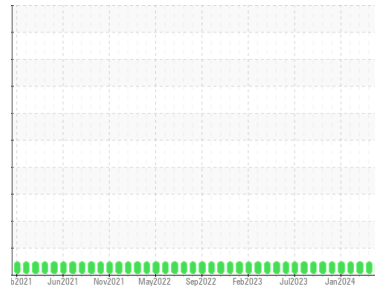




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area

## HAPL - HYDRAULIC

Machine Id

### HAPL SCALE BREAKER HYDRAULIC UNIT (S/N 16-1100-1310)

Component

Hydraulic System

Fluid

SAE 10W (--- QTS)

#### DIAGNOSIS

##### Recommendation

Resample at the next service interval to monitor.

##### Wear

All component wear rates are normal.

##### Contamination

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

##### 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>RP0039294</b>	RP0042673	RP0042586
Sample Date	Client Info			<b>08 May 2024</b>	26 Mar 2024	29 Feb 2024
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed	Client Info			<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

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

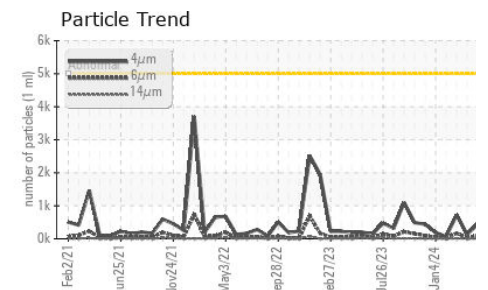
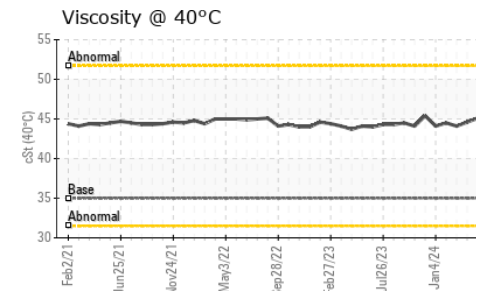
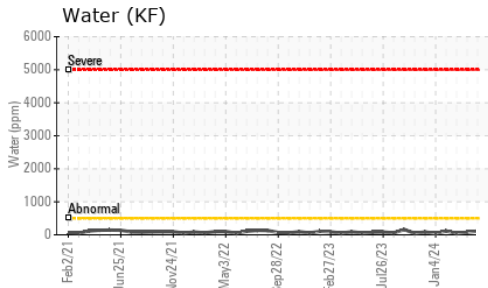
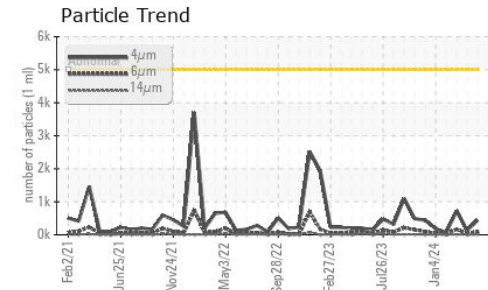
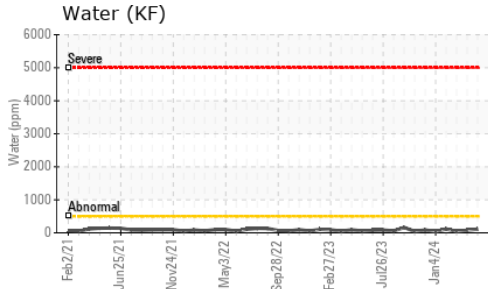
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0	0
Manganese	ppm	ASTM D5185m		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185m		<b>0</b>	1	<1
Calcium	ppm	ASTM D5185m		<b>31</b>	38	32
Phosphorus	ppm	ASTM D5185m		<b>338</b>	326	308
Zinc	ppm	ASTM D5185m		<b>328</b>	344	314

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	<b>2</b>	2	1
Sodium	ppm	ASTM D5185m		<b>2</b>	<1	1
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	1	0
Water	%	ASTM D6304	>0.05	<b>0.011</b>	0.007	0.004
ppm Water	ppm	ASTM D6304	>500	<b>114</b>	78	46

