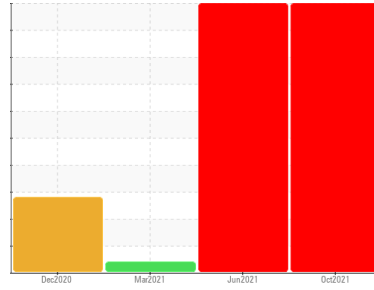




PROBLEM SUMMARY

Sample Rating Trend

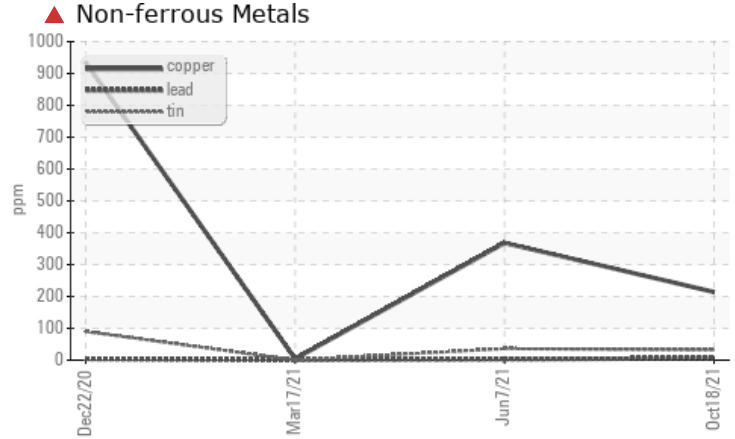
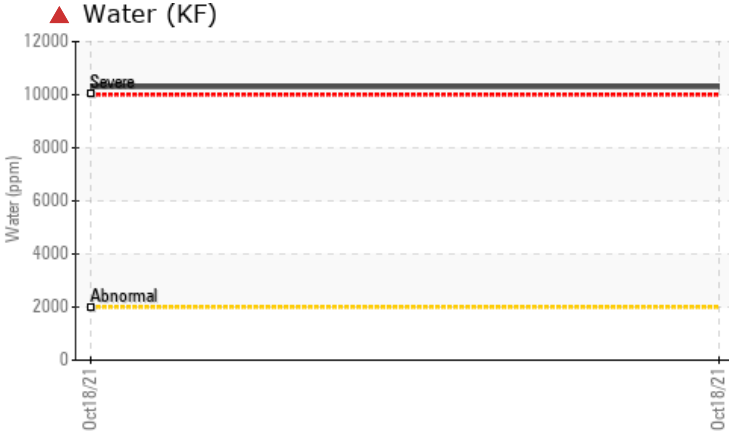


WEAR



Machine Id
OSV HERCULES 2PH
 Component
Starboard Wheel Hub
 Fluid
SHELL OMALA S2 GX 100 (25 GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. (start of flushing).

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	ABNORMAL
Copper	ppm	ASTM D5185m	>50	▲ 214	▲ 368	4
Tin	ppm	ASTM D5185m		▲ 32	▲ 36	<1
Water	%	ASTM D6304	>0.2	▲ 1.03	---	---
ppm Water	ppm	ASTM D6304	>2000	▲ 10300	---	---
Debris	scalar	*Visual	NONE	▲ MODER	NONE	▲ MODER
Emulsified Water	scalar	*Visual	>0.2	▲ 0.2%	NEG	NEG

Customer Id: ALADUT
 Sample No.: WC0579474
 Lab Number: 05388958
 Test Package: MAR 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Don Baldrige +1
don.b505@comcast.net

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

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Inspect Wear Source	MISSED	Dec 28 2021	?	We advise that you inspect for the source(s) of wear.
Resample	MISSED	Dec 28 2021	?	We recommend an early resample to monitor this condition.
Check Water Access	MISSED	Dec 28 2021	?	We advise that you check for the source of water entry.

