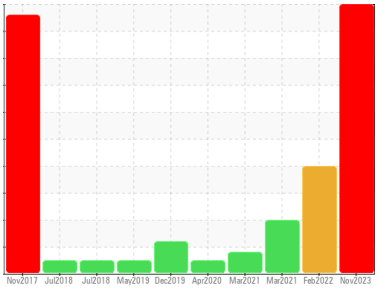
PROBLEM SUMMARY

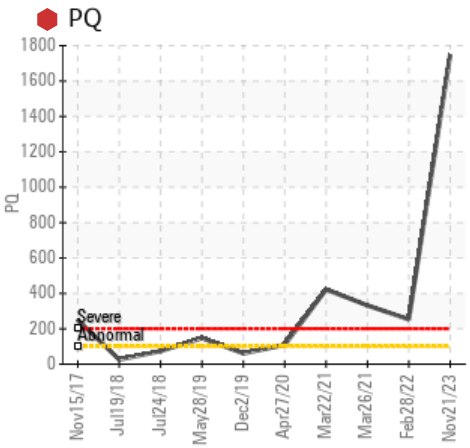
Sample Rating Trend

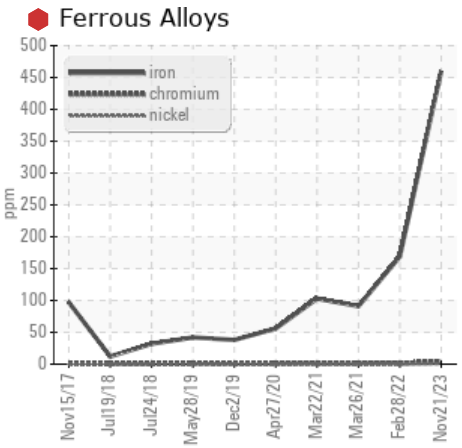


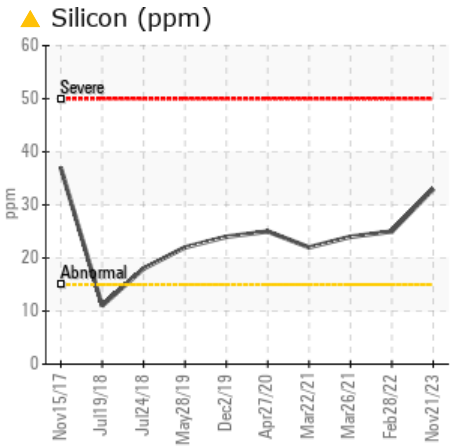
WEAR

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

COMPONENT CONDITION SUMMARY







RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. 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				SEVERE	ABNORMAL	ABNORMAL
PQ		ASTM D8184		**1748**	253	332
Iron	ppm	ASTM D5185m	>20	**460**	169	91
Silicon	ppm	ASTM D5185m	>15	**33**	25	24
White Metal	scalar	*Visual	NONE	**HEAVY**	MODER	HEAVY

Customer Id: OUTCALAL
Sample No.: RP0038031
Lab Number: 06015796
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

To change component or sample information:
Customer Service +1 1-800-237-1369
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.
Change Fluid	---	---	?	We recommend that you drain the oil from the component if this has not already been done.
Resample	---	---	?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

28 Feb 2022 Diag: Jonathan Hester

WEAR

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. Moderate concentration of visible metal present. The high ferrous density (PQ) index indicates that abnormal wear is occurring. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid.

view report

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 Baldridge

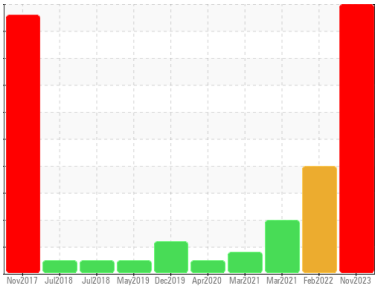
WEAR

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

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 recommend that you drain the oil from the component if this has not already been done. 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 severe. High concentration of visible metal present. The very high ferrous density (PQ) index indicates that severe wear is occurring.

Contamination

Elemental level of silicon (Si) above normal indicating ingress of seal material.

Fluid Condition

The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**RP0038031**	RP0022777	RP0015672
Sample Date		Client Info		**21 Nov 2023**	28 Feb 2022	26 Mar 2021
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**SEVERE**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		**1748**	253	332
Iron	ppm	ASTM D5185m	>20	**460**	169	91
Chromium	ppm	ASTM D5185m	>20	**4**	2	<1
Nickel	ppm	ASTM D5185m	>20	**<1**	0	0
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m		**0**	0	<1
Aluminum	ppm	ASTM D5185m	>20	**0**	0	<1
Lead	ppm	ASTM D5185m	>20	**0**	0	0
Copper	ppm	ASTM D5185m	>20	**3**	2	2
Tin	ppm	ASTM D5185m	>20	**0**	0	0
Antimony	ppm	ASTM D5185m		**---**	0	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

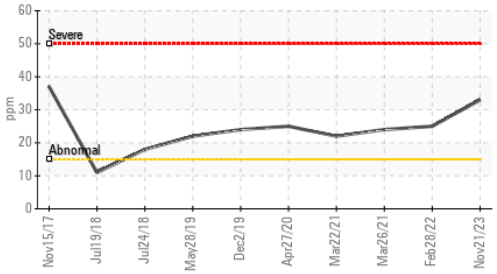
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**8**	14	19
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**0**	<1	<1
Manganese	ppm	ASTM D5185m		**4**	2	<1
Magnesium	ppm	ASTM D5185m		**0**	1	0
Calcium	ppm	ASTM D5185m		**8**	33	13
Phosphorus	ppm	ASTM D5185m		**172**	192	191
Zinc	ppm	ASTM D5185m		**2**	4	5

