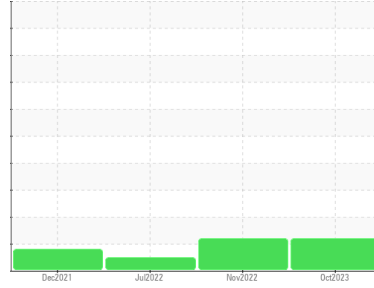


Area  
**Vessel**  
Machine Id  
**KAT 023 (AFT (MAIN WINCH) HYDRAULIC SERVO)**  
Component  
**Hydraulic System**  
Fluid  
**SHELL TELLUS 100 (500 LTR)**



**DIAGNOSIS**

**Recommendation**  
Resample at the next service interval to monitor. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MOB 2 test kits, this testkit includes Particle Count to determine the ISO cleanliness of the fluid. ( Customer Sample Comment: Kat 023 )

**Wear**  
All component wear rates are normal.

**Contamination**  
There is no indication of any contamination in the component(unconfirmed).

**Fluid Condition**  
Viscosity of sample indicates oil is within ISO 22 range, advise investigate. The condition of the oil is acceptable for the time in service.

**SAMPLE INFORMATION**

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>PC0011771</b>	PC0032246	PC0018563
Sample Date	Client Info	<b>18 Oct 2023</b>	08 Nov 2022	24 Jul 2022
Machine Age	days	<b>0</b>	0	0
Oil Age	days	<b>0</b>	0	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>ABNORMAL</b>	ABNORMAL	NORMAL

**WEAR METALS**

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185(m) >20	<b>1</b>	1	7
Chromium	ppm ASTM D5185(m) >10	<b>0</b>	0	0
Nickel	ppm ASTM D5185(m) >10	<b>&lt;1</b>	0	<1
Titanium	ppm ASTM D5185(m)	<b>0</b>	0	0
Silver	ppm ASTM D5185(m)	<b>&lt;1</b>	0	0
Aluminum	ppm ASTM D5185(m) >10	<b>0</b>	0	0
Lead	ppm ASTM D5185(m) >20	<b>&lt;1</b>	<1	0
Copper	ppm ASTM D5185(m) >20	<b>5</b>	4	2
Tin	ppm ASTM D5185(m) >10	<b>0</b>	0	0
Antimony	ppm ASTM D5185(m)	<b>0</b>	0	0
Vanadium	ppm ASTM D5185(m)	<b>0</b>	0	0
Beryllium	ppm ASTM D5185(m)	<b>0</b>	0	0
Cadmium	ppm ASTM D5185(m)	<b>0</b>	0	0

**ADDITIVES**

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m)	<b>&lt;1</b>	<1	1
Barium	ppm ASTM D5185(m)	<b>&lt;1</b>	0	0
Molybdenum	ppm ASTM D5185(m)	<b>0</b>	0	<1
Manganese	ppm ASTM D5185(m)	<b>0</b>	0	0
Magnesium	ppm ASTM D5185(m) 11	<b>9</b>	11	4
Calcium	ppm ASTM D5185(m) 39	<b>34</b>	36	82
Phosphorus	ppm ASTM D5185(m) 259	<b>243</b>	273	282
Zinc	ppm ASTM D5185(m) 277	<b>300</b>	295	324
Sulfur	ppm ASTM D5185(m) 2463	<b>1310</b>	1364	980
Lithium	ppm ASTM D5185(m)	<b>&lt;1</b>	<1	<1

**CONTAMINANTS**

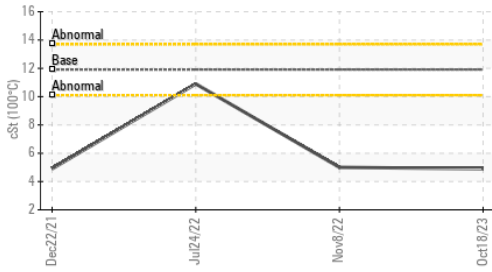
method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >15	<b>2</b>	3	2
Sodium	ppm ASTM D5185(m)	<b>2</b>	1	<1
Potassium	ppm ASTM D5185(m) >20	<b>0</b>	<1	<1

**VISUAL**

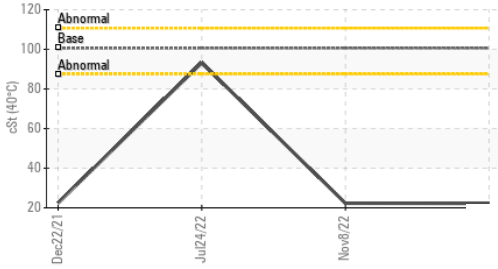
method	limit/base	current	history1	history2
White Metal	scalar Visual* NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar Visual* NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar Visual* NONE	<b>NONE</b>	NONE	NONE
Silt	scalar Visual* NONE	<b>NONE</b>	NONE	NONE
Debris	scalar Visual* NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar Visual* NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar Visual* NORML	<b>NORML</b>	NORML	NORML
Odor	scalar Visual* NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar Visual* >0.05	<b>NEG</b>	NEG	NEG
Free Water	scalar Visual*	<b>NEG</b>	NEG	NEG

