

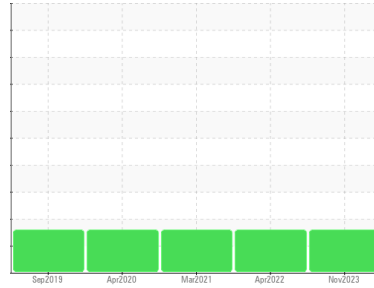
# PROBLEM SUMMARY

Sample Rating Trend

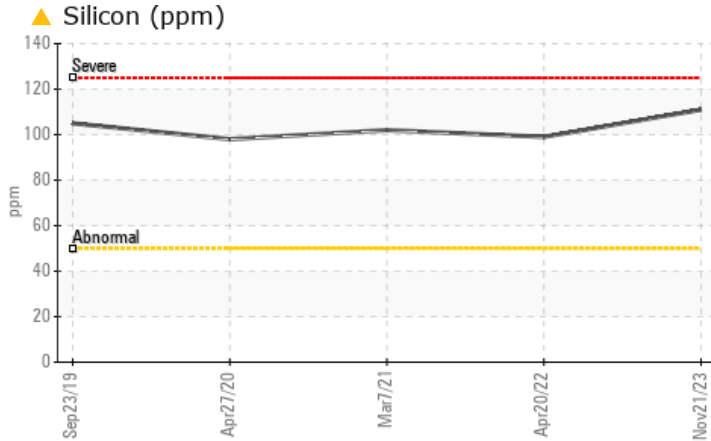
DIRT



Area  
**CONNECTION BAY CRANES**  
 Machine Id  
**CB 20.1 EAST TROLLEY**  
 Component  
**Gearbox**  
 Fluid  
**GEAR OIL (PAO) ISO 220 (--- QTS)**



## COMPONENT CONDITION SUMMARY



## RECOMMENDATION

No corrective action is recommended at this time.  
 Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

Sample Status	ASTM D5185m	>50	ABNORMAL	ABNORMAL	ABNORMAL
Silicon	ppm		▲ 111	▲ 99	▲ 102

Customer Id: OUTCALAL  
 Sample No.: RP0038025  
 Lab Number: 06015798  
 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

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

### 20 Apr 2022 Diag: Jonathan Hester

DIRT



No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. Elemental level of silicon (Si) above normal indicating ingress of seal material. The water content is negligible. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



### 07 Mar 2021 Diag: Jonathan Hester

DIRT



No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. Elemental level of silicon (Si) above normal indicating ingress of seal material. The water content is negligible. 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

DIRT



No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. Elemental level of silicon (Si) above normal indicating ingress of dirt/seal material. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

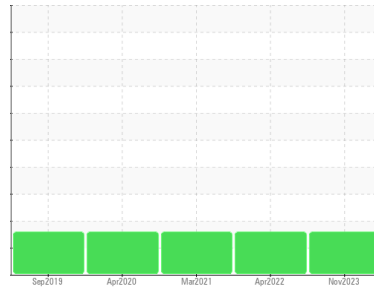
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



**DIRT**



Area  
**CONNECTION BAY CRANES**  
 Machine Id  
**CB 20.1 EAST TROLLEY**  
 Component  
**Gearbox**  
 Fluid  
**GEAR OIL (PAO) ISO 220 (--- QTS)**

## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

Elemental level of silicon (Si) above normal indicating ingress of seal material. The water content is negligible.

### 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>RP0038025</b>	RP0024998	RP0015627
Sample Date	Client Info		<b>21 Nov 2023</b>	20 Apr 2022	07 Mar 2021
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>ABNORMAL</b>	ABNORMAL	ABNORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184		<b>16</b>	17	23
Iron	ppm	ASTM D5185m >200	<b>18</b>	10	8
Chromium	ppm	ASTM D5185m >15	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m >15	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	<b>0</b>	<1	<1
Aluminum	ppm	ASTM D5185m >25	<b>2</b>	2	0
Lead	ppm	ASTM D5185m >100	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m >200	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m >25	<b>0</b>	<1	0
Antimony	ppm	ASTM D5185m >5	<b>---</b>	---	0
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	<1	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 25	<b>0</b>	1	<1
Barium	ppm	ASTM D5185m 12	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 5	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 25	<b>54</b>	67	56
Calcium	ppm	ASTM D5185m 25	<b>0</b>	5	5
Phosphorus	ppm	ASTM D5185m 375	<b>360</b>	420	383
Zinc	ppm	ASTM D5185m 25	<b>25</b>	23	4

