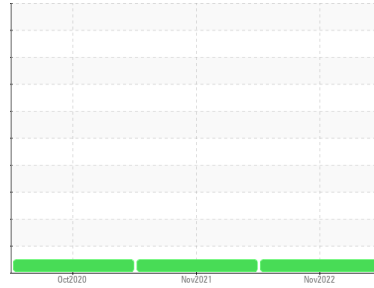




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**GROVE 10061373 (S/N 41006058)**

Component  
**Right Slewing Gearbox**

Fluid  
**SHELL OMALA S4 GX 220 (--- GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All 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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>WC0680548</b>	WC0524947	WC0495715
Sample Date	Client Info			<b>20 Nov 2022</b>	29 Nov 2021	27 Oct 2020
Machine Age	mths	Client Info		<b>0</b>	0	0
Oil Age	mths	Client Info		<b>35</b>	2	0
Oil Changed	Client Info			<b>Not Changed</b>	Not Changed	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>150	<b>&lt;1</b>	<1	19
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Nickel	ppm	ASTM D5185m	>10	<b>18</b>	0	1
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>25	<b>0</b>	2	<1
Lead	ppm	ASTM D5185m	>100	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m	>50	<b>0</b>	<1	<1
Tin	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Antimony	ppm	ASTM D5185m	>5	<b>---</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>2</b>	34	25
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0	<1
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Calcium	ppm	ASTM D5185m		<b>1</b>	14	1
Phosphorus	ppm	ASTM D5185m		<b>12</b>	359	464
Zinc	ppm	ASTM D5185m		<b>0</b>	0	2
Sulfur	ppm	ASTM D5185m		<b>708</b>	12728	6281

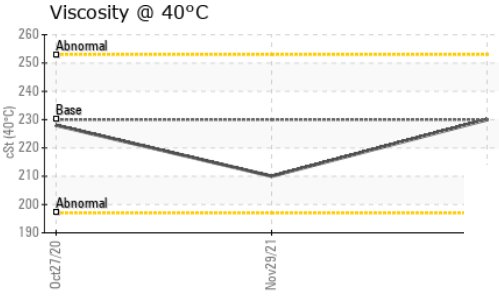
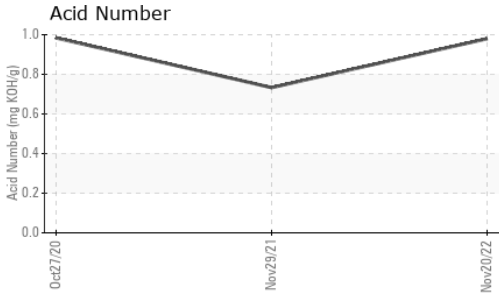
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	<b>&lt;1</b>	<1	3
Sodium	ppm	ASTM D5185m		<b>24</b>	0	<1
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	0	<1

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.98</b>	0.733	0.984

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>MODER</b>	VLITE	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	MODER
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	>0.1	<b>NEG</b>	NEG	NEG
Free Water	scalar	*Visual		<b>NEG</b>	NEG	NEG



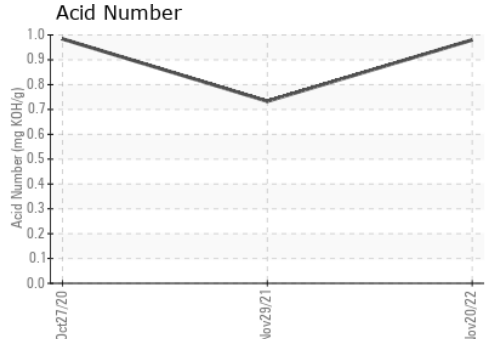
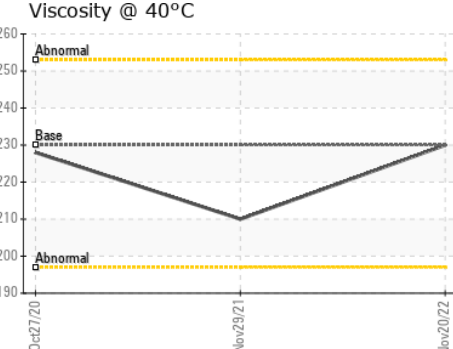
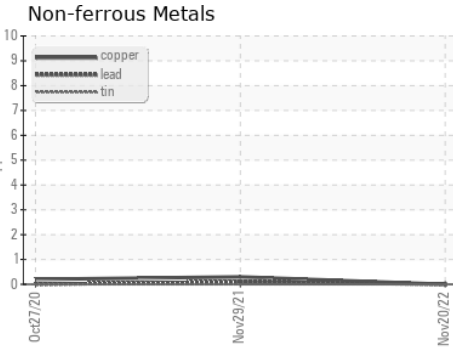
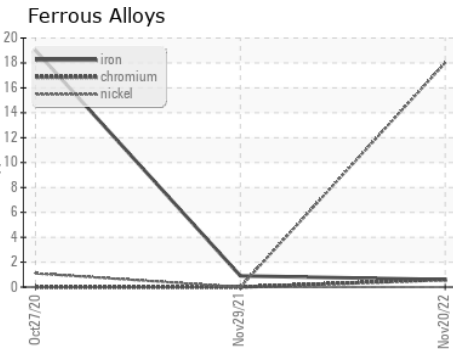
# OIL ANALYSIS REPORT



FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 230	<b>230</b>	210	228

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color			no image		
Bottom			no image		

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0680548 **Received** : 12 Dec 2022  
**Lab Number** : 05715190 **Diagnosed** : 14 Dec 2022  
**Unique Number** : 10254766 **Diagnostician** : Jonathan Hester  
**Test Package** : IND 2

**FLUOR MARINE PROPULSION LLC**  
 2401 RIVER RD  
 SCHENECTADY, NY  
 US 12309  
 Contact: Service Manager

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)

T:  
F: