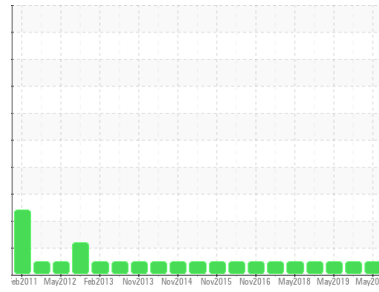




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
ALSTOM R010
 Component
Gearbox
 Fluid
TOTAL CARTER SH 220 (3 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.

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		WC0798706	WC0381153	WCM2294617
Sample Date	Client Info		13 May 2024	20 Nov 2019	18 May 2019
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

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >200	112	86	88
Chromium	ppm	ASTM D5185m >10	1	<1	<1
Nickel	ppm	ASTM D5185m >10	<1	<1	<1
Titanium	ppm	ASTM D5185m	<1	0	0
Silver	ppm	ASTM D5185m	<1	0	0
Aluminum	ppm	ASTM D5185m >25	4	0	2
Lead	ppm	ASTM D5185m >50	4	2	3
Copper	ppm	ASTM D5185m >200	52	45	43
Tin	ppm	ASTM D5185m >10	<1	0	<1
Antimony	ppm	ASTM D5185m >5	---	7	<1
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	<1	<1	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	1	2	2
Barium	ppm	ASTM D5185m	<1	<1	0
Molybdenum	ppm	ASTM D5185m	<1	0	1
Manganese	ppm	ASTM D5185m	1	3	<1
Magnesium	ppm	ASTM D5185m	1	1	<1
Calcium	ppm	ASTM D5185m	13	7	8
Phosphorus	ppm	ASTM D5185m	373	292	295
Zinc	ppm	ASTM D5185m	101	103	93
Sulfur	ppm	ASTM D5185m	3738	569	2859

CONTAMINANTS

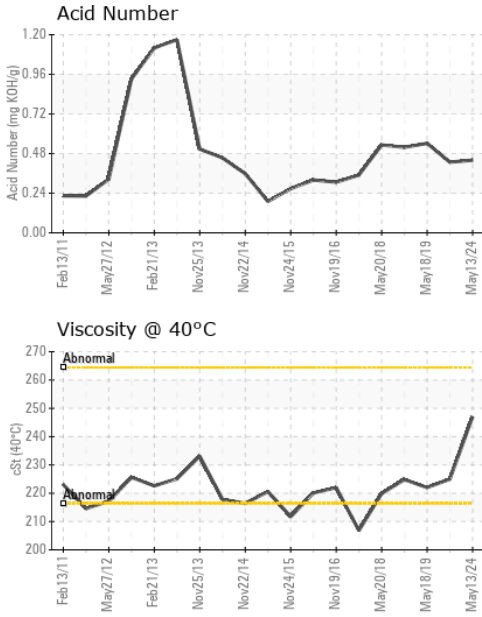
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	14	12	15
Sodium	ppm	ASTM D5185m	23	26	26
Potassium	ppm	ASTM D5185m >20	2	0	<1

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.44	0.428	0.542



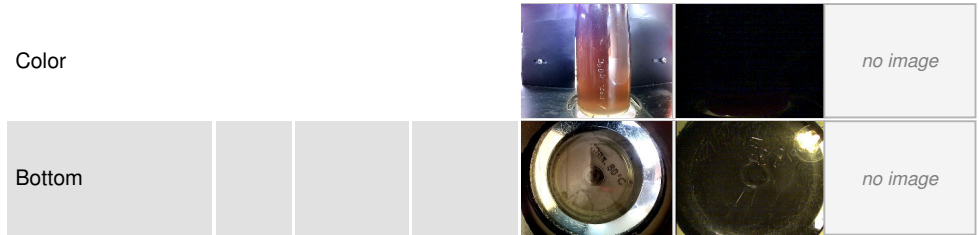
OIL ANALYSIS REPORT



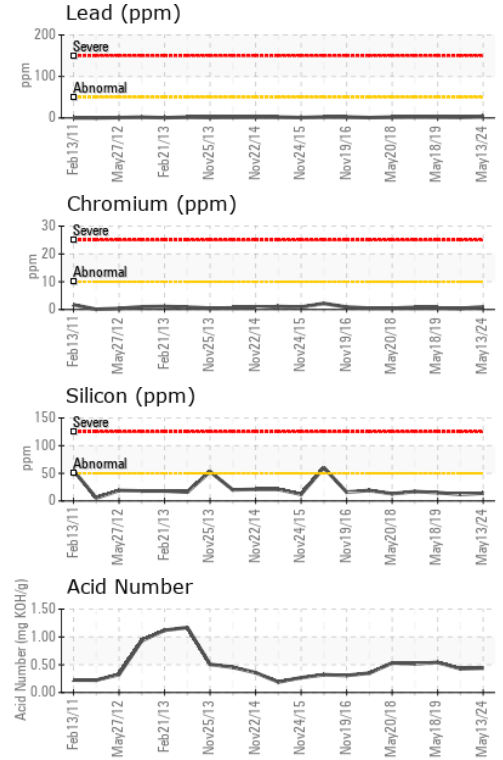
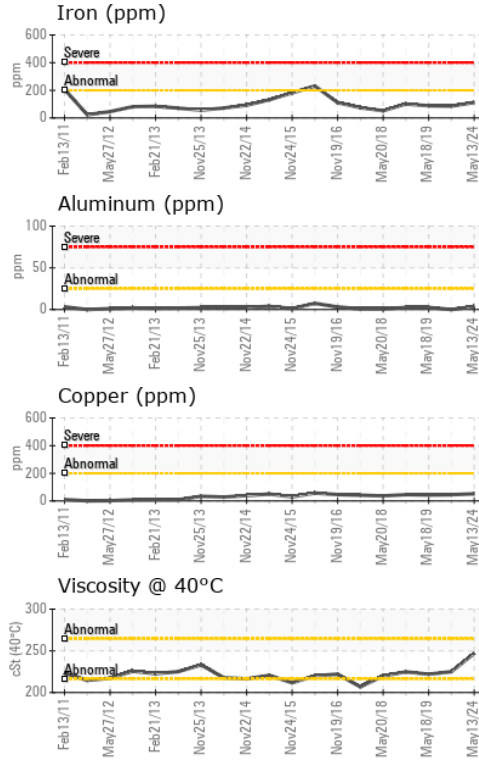
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	247	225	222

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0798706
Lab Number : 06181488
Unique Number : 11032814
Test Package : MOB 2

Received : 16 May 2024
Tested : 17 May 2024
Diagnosed : 17 May 2024 - Wes Davis

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

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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