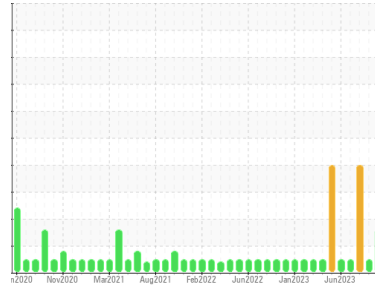


# PROBLEM SUMMARY

Sample Rating Trend

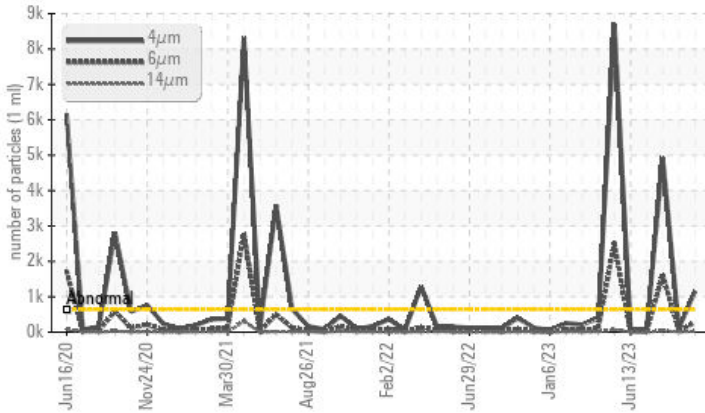
ISO

Area  
**CRM64 - HYDRAULIC**  
Machine Id  
**CRM 64 HIGH PRESSURE (S/N 16-2300-1020)**  
Component  
**Hydraulic System**  
Fluid  
**AW HYDRAULIC OIL ISO 46 (265 GAL)**



## COMPONENT CONDITION SUMMARY

### ▲ Particle Trend



## RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

## PROBLEMATIC TEST RESULTS

Sample Status			ATTENTION	NORMAL	SEVERE
Particles >4µm	ASTM D7647	>640	▲ 1155	110	▲ 4929
Particles >6µm	ASTM D7647	>160	▲ 272	39	● 1625
Particles >14µm	ASTM D7647	>20	▲ 23	7	▲ 39
Oil Cleanliness	ISO 4406 (c)	>16/14/11	▲ 17/15/12	14/12/10	● 19/18/12

Customer Id: OUTCALAL  
Sample No.: RP0039133  
Lab Number: 06011493  
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
Wes Davis +1 905-569-8600 x223  
[wesd@wearcheck.ca](mailto:wesd@wearcheck.ca)

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
Change Filter	---	---	?	We recommend you service the filters on this component.
Information Required	---	---	?	Please specify the brand, type, and viscosity of the oil on your next sample.

## HISTORICAL DIAGNOSIS

### 29 Sep 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



### 29 Aug 2023 Diag: Wes Davis

ISO



Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation. Please specify the brand, type, and viscosity of the oil on your next sample. All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report



### 07 Jul 2023 Diag: Wes Davis

NORMAL



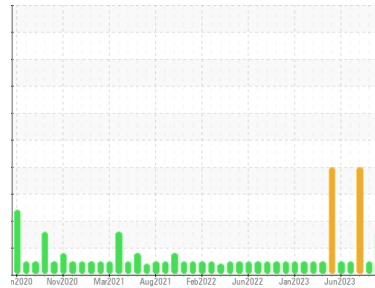
Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow 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 system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable. 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



ISO



Area  
**CRM64 - HYDRAULIC**  
Machine Id  
**CRM 64 HIGH PRESSURE (S/N 16-2300-1020)**  
Component  
**Hydraulic System**  
Fluid  
**AW HYDRAULIC OIL ISO 46 (265 GAL)**

## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

### Wear

All component wear rates are normal.

### Contamination

There is a light amount of silt (particulates < 14 microns in size) present in the oil. 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>RP0039133</b>	RP0038590	RP0035566
Sample Date	Client Info	<b>16 Nov 2023</b>	29 Sep 2023	29 Aug 2023
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>ATTENTION</b>	NORMAL	SEVERE

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >20	<b>1</b>	<1	0
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	0
Nickel	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>0</b>	0	<1
Lead	ppm	ASTM D5185m >20	<b>0</b>	0	0
Copper	ppm	ASTM D5185m >20	<b>2</b>	1	<1
Tin	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 5	<b>0</b>	0	0
Barium	ppm	ASTM D5185m 5	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 5	<b>&lt;1</b>	0	0
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m 25	<b>0</b>	<1	0
Calcium	ppm	ASTM D5185m 200	<b>0</b>	39	38
Phosphorus	ppm	ASTM D5185m 300	<b>281</b>	336	335
Zinc	ppm	ASTM D5185m 370	<b>375</b>	452	405

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >15	<b>3</b>	2	2
Sodium	ppm	ASTM D5185m	<b>&lt;1</b>	0	<1
Potassium	ppm	ASTM D5185m >20	<b>0</b>	<1	0
Water	%	ASTM D6304 >0.05	<b>0.006</b>	0.004	0.001
ppm Water	ppm	ASTM D6304 >500	<b>67.5</b>	48.4	14.1

## FLUID CLEANLINESS

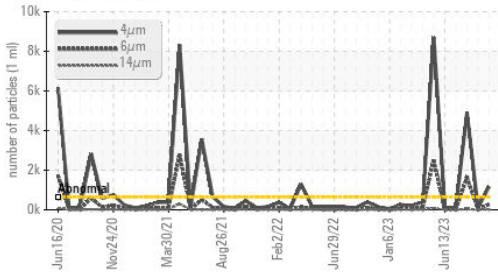
method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >640	<b>▲ 1155</b>	110	▲ 4929
Particles >6µm	ASTM D7647 >160	<b>▲ 272</b>	39	■ 1625
Particles >14µm	ASTM D7647 >20	<b>▲ 23</b>	7	▲ 39
Particles >21µm	ASTM D7647 >4	<b>6</b>	2	▲ 9
Particles >38µm	ASTM D7647 >3	<b>0</b>	0	0
Particles >71µm	ASTM D7647 >3	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c) >16/14/11	<b>▲ 17/15/12</b>	14/12/10	■ 19/18/12