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	<b>445</b>	132	725
Particles >6µm		ASTM D7647	>1300	<b>98</b>	26	172
Particles >14µm		ASTM D7647	>160	<b>9</b>	3	14
Particles >21µm		ASTM D7647	>40	<b>2</b>	0	3
Particles >38µm		ASTM D7647	>10	<b>0</b>	0	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>16/14/10</b>	14/12/9	17/15/11

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.38</b>	0.38	0.36

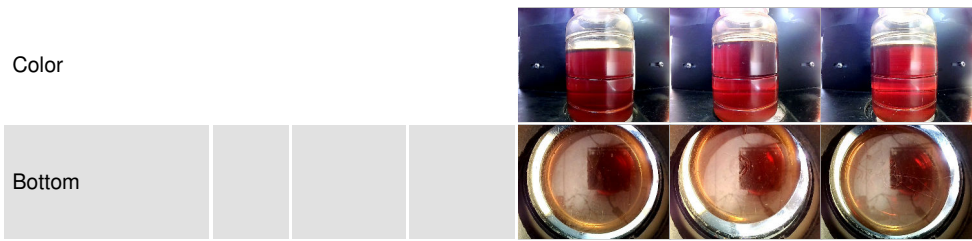
# OIL ANALYSIS REPORT



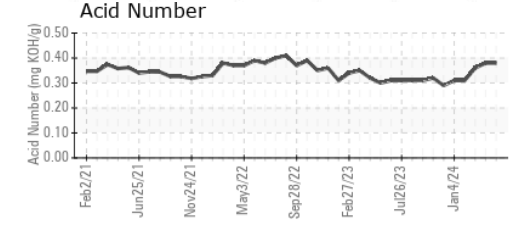
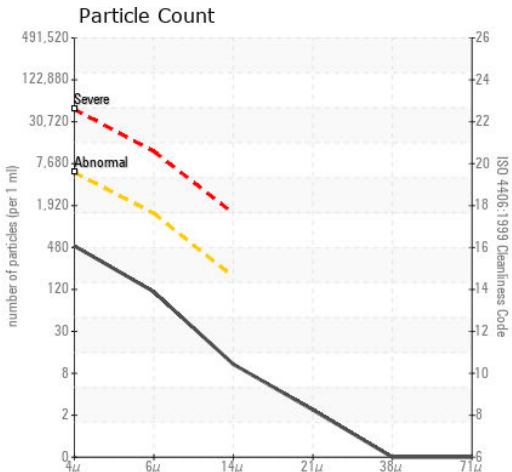
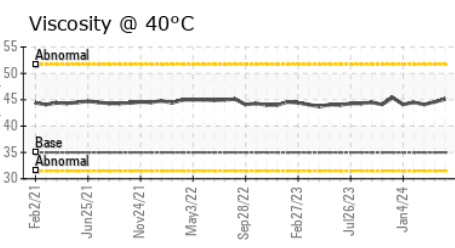
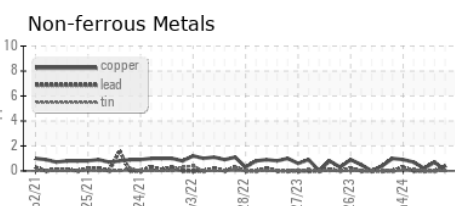
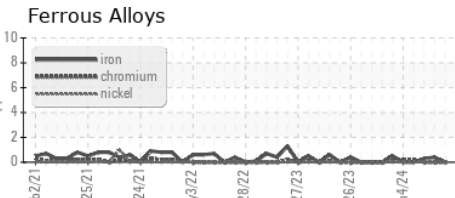
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE
Sand/Dirt	scalar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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	35.0	<b>45.1</b>	44.6

SAMPLE IMAGES	method	limit/base	current	history1	history2
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## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RP0039294  
**Lab Number** : 06174592  
**Unique Number** : 11020645  
**Test Package** : IND 2  
**Received** : 09 May 2024  
**Tested** : 10 May 2024  
**Diagnosed** : 13 May 2024 - Don Baldrige

**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)