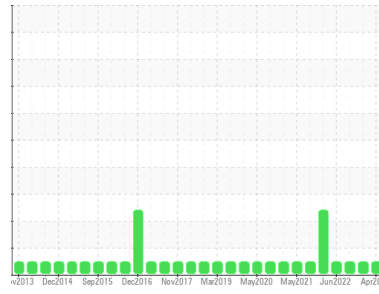




# OIL ANALYSIS REPORT

Area  
**CHEATHAM ANNEX**  
 Machine Id  
**2A 2ALW CRANE 2A (S/N 62510226)**  
 Component  
**Gearbox**  
 Fluid  
**SHELL OMALA S4 WE 220 (--- GAL)**

Sample Rating Trend



**NORMAL**



## 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>WC0925624</b>	WC0752737	WC0573875
Sample Date	Client Info			<b>16 Apr 2024</b>	01 Oct 2023	22 Jan 2023
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

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.2	<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	<b>28</b>	15	3
Chromium	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>15	<b>0</b>	0	4
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>25	<b>12</b>	12	<1
Lead	ppm	ASTM D5185m	>100	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>200	<b>0</b>	0	0
Tin	ppm	ASTM D5185m	>25	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	<1

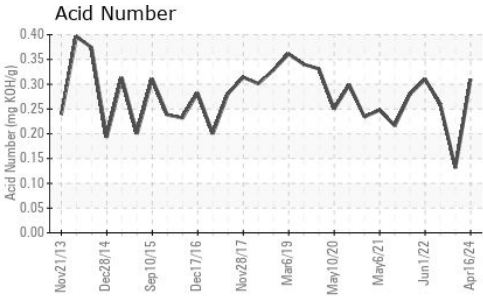
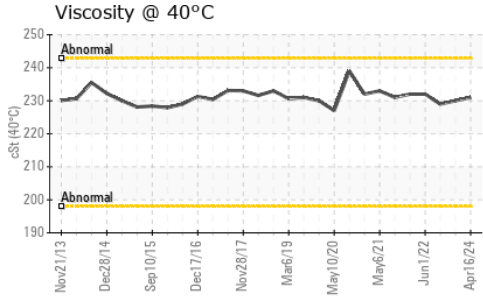
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0	0
Manganese	ppm	ASTM D5185m		<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185m		<b>3</b>	6	0
Calcium	ppm	ASTM D5185m		<b>2</b>	0	<1
Phosphorus	ppm	ASTM D5185m		<b>477</b>	511	423
Zinc	ppm	ASTM D5185m		<b>0</b>	0	1
Sulfur	ppm	ASTM D5185m		<b>0</b>	21	23

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	<b>33</b>	22	5
Sodium	ppm	ASTM D5185m		<b>5</b>	0	4
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	5	<1

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.31</b>	0.131	0.26



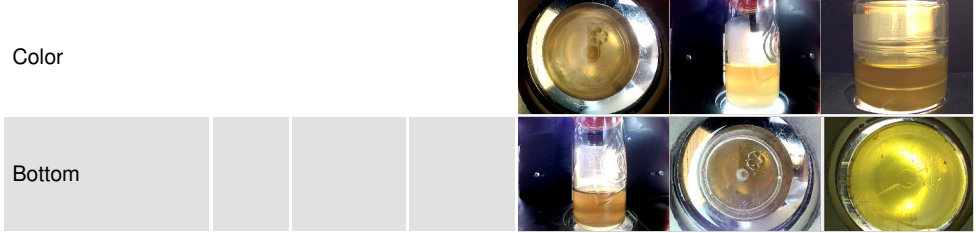
# OIL ANALYSIS REPORT



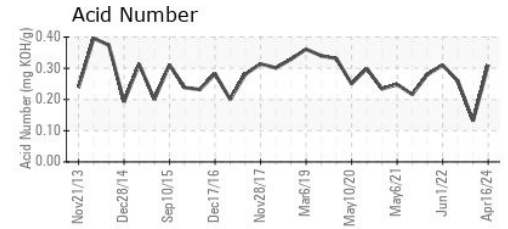
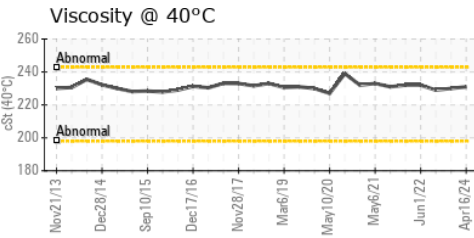
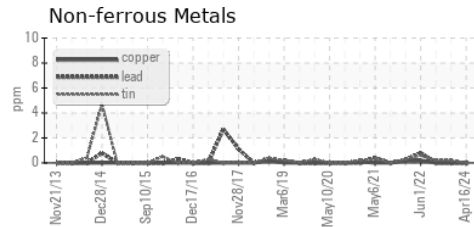
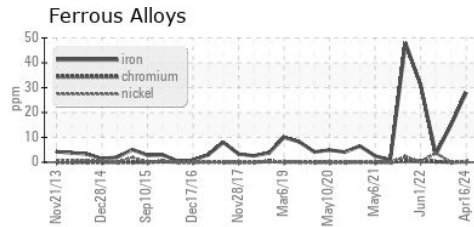
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	<b>231</b>	230	229

SAMPLE IMAGES	method	limit/base	current	history1	history2
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## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0925624      **Received** : 16 Apr 2024  
**Lab Number** : 06151269      **Tested** : 18 Apr 2024  
**Unique Number** : 10981347      **Diagnosed** : 19 Apr 2024 - Jonathan Hester  
**Test Package** : IND 2

**CARGOTEC MARINE - MACGREGOR**  
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 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)