HISTORICAL DIAGNOSIS

07 Jun 2021 Diag: Don Baldrige

WEAR



We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. Bearing and/or bushing wear is indicated. Gear wear is indicated. No other contaminants were detected in the oil. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

view report



17 Mar 2021 Diag: Doug Bogart

VIS DEBRIS



We suspect abnormal contamination may be due to sampling method. We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. All component wear rates are normal. Moderate concentration of visible dirt/debris present in the oil. The AN level is acceptable for this fluid.

view report



22 Dec 2020 Diag: Jonathan Hester

VISUAL METAL



No corrective action is recommended at this time. We recommend an early resample to monitor this condition. Moderate concentration of visible metal present. Bearing and/or bushing wear is indicated. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

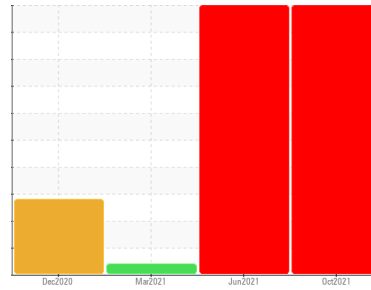
view report





OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
OSV HERCULES 2PH
 Component
Starboard Wheel Hub
 Fluid
SHELL OMALA S2 GX 100 (25 GAL)

DIAGNOSIS

▲ Recommendation

We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. (start of flushing).

▲ Wear

Bearing and/or bushing wear is indicated.

▲ Contamination

Appearance is milky. Moderate concentration of visible dirt/debris present in the oil. There is a high concentration of water present in the oil.

Fluid Condition

The AN level is acceptable for this fluid.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0579474	WC0541061	WC0541048
Sample Date	Client Info		18 Oct 2021	07 Jun 2021	17 Mar 2021
Machine Age	hrs	Client Info	20055	18666	18087
Oil Age	hrs	Client Info	8000	0	195
Oil Changed	Client Info		Changed	N/A	Not Changd
Sample Status			SEVERE	SEVERE	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >500	164	▲ 878	12
Chromium	ppm	ASTM D5185m >8	10	▲ 101	1
Nickel	ppm	ASTM D5185m >5	5	▲ 74	<1
Titanium	ppm	ASTM D5185m	<1	1	0
Silver	ppm	ASTM D5185m	0	<1	<1
Aluminum	ppm	ASTM D5185m >5	2	6	4
Lead	ppm	ASTM D5185m >5	6	3	<1
Copper	ppm	ASTM D5185m >50	▲ 214	▲ 368	4
Tin	ppm	ASTM D5185m	▲ 32	▲ 36	<1
Antimony	ppm	ASTM D5185m	<1	0	0
Vanadium	ppm	ASTM D5185m	<1	<1	0
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	5	2
Barium	ppm	ASTM D5185m	4	0	0
Molybdenum	ppm	ASTM D5185m	<1	9	0
Manganese	ppm	ASTM D5185m	2	23	<1
Magnesium	ppm	ASTM D5185m	7	9	2
Calcium	ppm	ASTM D5185m	4	15	22
Phosphorus	ppm	ASTM D5185m	195	245	197
Zinc	ppm	ASTM D5185m	5	2	0
Sulfur	ppm	ASTM D5185m	5811	7205	5229