## FLUID DEGRADATION

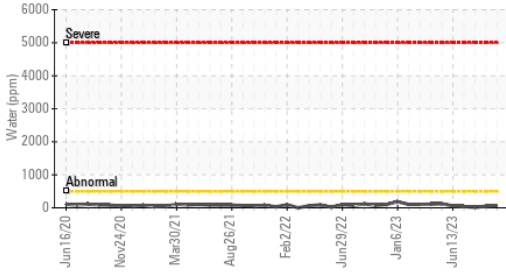
method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045 0.57	<b>0.26</b>	0.32	0.33

# OIL ANALYSIS REPORT

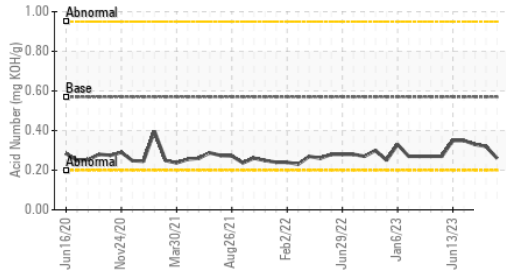
## ▲ Particle Trend



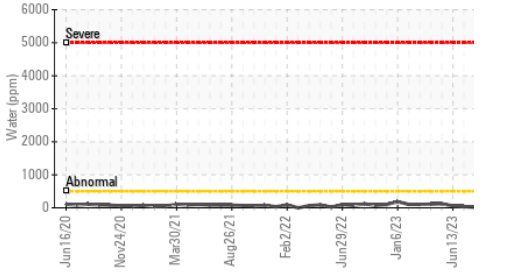
## Water (KF)



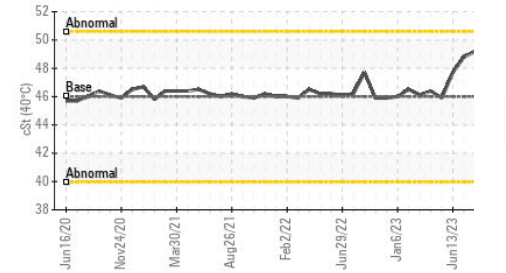
## Acid Number



## Water (KF)



## Viscosity @ 40°C

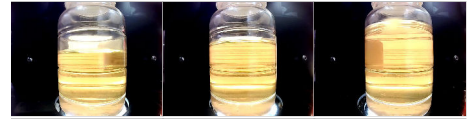


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

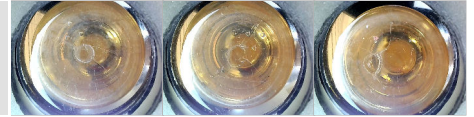
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 46	49.4	49.2	49.2

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color

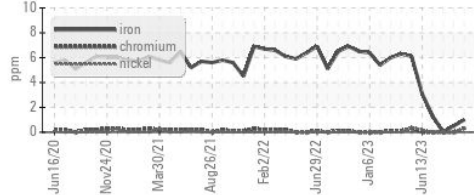


Bottom

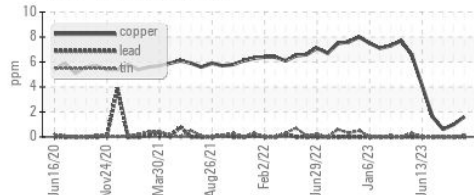


## GRAPHS

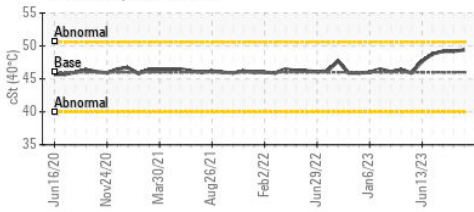
### Ferrous Alloys



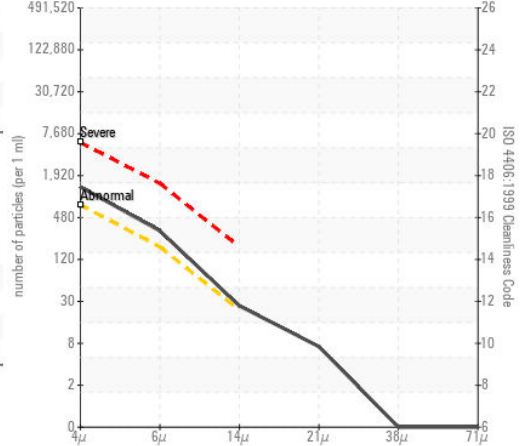
### Non-ferrous Metals



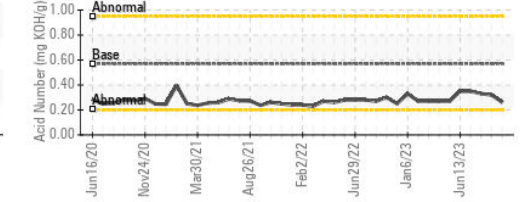
### Viscosity @ 40°C



### ▲ Particle Count



### Acid Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RP0039133 **Received** : 17 Nov 2023  
**Lab Number** : 06011493 **Diagnosed** : 20 Nov 2023  
**Unique Number** : 10750637 **Diagnostician** : Wes Davis  
**Test Package** : IND 2

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