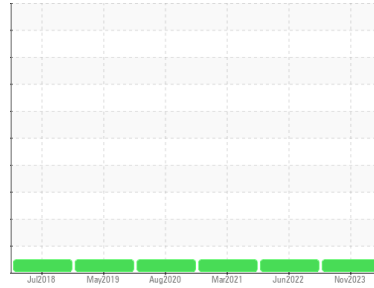




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Area  
**SPM CRANES**  
 Machine Id  
**SPM-10.3 SOUTHWEST BRIDGE**  
 Component  
**Gearbox**  
 Fluid  
**GEAR OIL ISO 220 (--- QTS)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

The water content is negligible. 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>RP0037994</b>	RP0026549	RP0014487
Sample Date	Client Info		<b>16 Nov 2023</b>	23 Jun 2022	22 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>NORMAL</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184		<b>9</b>	21	18
Iron	ppm	ASTM D5185m >200	<b>31</b>	31	24
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>0</b>	0	0
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>0</b>	<1	0
Lead	ppm	ASTM D5185m >100	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m >200	<b>0</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>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 50	<b>2</b>	5	4
Barium	ppm	ASTM D5185m 15	<b>1</b>	<1	2
Molybdenum	ppm	ASTM D5185m 15	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 50	<b>&lt;1</b>	<1	1
Calcium	ppm	ASTM D5185m 50	<b>16</b>	3	13
Phosphorus	ppm	ASTM D5185m 350	<b>234</b>	253	224
Zinc	ppm	ASTM D5185m 100	<b>0</b>	6	0

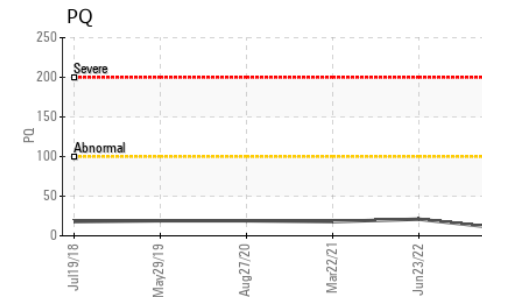
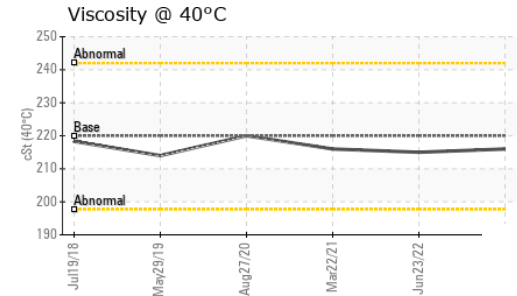
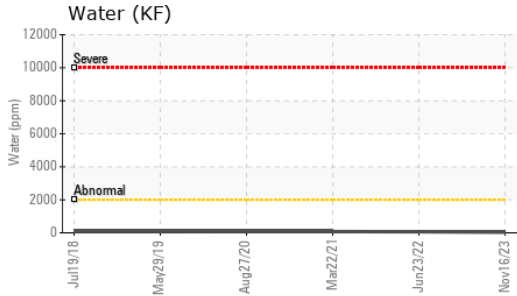
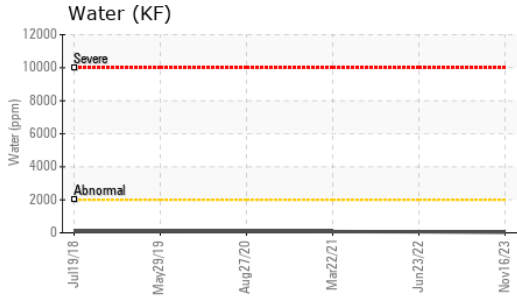
## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>35</b>	28	25
Sodium	ppm	ASTM D5185m	<b>0</b>	0	0
Potassium	ppm	ASTM D5185m >20	<b>0</b>	<1	<1
Water	%	ASTM D6304 >0.2	<b>0.003</b>	0.006	0.007
ppm Water	ppm	ASTM D6304 >2000	<b>32.7</b>	63.8	74.8