CONTAMINANTS

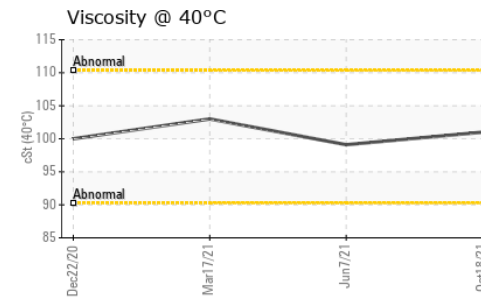
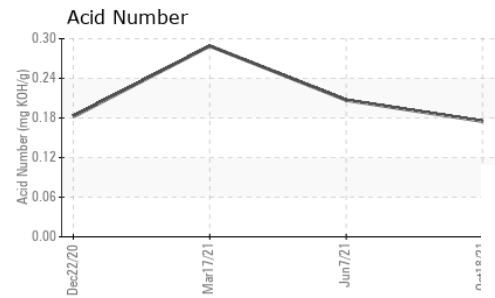
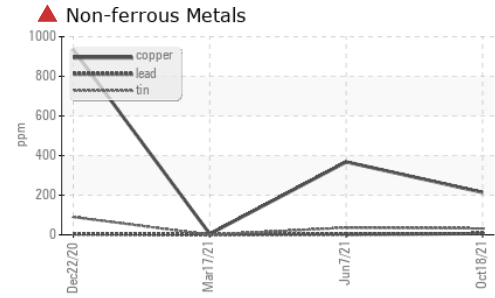
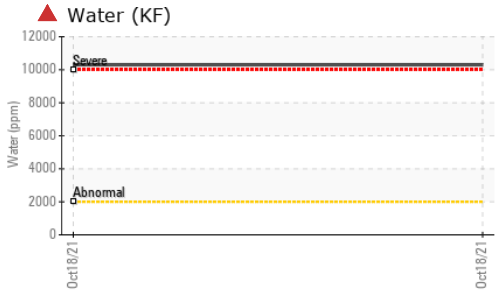
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	2	14	2
Sodium	ppm	ASTM D5185m	41	15	1
Potassium	ppm	ASTM D5185m >20	3	0	0
Water	%	ASTM D6304 >0.2	▲ 1.03	---	---
ppm Water	ppm	ASTM D6304 >2000	▲ 10300	---	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.175	0.207	0.289



OIL ANALYSIS REPORT



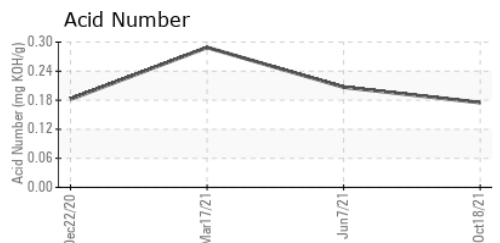
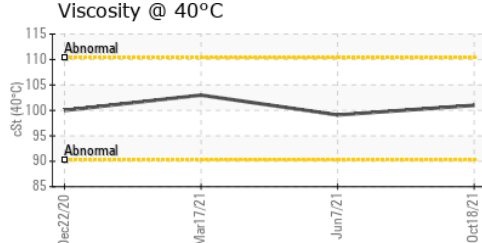
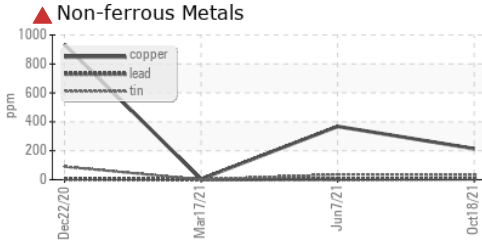
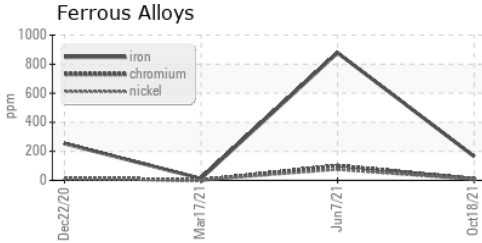
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	MODER	LIGHT
Debris	scalar	*Visual	NONE	▲ MODER	▲ MODER
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	101	99.1	103

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color			
Bottom			

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0579474 **Received** : 02 Nov 2021
Lab Number : 05388958 **Tested** : 03 Nov 2021
Unique Number : 9723091 **Diagnosed** : 03 Nov 2021 - Don Baldrige
Test Package : MAR 2 (Additional Tests: KF)

ALASKA VESSEL AGENTS
 PO BOX 920785
 DUTCH HARBOR, AK
 US 99692

Contact: MONIKA BERGERT
 monika.bergert@alaskavesselagents.com
 T: (907)581-4591

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)