# OIL ANALYSIS REPORT

▲ Viscosity @ 100°C



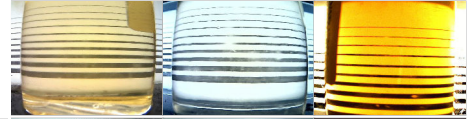
▲ Viscosity @ 40°C



FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	100.6	▲ 22.2	▲ 22.3	93.2
Visc @ 100°C	cSt	ASTM D7279(m)	11.91	▲ 4.9	▲ 5	10.9
Viscosity Index (VI)	Scale	ASTM D2270*	108	▲ 151	▲ 158	101

SAMPLE IMAGES		method	limit/base	current	history1	history2
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Color

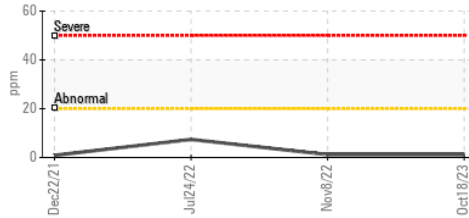


Bottom

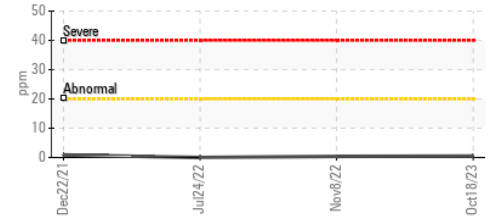


## GRAPHS

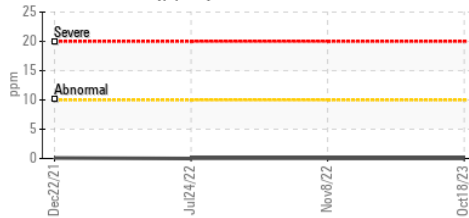
Iron (ppm)



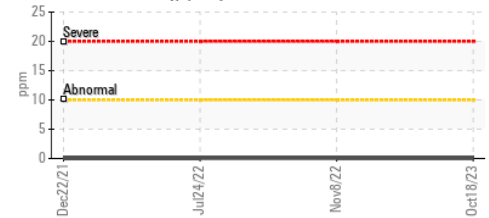
Lead (ppm)



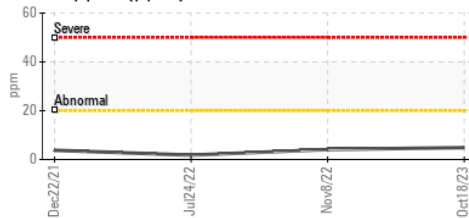
Aluminum (ppm)



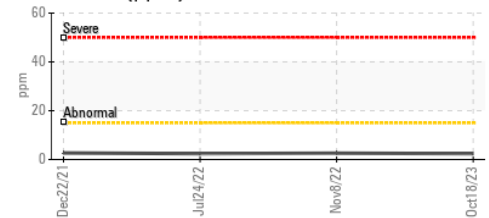
Chromium (ppm)



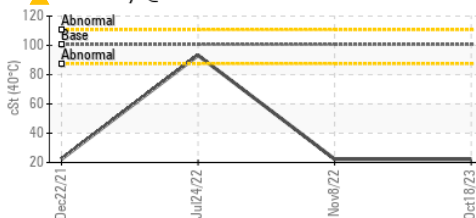
Copper (ppm)



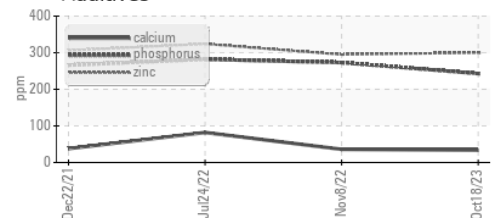
Silicon (ppm)



▲ Viscosity @ 40°C



Additives



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Ocean Choice International - Katsheshuk II  
**Sample No.** : PC0011771 **Received** : 27 Oct 2023  
**Lab Number** : 02592433 **Diagnosed** : 27 Oct 2023  
**Unique Number** : 5669512 **Diagnostician** : Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: KV100, VI )

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.

1315 Topsail Rd, P.O. Box 8190  
 St. John's, NL  
 CA A1B 3N4  
 Contact: Chief Engineer  
 katengine@oceanchoice.com  
 T:  
 F: