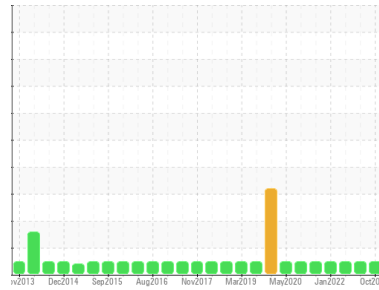




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**CHEATHAM ANNEX**  
 Machine Id  
**1721 CRANE 1A**

Component  
**Gearbox**  
 Fluid  
**SHELL OMALA S4 WE 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>WC0752670</b>	WC0752663	WC0513648
Sample Date	Client Info			<b>01 Oct 2023</b>	22 Jan 2023	24 Apr 2022
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed	Client Info			<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	<b>1</b>	<1	2
Chromium	ppm	ASTM D5185m	>15	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>15	<b>&lt;1</b>	3	2
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>25	<b>3</b>	<1	3
Lead	ppm	ASTM D5185m	>100	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m	>200	<b>0</b>	0	0
Tin	ppm	ASTM D5185m	>25	<b>&lt;1</b>	<1	<1
Antimony	ppm	ASTM D5185m	>5	<b>---</b>	---	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>1</b>	0	3
Barium	ppm	ASTM D5185m		<b>0</b>	1	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>4</b>	<1	0
Calcium	ppm	ASTM D5185m		<b>7</b>	1	3
Phosphorus	ppm	ASTM D5185m		<b>478</b>	370	453
Zinc	ppm	ASTM D5185m		<b>0</b>	1	0
Sulfur	ppm	ASTM D5185m		<b>148</b>	22	58

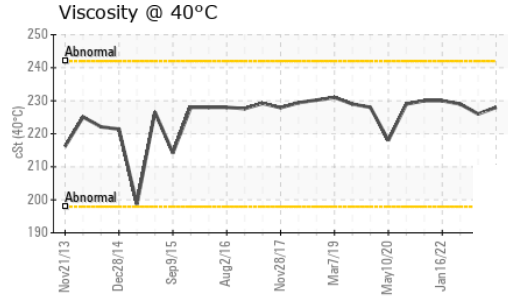
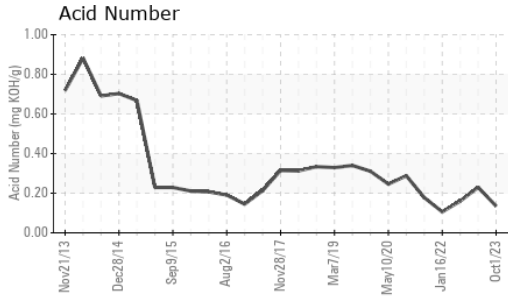
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	<b>9</b>	4	10
Sodium	ppm	ASTM D5185m		<b>0</b>	3	2
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	<1	3

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.135</b>	0.23	0.16

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	>0.2	<b>NEG</b>	NEG	NEG
Free Water	scalar	*Visual		<b>NEG</b>	NEG	NEG



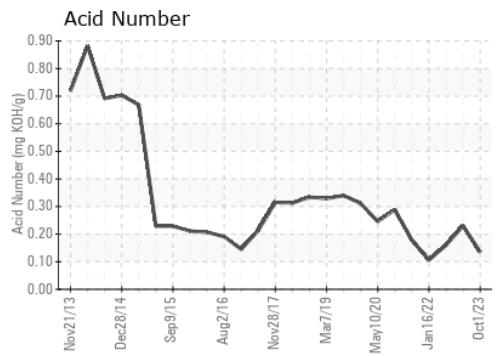
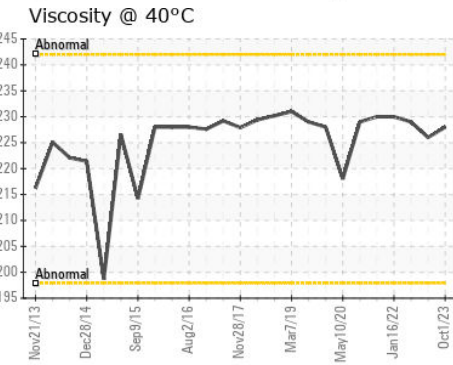
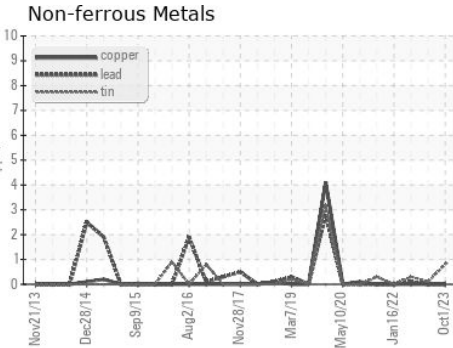
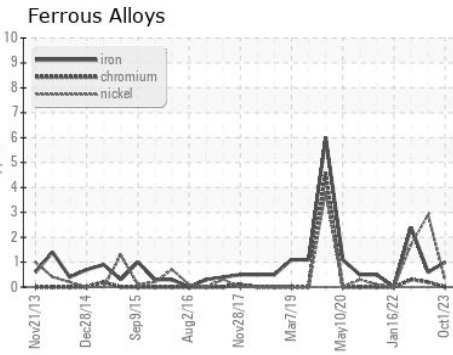
# OIL ANALYSIS REPORT



FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		<b>228</b>	226	229

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom						

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0752670 **Received** : 29 Sep 2023  
**Lab Number** : 05965483 **Diagnosed** : 03 Oct 2023  
**Unique Number** : 10672034 **Diagnostician** : Doug Bogart  
**Test Package** : IND 2

**CARGOTEC MARINE - MACGREGOR**  
 525 BYRON ST, SUITE B  
 CHESAPEAKE, VA  
 US 23320  
 Contact: TARMO MAGI  
 tarmo.magi@macgregor.com  
 T: (757)558-4584  
 F: (757)558-4581

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)