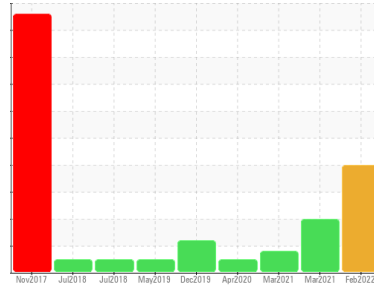


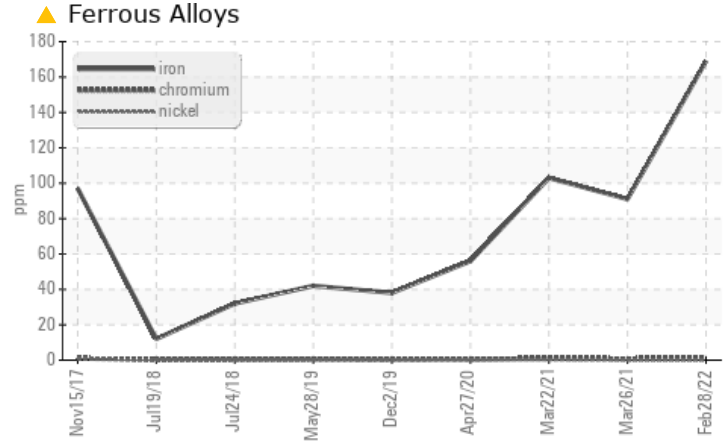
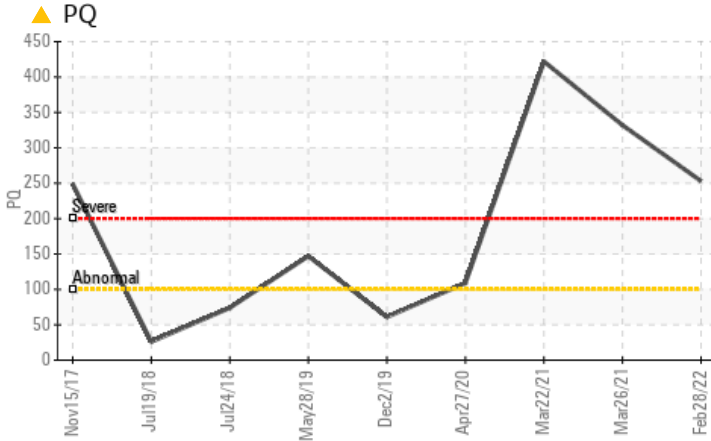
# PROBLEM SUMMARY

Area  
**CRW CRANES**  
 Machine Id  
**10.2 CRANE**  
 Component  
**Main Hoist**  
 Fluid  
**NOT GIVEN (--- GAL)**

Sample Rating Trend



## COMPONENT CONDITION SUMMARY



## RECOMMENDATION

We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

## PROBLEMATIC TEST RESULTS

Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL
PQ		ASTM D8184		▲ <b>253</b>	332	422
Iron	ppm	ASTM D5185m	>20	▲ <b>169</b>	▲ 91	▲ 103
White Metal	scalar	*Visual	NONE	▲ <b>MODER</b>	▲ HEAVY	MODER

Customer Id: OUTCALAL  
 Sample No.: RP0022777  
 Lab Number: 05480442  
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Jonathan Hester +1 919-379-4092 x4092  
[jhester@wearcheckusa.com](mailto:jhester@wearcheckusa.com)

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

## RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Inspect Wear Source	---	---	?	We advise that you inspect for the source(s) of wear.
Resample	---	---	?	We recommend an early resample to monitor this condition.

## HISTORICAL DIAGNOSIS

### 26 Mar 2021 Diag: Jonathan Hester

#### VISUAL METAL



We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. The iron level is abnormal. High concentration of visible metal present. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid.

