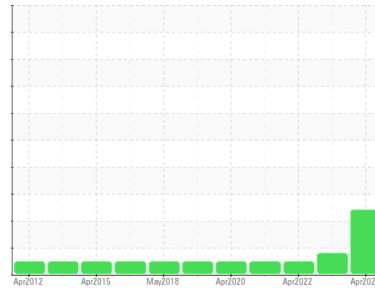




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
[IVY CITY]
 Machine Id
ALSTOM 3302
 Component
Center Hydraulic System
 Fluid
ESSO UNIVIS N 32 (55 GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates present 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		WC0798800	WC0673355	WC0592282
Sample Date	Client Info		14 Apr 2024	15 Apr 2023	16 Apr 2022
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			ABNORMAL	ATTENTION	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.1	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >20	3	1	1
Chromium	ppm	ASTM D5185m >10	0	1	2
Nickel	ppm	ASTM D5185m >10	11	27	25
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	0	0	<1
Aluminum	ppm	ASTM D5185m >10	0	0	<1
Lead	ppm	ASTM D5185m >10	6	10	9
Copper	ppm	ASTM D5185m >75	9	4	6
Tin	ppm	ASTM D5185m >10	0	<1	<1
Antimony	ppm	ASTM D5185m	---	---	---
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 .1	0	0	2
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m .3	0	0	0
Manganese	ppm	ASTM D5185m	0	0	0
Magnesium	ppm	ASTM D5185m 0	<1	<1	0
Calcium	ppm	ASTM D5185m 74	46	51	56
Phosphorus	ppm	ASTM D5185m 266	325	332	362
Zinc	ppm	ASTM D5185m 338	433	440	417
Sulfur	ppm	ASTM D5185m	2392	2804	2601

CONTAMINANTS

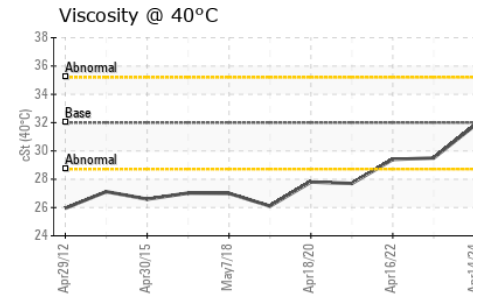
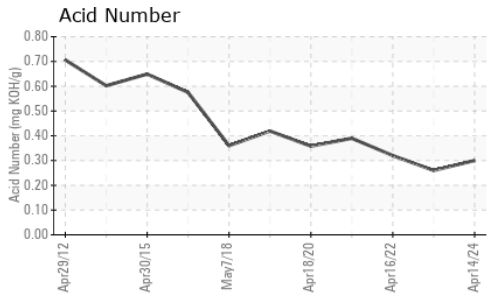
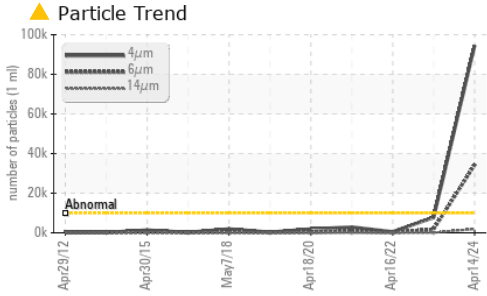
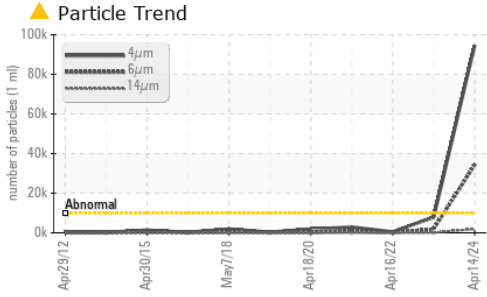
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >20	<1	1	<1
Sodium	ppm	ASTM D5185m	12	<1	1
Potassium	ppm	ASTM D5185m >20	0	0	0

