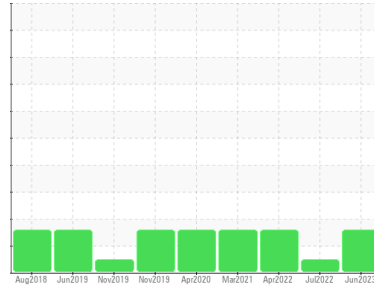


# PROBLEM SUMMARY

Sample Rating Trend



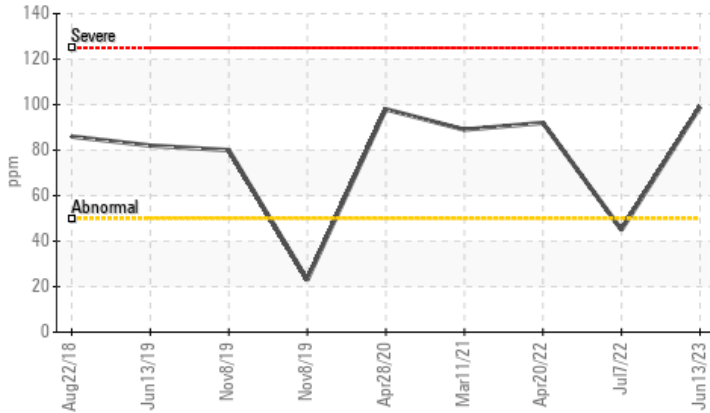
**DIRT**



Area  
**HAPL CRANES**  
Machine Id  
**10.1 CRANE - EAST BRIDGE**  
Component  
**Gearbox**  
Fluid  
**NOT GIVEN (--- GAL)**

## COMPONENT CONDITION SUMMARY

▲ Silicon (ppm)



## RECOMMENDATION

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

## PROBLEMATIC TEST RESULTS

Sample Status				<b>ABNORMAL</b>	NORMAL	ABNORMAL
Silicon	ppm	ASTM D5185m	>50	▲ 99	45	▲ 92

Customer Id: OUTCALAL  
Sample No.: RP0035380  
Lab Number: 05873925  
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
Don Baldrige +1  
[don.b505@comcast.net](mailto:don.b505@comcast.net)

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

### NORMAL



#### 07 Jul 2022 Diag: Wes Davis

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample. All component wear rates are normal. The water content is negligible. 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



### DIRT



#### 20 Apr 2022 Diag: Jonathan Hester

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



### DIRT



#### 11 Mar 2021 Diag: Angela Borella

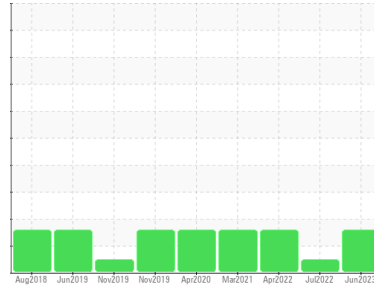
No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. Elemental level of silicon (Si) above normal. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



# OIL ANALYSIS REPORT

Sample Rating Trend



Area  
**HAPL CRANES**  
 Machine Id  
**10.1 CRANE - EAST BRIDGE**  
 Component  
**Gearbox**  
 Fluid  
**NOT GIVEN (--- GAL)**

## 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.
- 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>RP0035380</b>	RP0028643	RP0024985
Sample Date	Client Info	<b>13 Jun 2023</b>	07 Jul 2022	20 Apr 2022
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>ABNORMAL</b>	NORMAL	ABNORMAL

## WEAR METALS

method	limit/base	current	history1	history2
PQ	ASTM D8184	<b>26</b>	22	23
Iron	ppm ASTM D5185m >200	<b>16</b>	10	16
Chromium	ppm ASTM D5185m >15	<b>&lt;1</b>	0	<1
Nickel	ppm ASTM D5185m >15	<b>&lt;1</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>1</b>	1	3
Lead	ppm ASTM D5185m >100	<b>0</b>	0	<1
Copper	ppm ASTM D5185m >200	<b>&lt;1</b>	<1	<1
Tin	ppm ASTM D5185m >25	<b>0</b>	0	<1
Antimony	ppm ASTM D5185m >5	<b>---</b>	---	---
Vanadium	ppm ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm ASTM D5185m	<b>0</b>	0	<1

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m	<b>&lt;1</b>	7	2
Barium	ppm ASTM D5185m	<b>3</b>	0	0
Molybdenum	ppm ASTM D5185m	<b>0</b>	0	<1
Manganese	ppm ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm ASTM D5185m	<b>54</b>	23	63
Calcium	ppm ASTM D5185m	<b>10</b>	5	9
Phosphorus	ppm ASTM D5185m	<b>339</b>	210	405
Zinc	ppm ASTM D5185m	<b>9</b>	40	5