[view report](#)



### 22 Mar 2021 Diag: Don Baldrige

#### WEAR



No corrective action is recommended at this time. Resample at the next service interval to monitor. Gear 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](#)



### 27 Apr 2020 Diag: Don Baldrige

#### NORMAL



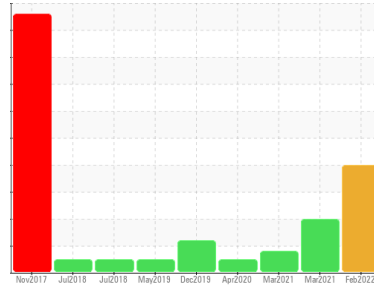
Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

[view report](#)



# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**



Area  
**CRW CRANES**  
Machine Id  
**10.2 CRANE**  
Component  
**Main Hoist**  
Fluid  
**NOT GIVEN (--- GAL)**

**DIAGNOSIS**

**Recommendation**  
We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

**Wear**  
The iron level is abnormal. Moderate concentration of visible metal present. The high ferrous density (PQ) index indicates that abnormal wear is occurring.

**Contamination**  
There is no indication of any contamination 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	<b>RP0022777</b>	RP0015672	RP0014484
Sample Date	Client Info	<b>28 Feb 2022</b>	26 Mar 2021	22 Mar 2021
Machine Age	hrs	<b>0</b>	0	0
Oil Age	hrs	<b>0</b>	0	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

**WEAR METALS**

method	limit/base	current	history1	history2
PQ	ASTM D8184	<b>▲ 253</b>	332	422
Iron	ppm ASTM D5185m >20	<b>▲ 169</b>	▲ 91	▲ 103
Chromium	ppm ASTM D5185m >20	<b>2</b>	<1	1
Nickel	ppm ASTM D5185m >20	<b>0</b>	0	<1
Titanium	ppm ASTM D5185m	<b>&lt;1</b>	<1	<1
Silver	ppm ASTM D5185m	<b>0</b>	<1	0
Aluminum	ppm ASTM D5185m >20	<b>0</b>	<1	0
Lead	ppm ASTM D5185m >20	<b>0</b>	0	0
Copper	ppm ASTM D5185m >20	<b>2</b>	2	2
Tin	ppm ASTM D5185m >20	<b>0</b>	0	0
Antimony	ppm ASTM D5185m	<b>0</b>	0	0
Vanadium	ppm ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm ASTM D5185m	<b>0</b>	0	0

**ADDITIVES**

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m	<b>14</b>	19	13
Barium	ppm ASTM D5185m	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m	<b>&lt;1</b>	<1	<1
Manganese	ppm ASTM D5185m	<b>2</b>	<1	1
Magnesium	ppm ASTM D5185m	<b>1</b>	0	<1
Calcium	ppm ASTM D5185m	<b>33</b>	13	14
Phosphorus	ppm ASTM D5185m	<b>192</b>	191	182
Zinc	ppm ASTM D5185m	<b>4</b>	5	0

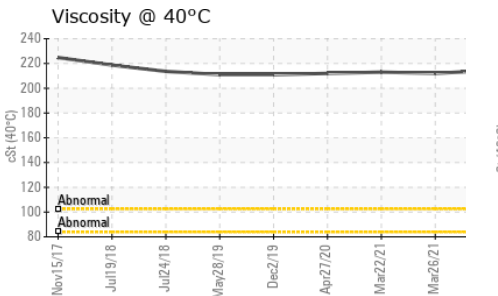
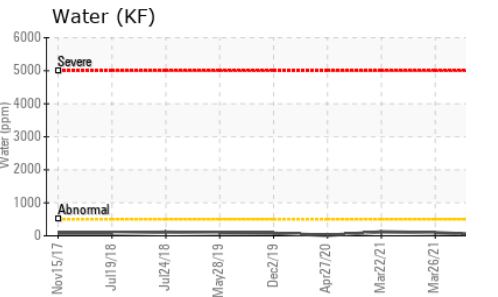
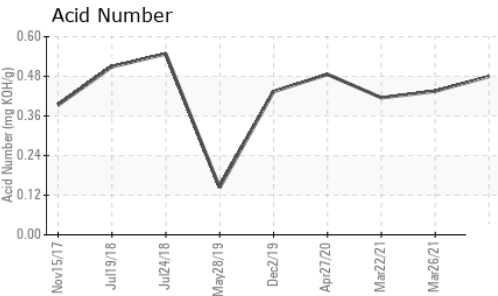
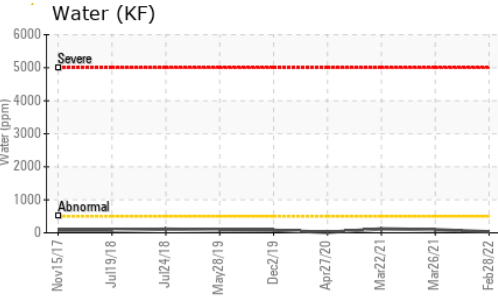
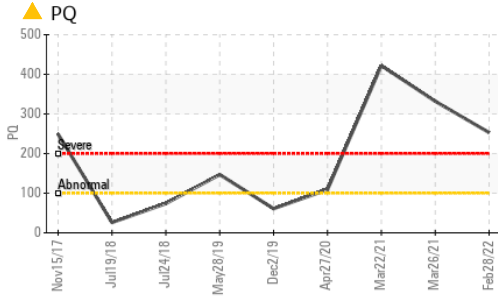
**CONTAMINANTS**