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	▲ 94558	7783	515
Particles >6µm	ASTM D7647	>1300	▲ 34224	● 1851	119
Particles >14µm	ASTM D7647	>160	▲ 1927	76	10
Particles >21µm	ASTM D7647	>40	▲ 395	16	4
Particles >38µm	ASTM D7647	>10	▲ 19	2	0
Particles >71µm	ASTM D7647	>3	1	0	0
Oil Cleanliness	ISO 4406 (c)	>20/17/14	▲ 24/22/18	● 20/18/13	16/14/10



OIL ANALYSIS REPORT

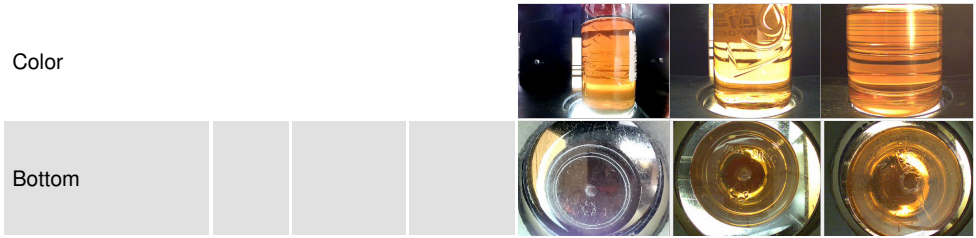


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.30	0.26	0.32

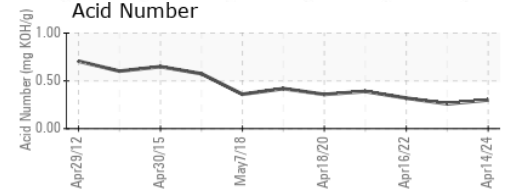
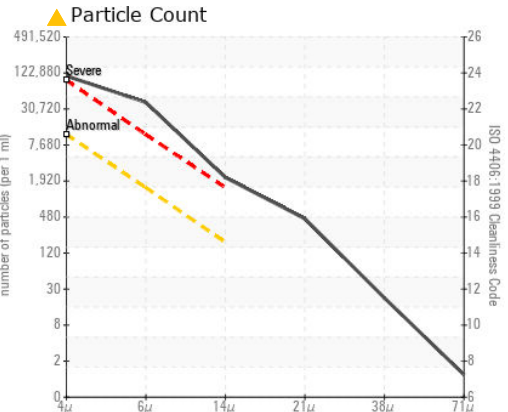
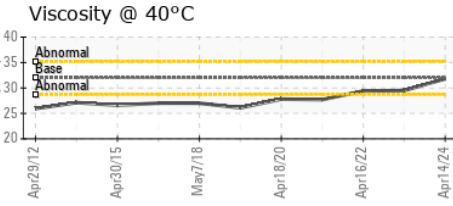
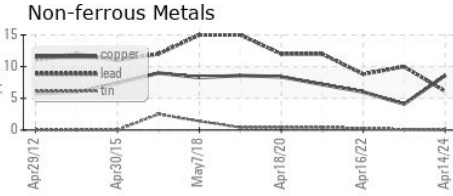
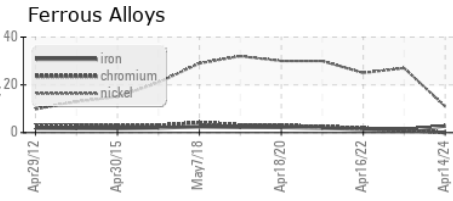
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	32	31.8	29.5	29.4

SAMPLE IMAGES



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0798800
Lab Number : 06159028
Unique Number : 10994451
Test Package : MOB 2
Received : 24 Apr 2024
Tested : 25 Apr 2024
Diagnosed : 25 Apr 2024 - Don Baldrige

AMTRAK
 1401 W STREET NE, HIGH SPEED RAIL 2ND FLOOR
 WASHINGTON, DC
 US 20018
 Contact: MICHAEL PORTER
 michael.porter@amtrak.com
 T: (202)870-1399
 F:

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)