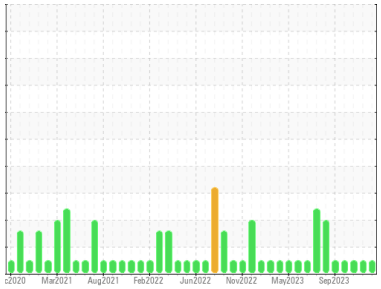
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Area
MELT SHOP - HYDRAULIC
Machine Id
MELT SHOP LADLE WALL SLIDE GATE HYDRAULIC UNIT (S/N 15-3000-0470)
Component
Hydraulic System
Fluid
FIRE-RESISTANT FLUID ISO 46 (66 GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Fluid Condition
The pH level of this fluid is within the acceptable limits at 10.0. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**RP0039325**	RP0038546	RP0038070
Sample Date		Client Info		**31 Jan 2024**	04 Jan 2024	06 Dec 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				**NORMAL**	NORMAL	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	<1
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**<1**	0	0
Aluminum	ppm	ASTM D5185m	>20	**<1**	0	<1
Lead	ppm	ASTM D5185m	>20	**2**	0	0
Copper	ppm	ASTM D5185m	>20	**2**	0	<1
Tin	ppm	ASTM D5185m	>20	**1**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

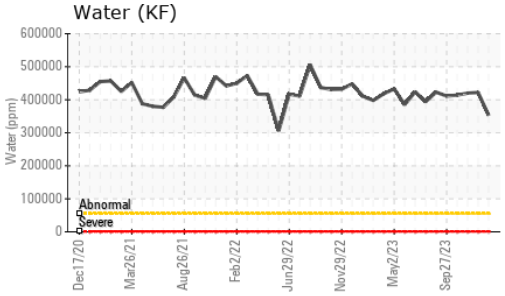
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	5	**0**	0	0
Barium	ppm	ASTM D5185m	5	**0**	0	0
Molybdenum	ppm	ASTM D5185m	5	**<1**	0	0
Manganese	ppm	ASTM D5185m		**2**	0	0
Magnesium	ppm	ASTM D5185m	5	**1**	0	<1
Calcium	ppm	ASTM D5185m	50	**1**	0	0
Phosphorus	ppm	ASTM D5185m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

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**<1**	0	<1
Sodium	ppm	ASTM D5185m		**2**	0	<1
Potassium	ppm	ASTM D5185m	>20	**3**	0	1
Water	%	ASTM D6304	>55	**35.3**	42.2	42.0
ppm Water	ppm	ASTM D6304	>55000	**353000**	422000	420000

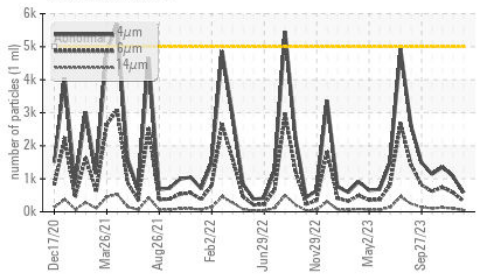
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	**583**	1070	1357
Particles >6µm	ASTM D7647	>1300	**317**	583	739
Particles >14µm	ASTM D7647	>160	**54**	99	126
Particles >21µm	ASTM D7647	>40	**18**	33	42
Particles >38µm	ASTM D7647	>10	**3**	5	7
Particles >71µm	ASTM D7647	>3	**0**	1	1
Oil Cleanliness	ISO 4406 (c)	>19/17/14	**16/15/13**	17/16/14	18/17/14

OIL ANALYSIS REPORT

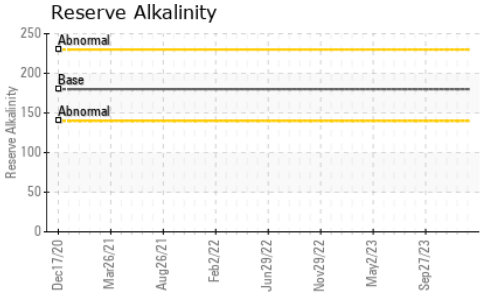
Water (KF)



