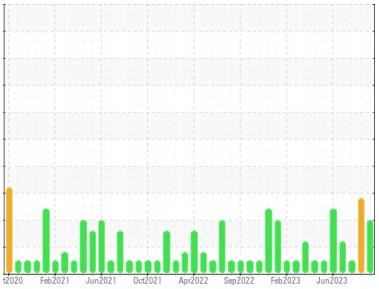
PROBLEM SUMMARY

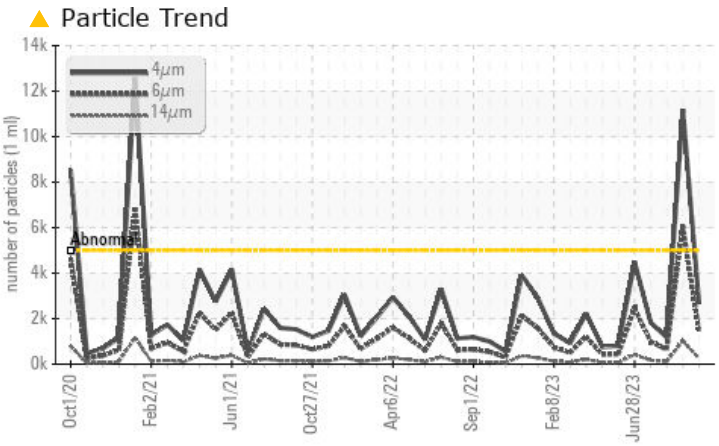
Sample Rating Trend



ISO

Area
MELT SHOP - HYDRAULIC
Machine Id
MELT SHOP EAF-DE-SLAG HYDRAULIC UNIT (S/N 15-2000-0770)
Component
Tank Hydraulic System
Fluid
FIRE-RESISTANT FLUID ISO 46 (200 GAL)

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				ATTENTION	ABNORMAL	NORMAL
Particles >6µm		ASTM D7647	>1300	▲ **1450**	▲ 6090	640
Particles >14µm		ASTM D7647	>160	▲ **247**	▲ 1036	109
Particles >21µm		ASTM D7647	>40	▲ **83**	▲ 349	37
Particles >38µm		ASTM D7647	>10	▲ **13**	▲ 54	6
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **19/18/15**	▲ 21/20/17	17/16/14

Customer Id: OUTCALAL
Sample No.: RP0035337
Lab Number: 06028746
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

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

07 Nov 2023 Diag: Jonathan Hester

ISO

We recommend you service the filters on this component. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of particulates present in the oil. The pH level of this fluid is within the acceptable limits. pH is 11.0.

view report

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27 Sep 2023 Diag: Doug Bogart

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The pH level of this fluid is within the acceptable limits at 11.0. The condition of the oil is acceptable for the time in service.

view report

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26 Jul 2023 Diag: Jonathan Hester

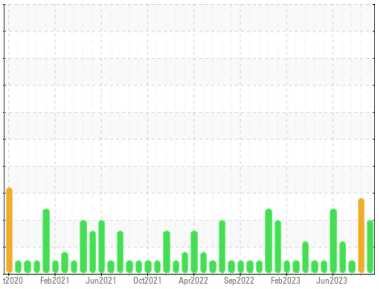
ISO

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. There is a moderate amount of particulates present in the oil. The pH level of this fluid is within the acceptable limits at 11.0. The condition of the oil is acceptable for the time in service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
MELT SHOP - HYDRAULIC
Machine Id
MELT SHOP EAF-DE-SLAG HYDRAULIC UNIT (S/N 15-2000-0770)
Component
Tank Hydraulic System
Fluid
FIRE-RESISTANT FLUID ISO 46 (200 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

There is a moderate amount of particulates present in the oil.

Fluid Condition

The pH level of this fluid is within the acceptable limits @ 9.0. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**RP0035337**	RP0035328	RP0035499
Sample Date		Client Info		**06 Dec 2023**	07 Nov 2023	27 Sep 2023
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				**ATTENTION**	ABNORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**0**	0	0
Chromium	ppm	ASTM D5185m	>20	**0**	0	0
Nickel	ppm	ASTM D5185m	>20	**<1**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	<1	0
Aluminum	ppm	ASTM D5185m	>20	**<1**	0	0
Lead	ppm	ASTM D5185m	>20	**0**	0	0
Copper	ppm	ASTM D5185m	>20	**<1**	1	0
Tin	ppm	ASTM D5185m	>20	**0**	0	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	1	0

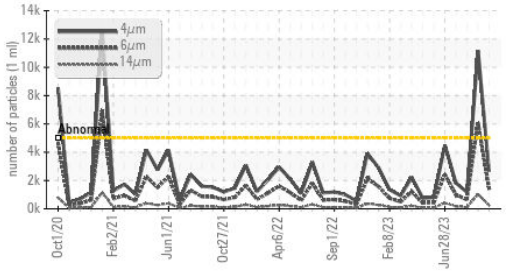
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	5	**0**	0	0
Barium	ppm	ASTM D5185m	5	**0**	0	0
Molybdenum	ppm	ASTM D5185m	5	**0**	0	0
Manganese	ppm	ASTM D5185m		**<1**	<1	0
Magnesium	ppm	ASTM D5185m	5	**<1**	0	3
Calcium	ppm	ASTM D5185m	50	**0**	0	2
Phosphorus	ppm	ASTM D5185m	175	**2**	0	4
Zinc	ppm	ASTM D5185m	62	**0**	0	9

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**<1**	<1	0
Sodium	ppm	ASTM D5185m		**<1**	0	0
Potassium	ppm	ASTM D5185m	>20	**<1**	1	0
Water	%	ASTM D6304	>55	**35.4**	36.0	33.4
ppm Water	ppm	ASTM D6304	>55000	**354000**	360000	334000

