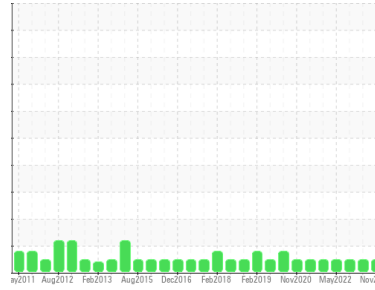




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**[BOSTON]**  
 Machine Id  
**ALSTOM R003**

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		<b>WC0798911</b>	WC0781591	WC0673273
Sample Date	Client Info		<b>11 Nov 2023</b>	13 May 2023	12 Nov 2022
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>	Not Changd	N/A
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >200	<b>107</b>	126	111
Chromium	ppm	ASTM D5185m >10	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m >10	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	<b>0</b>	0	2
Aluminum	ppm	ASTM D5185m >25	<b>1</b>	1	3
Lead	ppm	ASTM D5185m >50	<b>&lt;1</b>	2	2
Copper	ppm	ASTM D5185m >200	<b>29</b>	42	45
Tin	ppm	ASTM D5185m >10	<b>&lt;1</b>	<1	<1
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>&lt;1</b>	0	1
Barium	ppm	ASTM D5185m	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>0</b>	<1	<1
Manganese	ppm	ASTM D5185m	<b>1</b>	1	1
Magnesium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Calcium	ppm	ASTM D5185m	<b>6</b>	10	10
Phosphorus	ppm	ASTM D5185m	<b>344</b>	333	322
Zinc	ppm	ASTM D5185m	<b>92</b>	112	101
Sulfur	ppm	ASTM D5185m	<b>3140</b>	3284	3943

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>12</b>	16	15
Sodium	ppm	ASTM D5185m	<b>29</b>	41	43
Potassium	ppm	ASTM D5185m >20	<b>0</b>	<1	2

## FLUID DEGRADATION

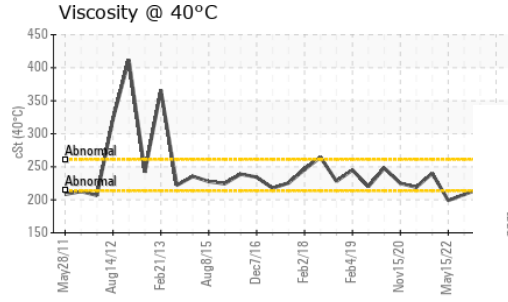
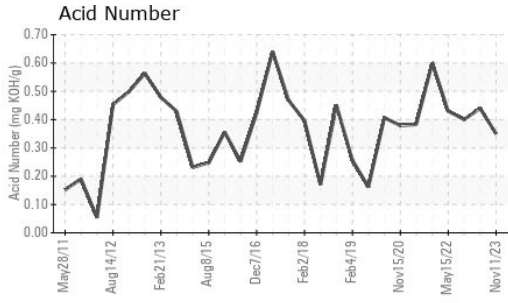
	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>0.35</b>	0.44	0.40

## VISUAL

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



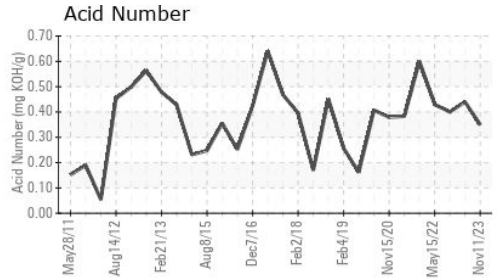
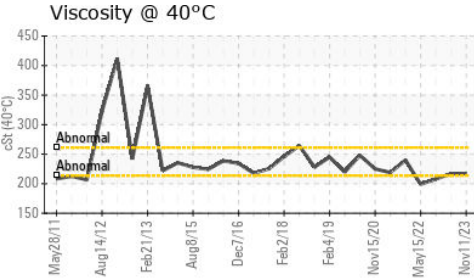
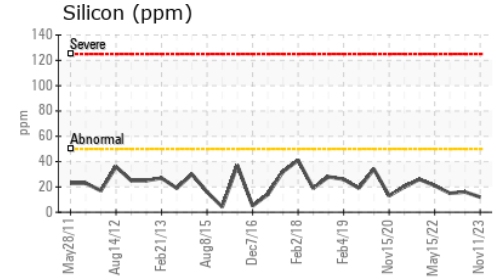
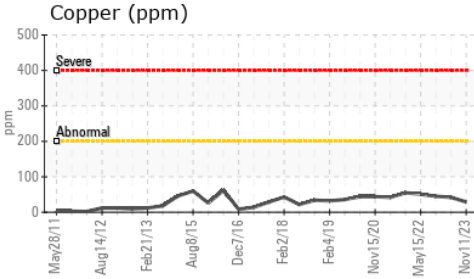
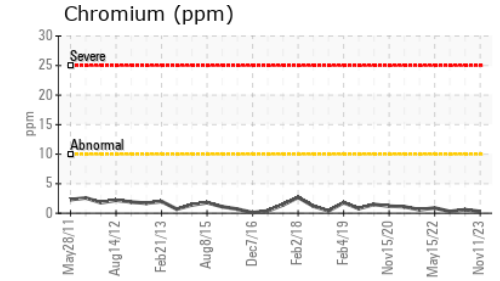
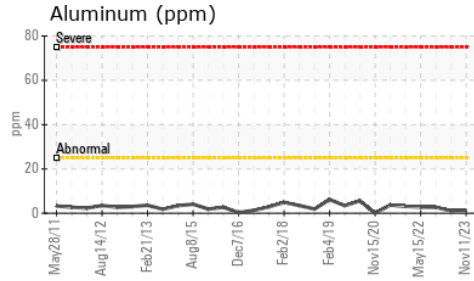
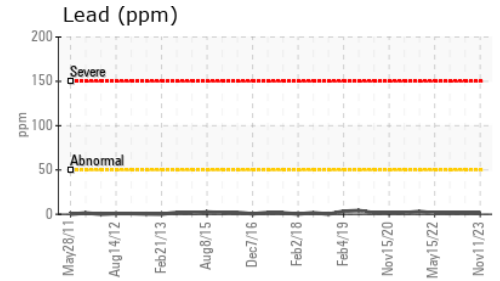
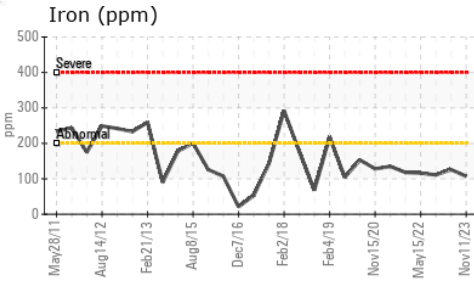
# OIL ANALYSIS REPORT



FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		217	217	208

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

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0798911 **Received** : 17 Nov 2023  
**Lab Number** : 06011025 **Diagnosed** : 20 Nov 2023  
**Unique Number** : 10750169 **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)