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >15	<b>25</b>	24	22
Sodium	ppm ASTM D5185m	<b>0</b>	0	0
Potassium	ppm ASTM D5185m >20	<b>&lt;1</b>	0	0
Water	% ASTM D6304 >0.05	<b>0.003</b>	0.009	0.011
ppm Water	ppm ASTM D6304 >500	<b>30.3</b>	93.7	119.0

**FLUID DEGRADATION**

method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D8045	<b>0.48</b>	0.435	0.415

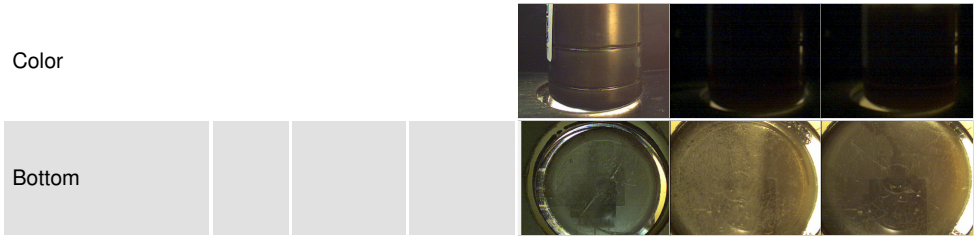
# OIL ANALYSIS REPORT



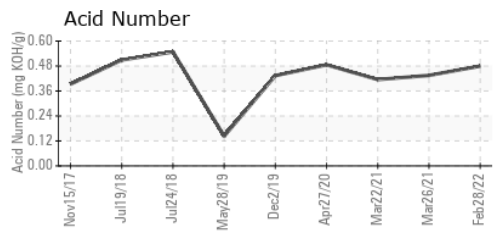
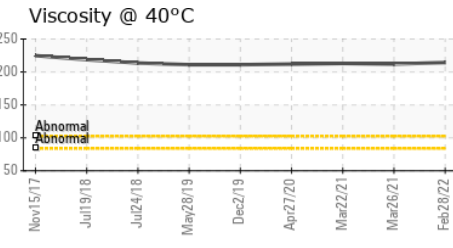
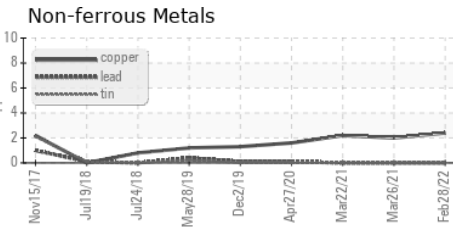
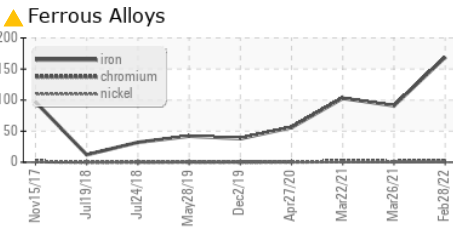
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	▲ MODER	▲ HEAVY
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	214.4	212	213

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



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RP0022777 **Received** : 01 Mar 2022  
**Lab Number** : 05480442 **Diagnosed** : 07 Mar 2022  
**Unique Number** : 9869656 **Diagnostician** : Jonathan Hester  
**Test Package** : IND 2 ( Additional Tests: PQ, PrtCount )

**OUTOKUMPU STAINLESS USA**  
 HWY 43 N  
 CALVERT, AL  
 US 36513  
 Contact: MARIO JOHNSON  
 Mario.johnson@outokumpu.com  
 T: (251)321-4105  
 F: x:

Certificate L2367  
 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)