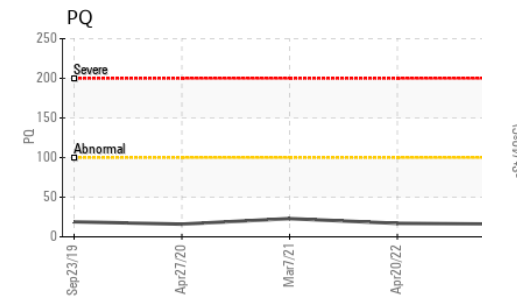
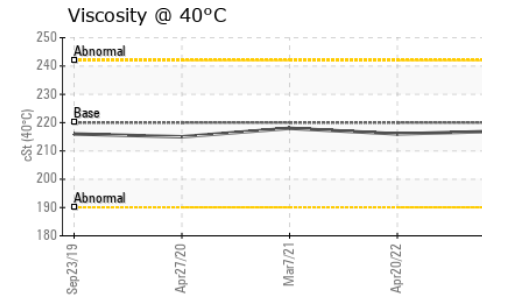
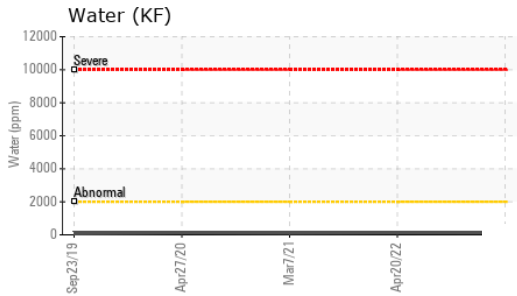
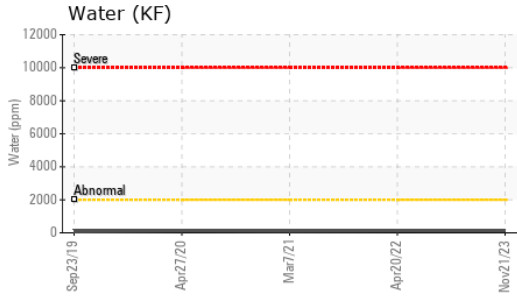
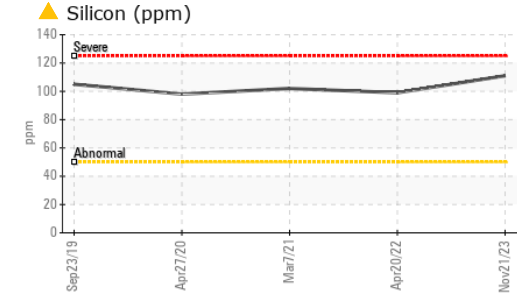
## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>▲ 111</b>	▲ 99	▲ 102
Sodium	ppm	ASTM D5185m	<b>10</b>	8	5
Potassium	ppm	ASTM D5185m >20	<b>0</b>	1	<1
Water	%	ASTM D6304 >0.2	<b>0.012</b>	0.013	0.010
ppm Water	ppm	ASTM D6304 >2000	<b>125</b>	131.2	106.0

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 1.10	<b>0.61</b>	0.68	0.661

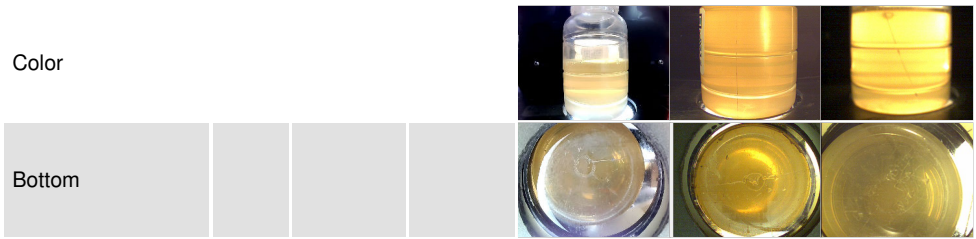
# OIL ANALYSIS REPORT



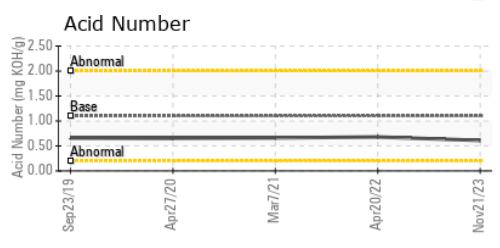
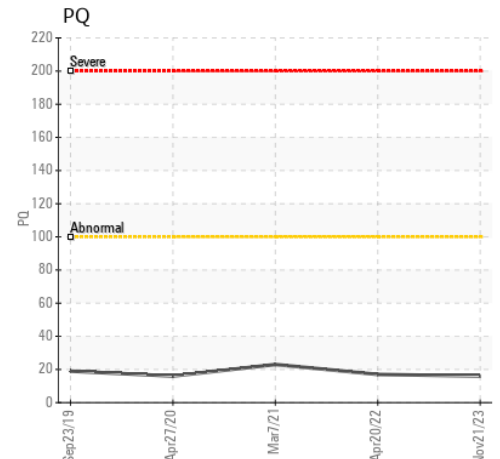
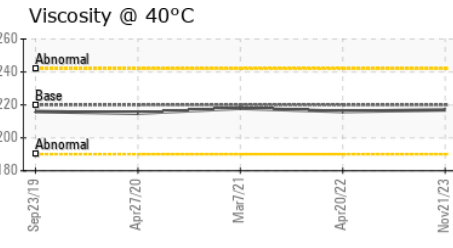
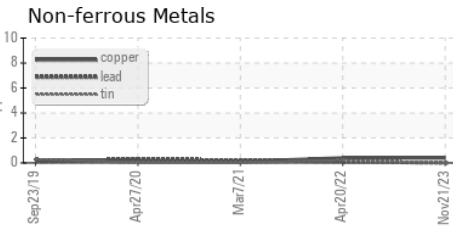
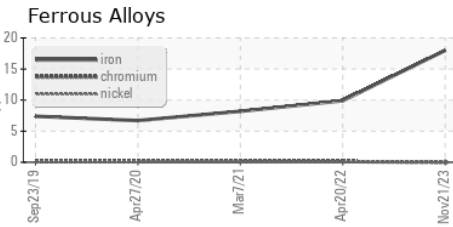
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	220	217	216

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



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RP0038025 **Received** : 22 Nov 2023  
**Lab Number** : 06015798 **Diagnosed** : 27 Nov 2023  
**Unique Number** : 10754942 **Diagnostician** : Jonathan Hester  
**Test Package** : IND 2 ( Additional Tests: PQ )

**OUTOKUMPU STAINLESS USA**  
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 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)