



OIL ANALYSIS REPORT

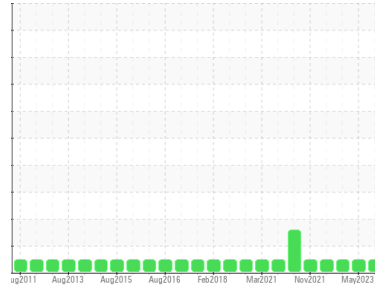
Sample Rating Trend

NORMAL



Area
[BOSTON]
Machine Id
ALSTOM R122

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	WC0798907	WC0781677	WC0667738
Sample Date	Client Info	11 Nov 2023	13 May 2023	12 Nov 2022
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	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	>200	137	162	152
Chromium	ppm	ASTM D5185m	>10	<1	1	<1
Nickel	ppm	ASTM D5185m	>10	<1	<1	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m		0	0	2
Aluminum	ppm	ASTM D5185m	>25	2	4	5
Lead	ppm	ASTM D5185m	>50	3	6	6
Copper	ppm	ASTM D5185m	>200	57	96	101
Tin	ppm	ASTM D5185m	>10	1	<1	1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	0	<1

ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m		<1	<1	2
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	<1	<1
Manganese	ppm	ASTM D5185m		2	2	2
Magnesium	ppm	ASTM D5185m		<1	2	2
Calcium	ppm	ASTM D5185m		7	8	7
Phosphorus	ppm	ASTM D5185m		339	370	370
Zinc	ppm	ASTM D5185m		136	184	185
Sulfur	ppm	ASTM D5185m		2776	3168	3712

CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>50	13	27	21
Sodium	ppm	ASTM D5185m		24	22	23
Potassium	ppm	ASTM D5185m	>20	0	2	3

FLUID DEGRADATION

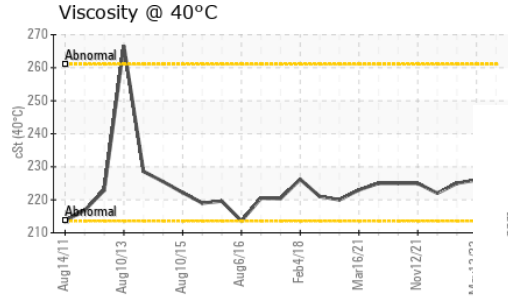
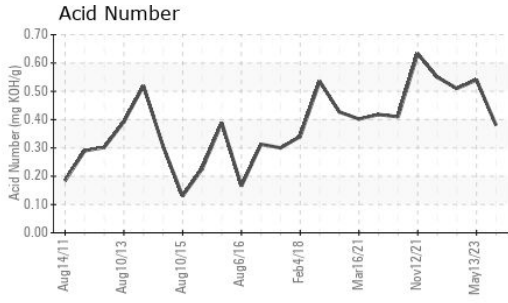
method	limit/base	current	history1	history2		
Acid Number (AN)	mg KOH/g	ASTM D8045		0.38	0.54	0.51

VISUAL

method	limit/base	current	history1	history2		
White Metal	scalar	*Visual	NONE	NONE	LIGHT	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	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG



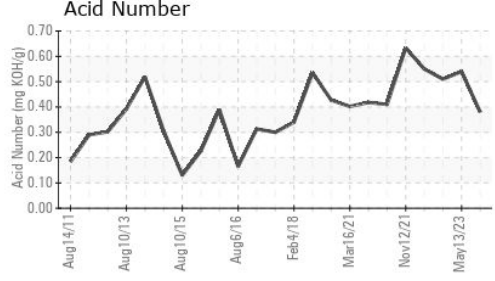
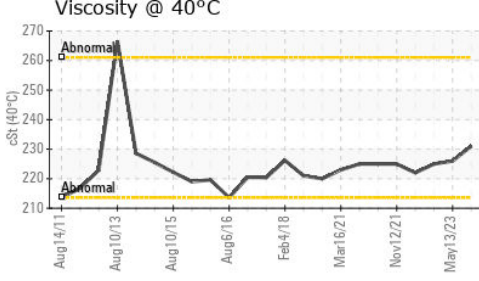
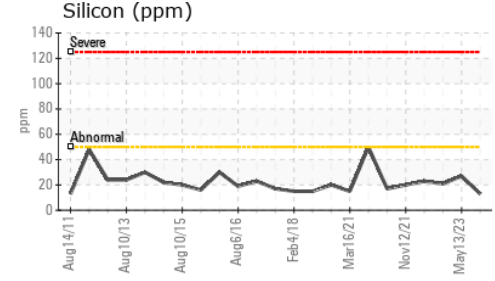
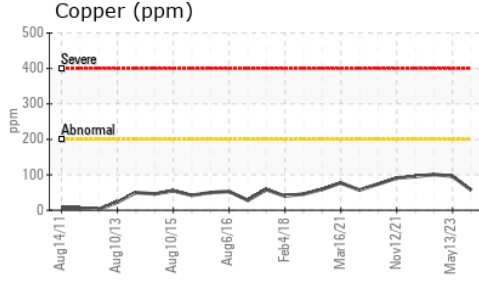
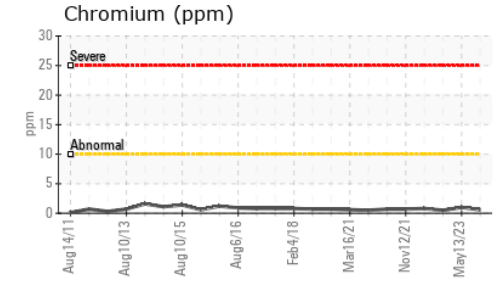
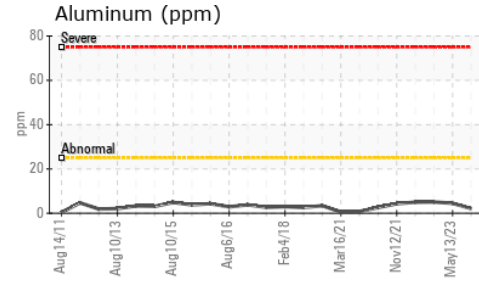
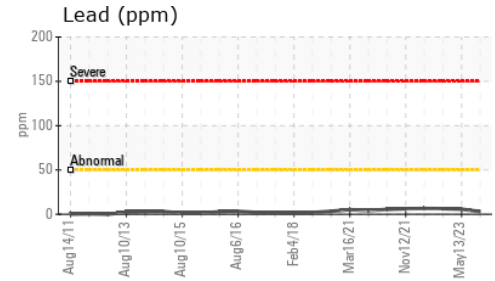
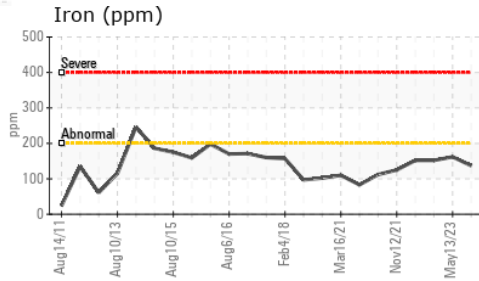
OIL ANALYSIS REPORT



FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		231	226	225

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color				no image	no image	no image
Bottom				no image	no image	no image

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0798907 **Received** : 17 Nov 2023
Lab Number : 06011026 **Diagnosed** : 20 Nov 2023
Unique Number : 10750170 **Diagnostician** : Wes Davis
Test Package : MOB 2

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)