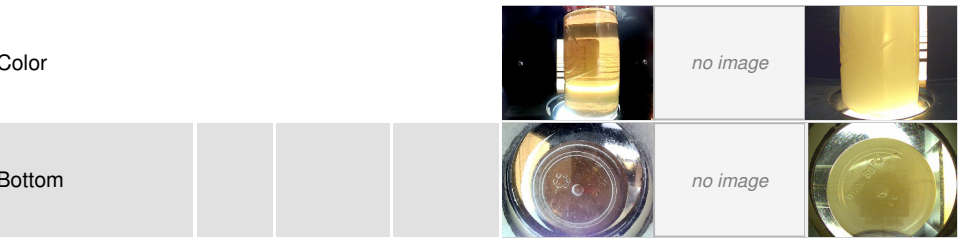
Viscosity @ 40°C



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	▲ MILKY	▲ HAZY
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	● 0.2%	▲ 0.2%
Free Water	scalar	*Visual		NEG	NEG

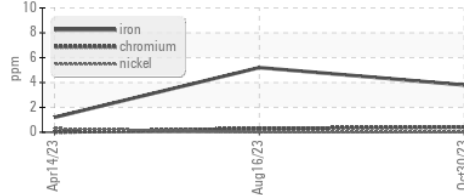
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	68	66.5	65.9

SAMPLE IMAGES	method	limit/base	current	history1	history2
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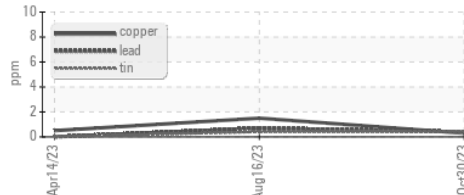


GRAPHS

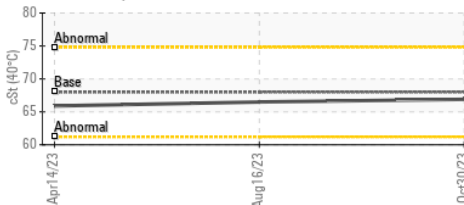
Ferrous Alloys



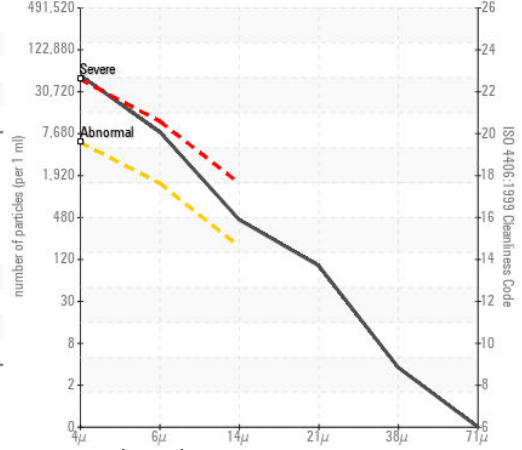
Non-ferrous Metals



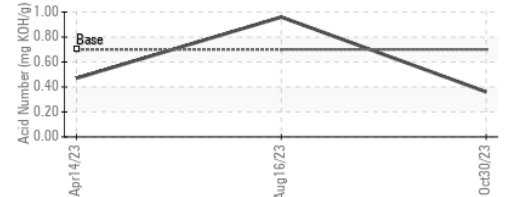
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : WC0824867 Received : 13 Nov 2023
 Lab Number : 06006270 Diagnosed : 14 Nov 2023
 Unique Number : 10740032 Diagnostician : Doug Bogart
 Test Package : MAR 2

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 1201 Bridgeport Drive
 Jeffersonville, IN
 US 47130
 Contact: Dietrich Giles
 DIETRICH.GILES@AQVOYAGES.COM
 T: (228)591-6239
 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)