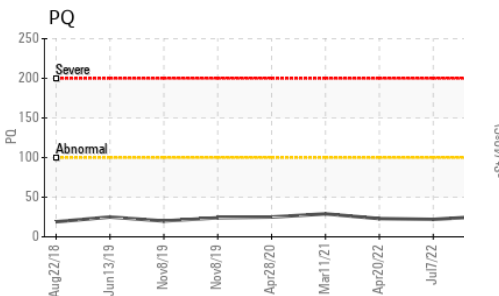
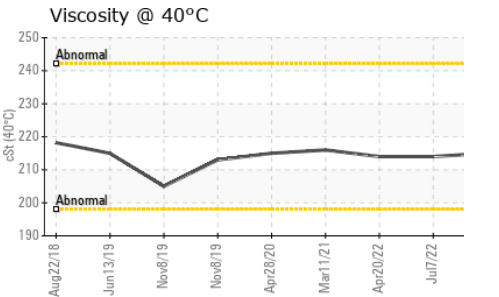
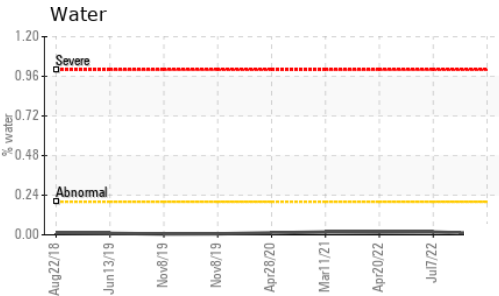
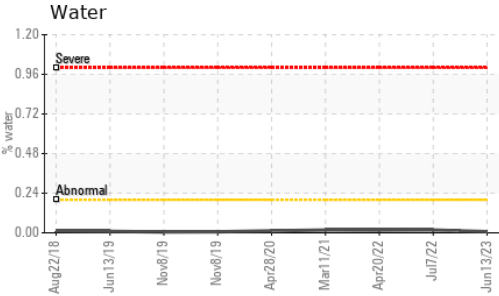
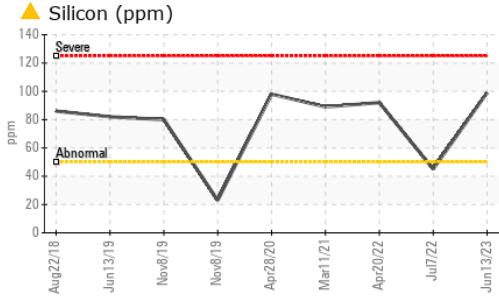
## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >50	<b>▲ 99</b>	45	▲ 92
Sodium	ppm ASTM D5185m	<b>8</b>	6	8
Potassium	ppm ASTM D5185m >20	<b>2</b>	0	2
Water	% ASTM D6304 >0.2	<b>0.007</b>	0.017	0.015
ppm Water	ppm ASTM D6304 >2000	<b>72.5</b>	178.2	150.5

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D8045	<b>0.68</b>	0.47	0.67

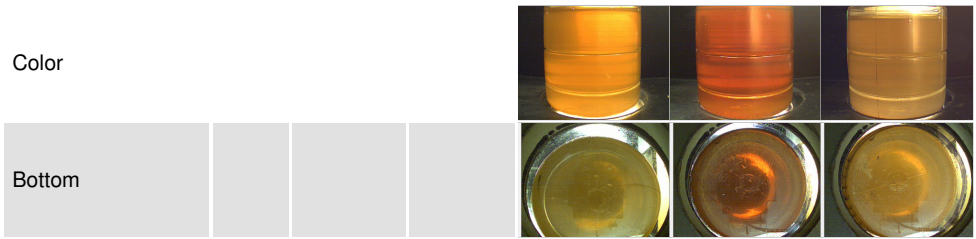
# OIL ANALYSIS REPORT



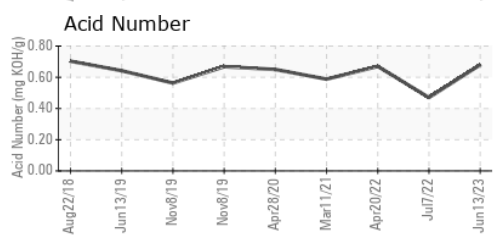
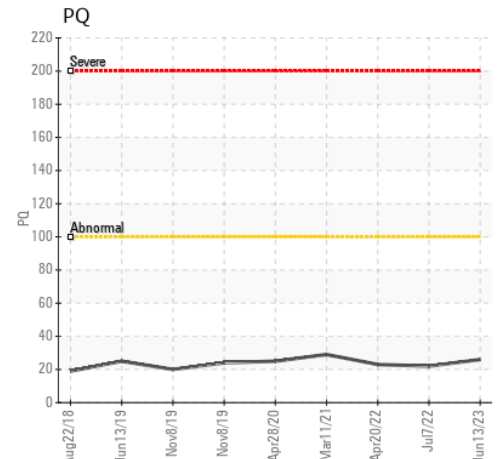
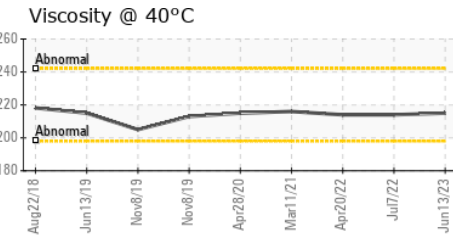
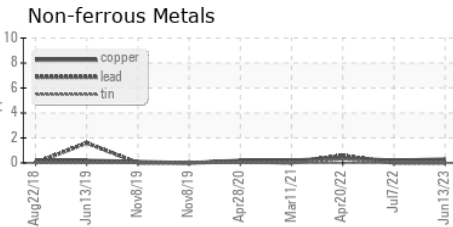
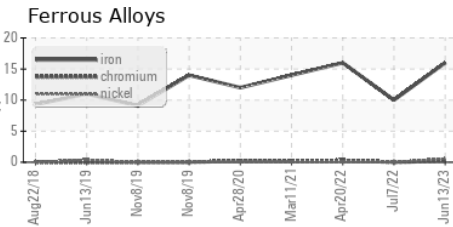
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	215	214	214

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



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RP0035380 **Received** : 14 Jun 2023  
**Lab Number** : 05873925 **Diagnosed** : 16 Jun 2023  
**Unique Number** : 10519028 **Diagnostician** : Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: PQ )

**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)