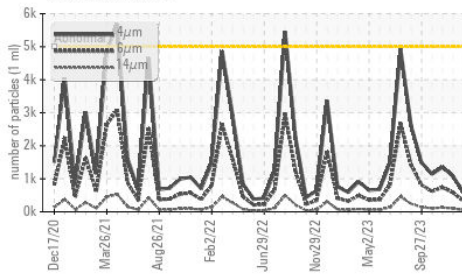
Particle Trend



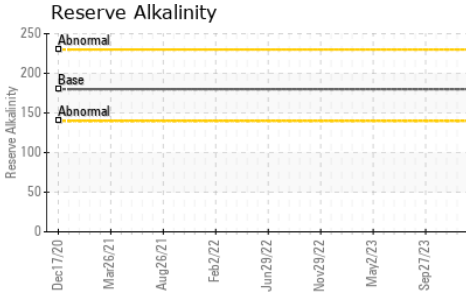
Reserve Alkalinity



Particle Trend

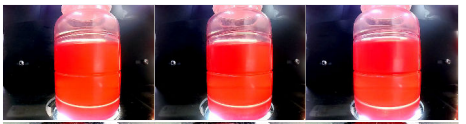
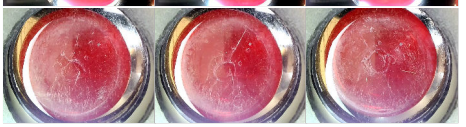


Reserve Alkalinity



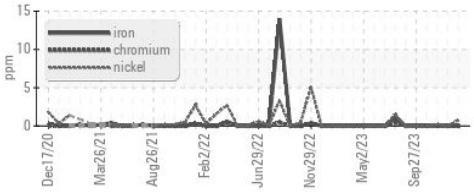
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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		**10.0**	9.00	9.0
Visc @ 40°C	cSt	ASTM D445	46	**47.8**	46.7	47.3

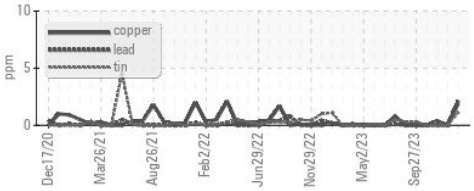
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

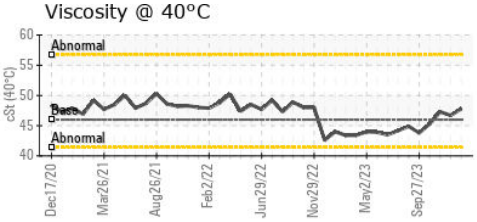
Ferrous Alloys



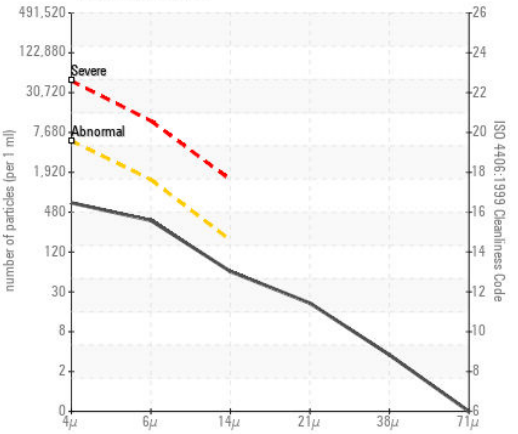
Non-ferrous Metals



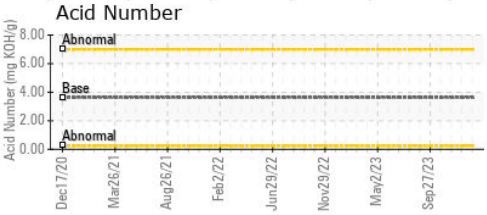
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0039325 **Received** : 01 Feb 2024
Lab Number : 06077755 **Tested** : 07 Feb 2024
Unique Number : 10859846 **Diagnosed** : 07 Feb 2024 - Doug Bogart
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)

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

Report Id: OUTCALAL [WUSCAR] 06077755 (Generated: 02/07/2024 14:41:01) Rev: 1

Submitted By: DALE ROBINSON