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**33**	25	24
Sodium	ppm	ASTM D5185m		**<1**	0	0
Potassium	ppm	ASTM D5185m	>20	**0**	<1	0
Water	%	ASTM D6304	>0.05	**0.007**	0.003	0.009
ppm Water	ppm	ASTM D6304	>500	**75**	30.3	93.7

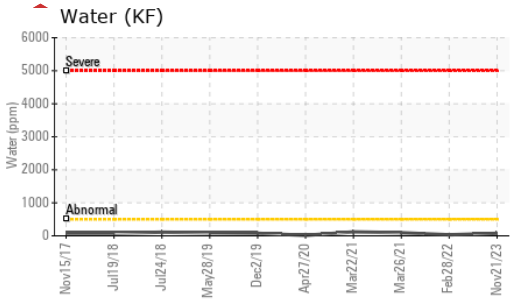
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.38**	0.48	0.435

OIL ANALYSIS REPORT

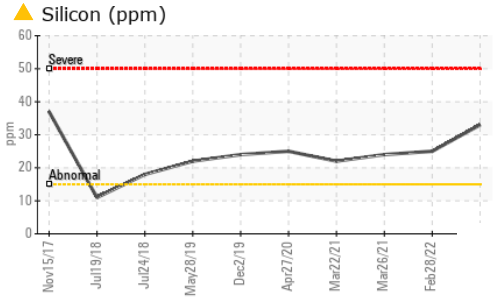
Silicon (ppm)



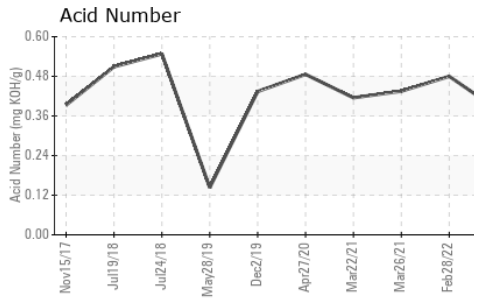
Water (KF)



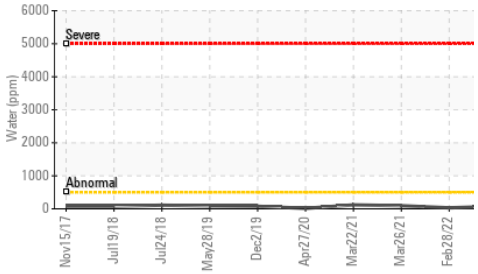
Silicon (ppm)



Acid Number

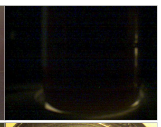
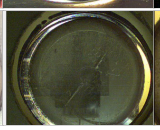
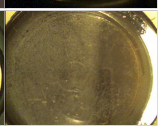


Water (KF)



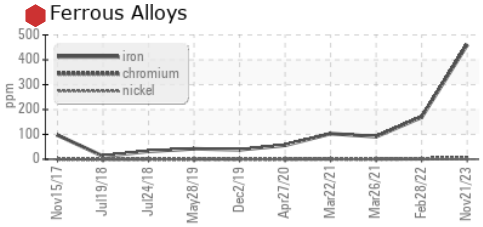
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	▲ **HEAVY**	▲ MODER	▲ HEAVY
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE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

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

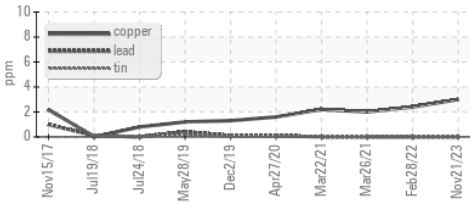
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

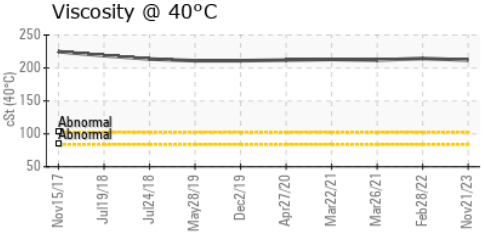
Ferrous Alloys



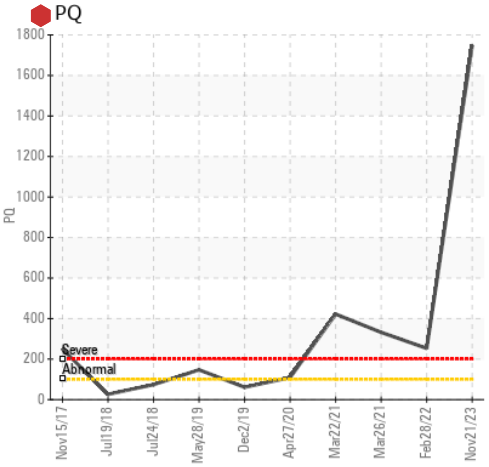
Non-ferrous Metals



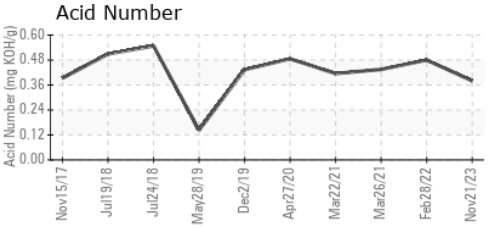
Viscosity @ 40°C



PQ



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0038031 **Received** : 22 Nov 2023
Lab Number : 06015796 **Diagnosed** : 27 Nov 2023
Unique Number : 10754940 **Diagnostician** : Jonathan Hester
Test Package : IND 2 (Additional Tests: PQ)

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)

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Report Id: OUTCALAL [WUSCAR] 06015796 (Generated: 11/27/2023 19:06:49) Rev: 1

Submitted By: DALE ROBINSON