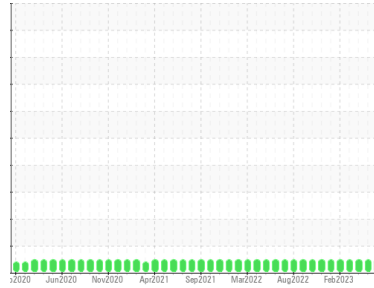




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
MELT SHOP - CRANES
 Machine Id
UPPER HYD UNIT E-CRANE
 Component
Hydraulic System
 Fluid
AW HYDRAULIC OIL ISO 46 (--- GAL)

DIAGNOSIS

Recommendation

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.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable.

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			RP0035171	RP0034588	RP0031240
Sample Date	Client Info			31 May 2023	02 May 2023	30 Mar 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	3	1	4
Chromium	ppm	ASTM D5185m	>20	1	0	<1
Nickel	ppm	ASTM D5185m	>20	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	6	0
Lead	ppm	ASTM D5185m	>20	0	0	0
Copper	ppm	ASTM D5185m	>20	<1	0	1
Tin	ppm	ASTM D5185m	>20	<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

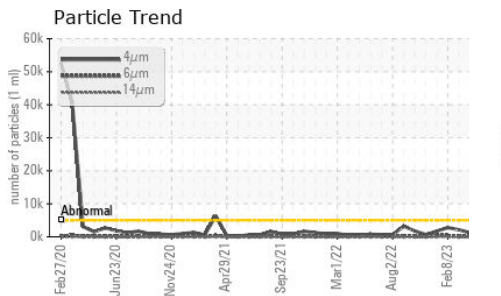
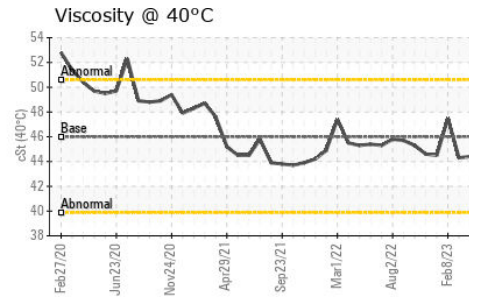
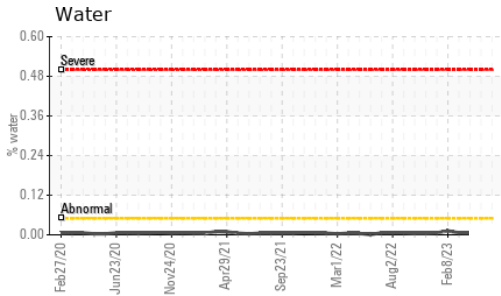
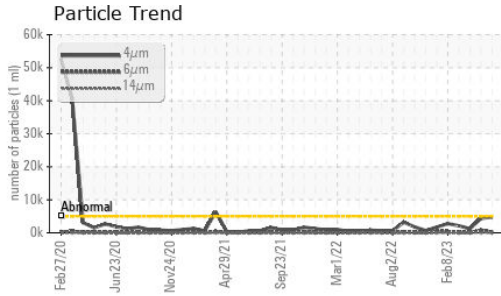
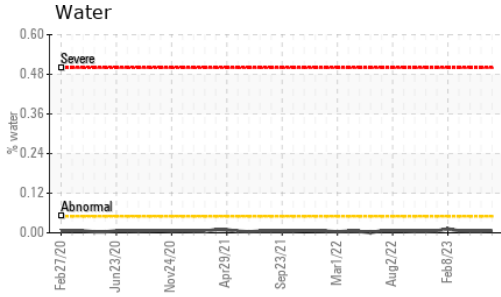
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	5	0	0	0
Barium	ppm	ASTM D5185m	5	0	0	0
Molybdenum	ppm	ASTM D5185m	5	<1	0	<1
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m	25	1	4	2
Calcium	ppm	ASTM D5185m	200	53	48	56
Phosphorus	ppm	ASTM D5185m	300	356	343	369
Zinc	ppm	ASTM D5185m	370	450	433	440

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	1	<1	4
Sodium	ppm	ASTM D5185m		1	0	<1
Potassium	ppm	ASTM D5185m	>20	2	0	0
Water	%	ASTM D6304	>0.05	0.006	0.005	0.005
ppm Water	ppm	ASTM D6304	>500	60.2	56.1	59.3

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	4741	4387	1231
Particles >6µm		ASTM D7647	>1300	145	824	40
Particles >14µm		ASTM D7647	>160	6	54	8
Particles >21µm		ASTM D7647	>40	1	19	4
Particles >38µm		ASTM D7647	>10	0	1	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	19/14/10	19/17/13	17/12/10

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	0.34	0.37	0.36

OIL ANALYSIS REPORT



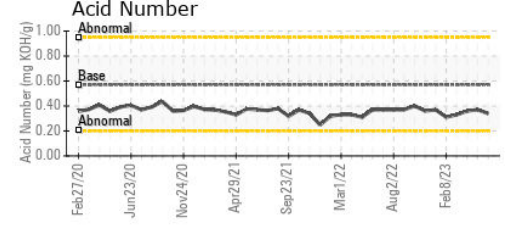
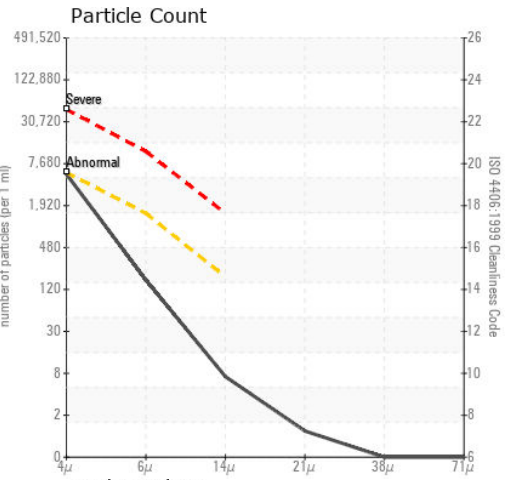
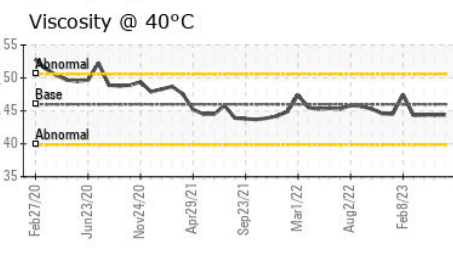
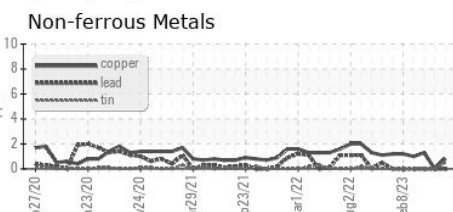
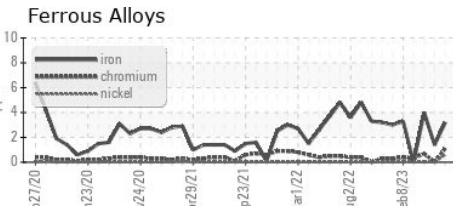
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	44.4	44.4

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0035171 **Received** : 02 Jun 2023
Lab Number : 05862986 **Diagnosed** : 05 Jun 2023
Unique Number : 10497451 **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:

Certificate L2367
 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)