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 0.85	<b>0.60</b>	0.65	0.582

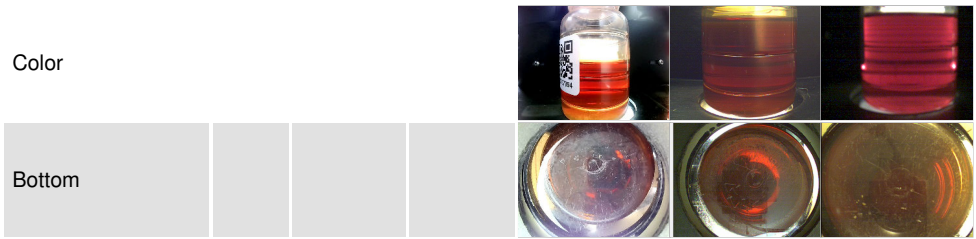
# OIL ANALYSIS REPORT



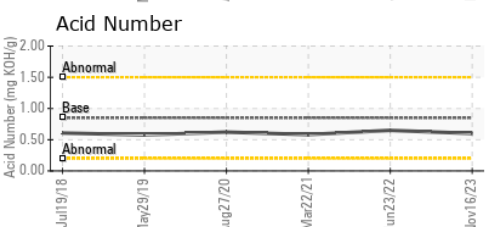
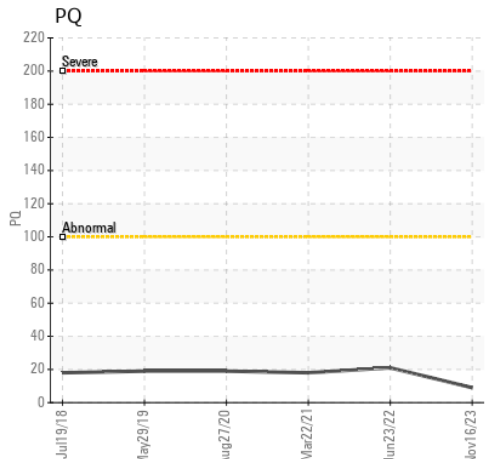
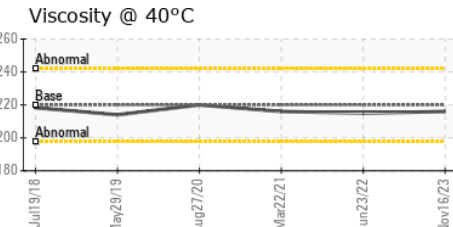
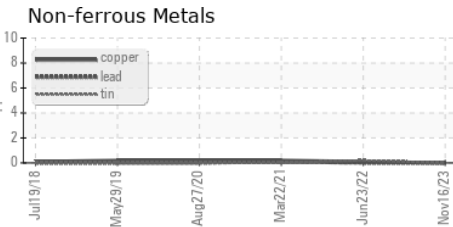
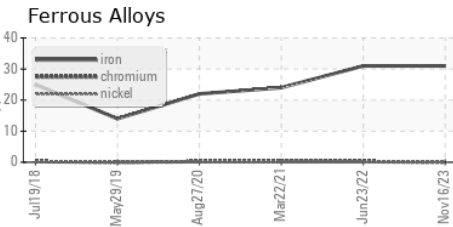
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	216	215	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.** : RP0037994 **Received** : 17 Nov 2023  
**Lab Number** : 06010971 **Diagnosed** : 28 Nov 2023  
**Unique Number** : 10750115 **Diagnostician** : Doug Bogart  
**Test Package** : IND 2 ( Additional Tests: PQ )

**OUTOKUMPU STAINLESS USA**  
 HWY 43 N  
 CALVERT, AL  
 US 36513  
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 Mario.johnson@outokumpu.com  
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 F: x:

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)