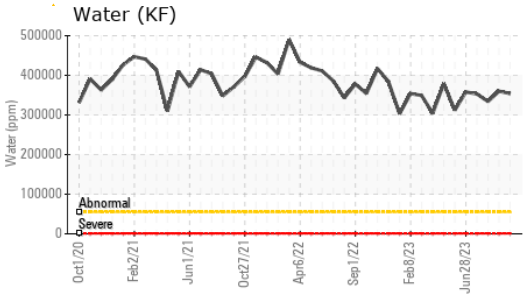
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	**2662**	▲ 11179	1174
Particles >6µm	ASTM D7647	>1300	▲ **1450**	▲ 6090	640
Particles >14µm	ASTM D7647	>160	▲ **247**	▲ 1036	109
Particles >21µm	ASTM D7647	>40	▲ **83**	▲ 349	37
Particles >38µm	ASTM D7647	>10	▲ **13**	▲ 54	6
Particles >71µm	ASTM D7647	>3	**1**	▲ 6	1
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ **19/18/15**	▲ 21/20/17	17/16/14

OIL ANALYSIS REPORT

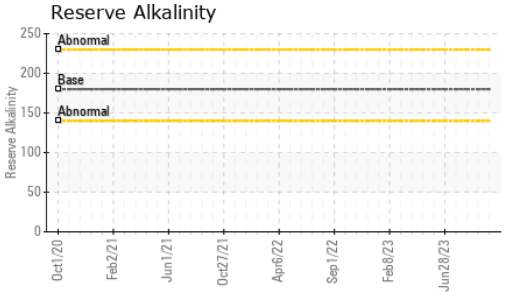
Particle Trend



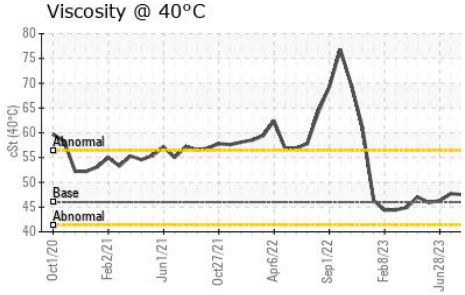
Water (KF)



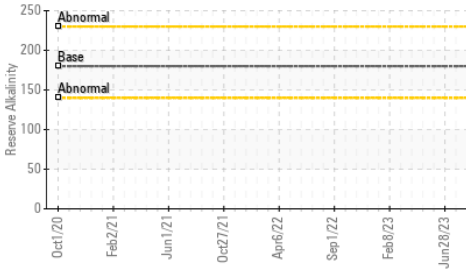
Reserve Alkalinity



Viscosity @ 40°C



Reserve Alkalinity



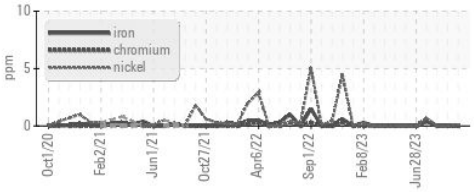
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>55	**0.2%**	0.2%	0.2%
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
pH	Scale 0-14	ASTM D1287		**9.0**	11.0	11.0
Visc @ 40°C	cSt	ASTM D445	46	**51.3**	49.8	47.5

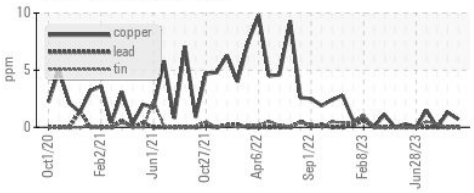
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

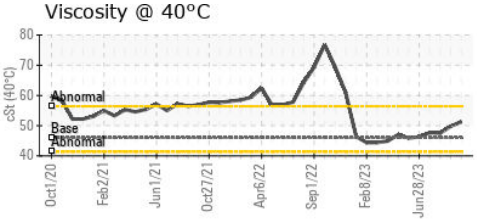
Ferrous Alloys



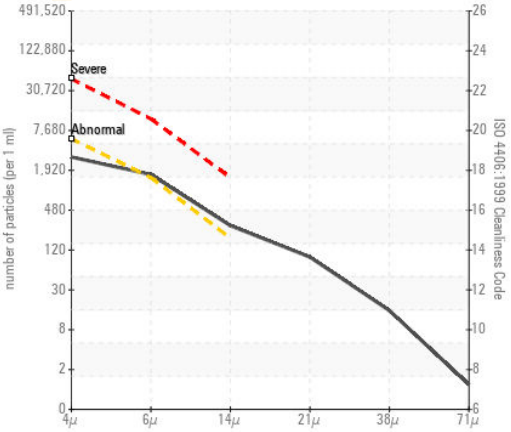
Non-ferrous Metals



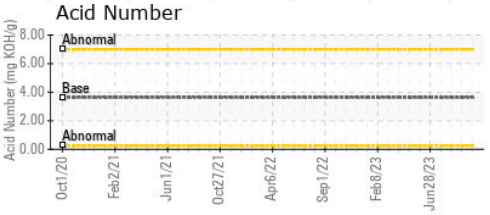
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0035337 **Received** : 07 Dec 2023
Lab Number : 06028746 **Diagnosed** : 13 Dec 2023
Unique Number : 10778537 **Diagnostician** : Jonathan Hester
Test Package : IND 2 (Additional Tests: pH, ReserveAlk)

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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US 36513
Contact: MARIO JOHNSON
Mario.johnson@outokumpu.com
T: (251)321-4105
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Report Id: OUTCALAL [WUSCAR] 06028746 (Generated: 12/13/2023 10:10:35) Rev: 1

Submitted By: DALE ROBINSON