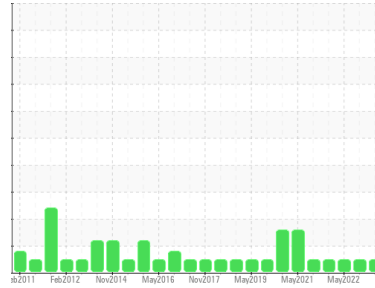




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**ALSTOM R088**

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>WC0798909</b>	WC0667748	WC0649685
Sample Date	Client Info		<b>10 Nov 2023</b>	13 Nov 2022	15 May 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>	N/A	N/A
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

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

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >200	<b>148</b>	128	100
Chromium	ppm	ASTM D5185m >10	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	<b>0</b>	2	0
Aluminum	ppm	ASTM D5185m >25	<b>4</b>	4	4
Lead	ppm	ASTM D5185m >50	<b>4</b>	6	5
Copper	ppm	ASTM D5185m >200	<b>56</b>	107	86
Tin	ppm	ASTM D5185m >10	<b>&lt;1</b>	<1	<1
Antimony	ppm	ASTM D5185m >5	<b>---</b>	---	---
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>&lt;1</b>	2	2
Barium	ppm	ASTM D5185m	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Manganese	ppm	ASTM D5185m	<b>3</b>	2	1
Magnesium	ppm	ASTM D5185m	<b>0</b>	1	<1
Calcium	ppm	ASTM D5185m	<b>0</b>	3	2
Phosphorus	ppm	ASTM D5185m	<b>235</b>	394	440
Zinc	ppm	ASTM D5185m	<b>46</b>	182	174
Sulfur	ppm	ASTM D5185m	<b>3200</b>	3962	3251

## CONTAMINANTS

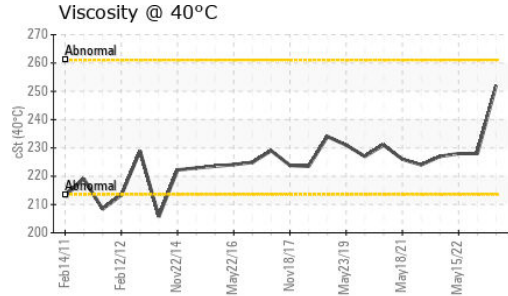
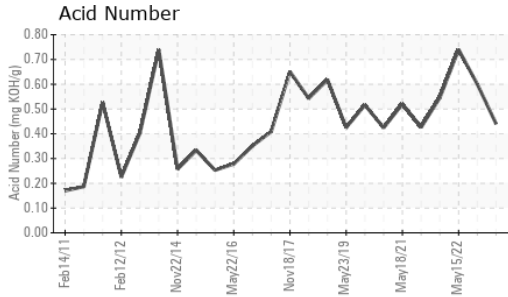
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>18</b>	18	20
Sodium	ppm	ASTM D5185m	<b>16</b>	19	19
Potassium	ppm	ASTM D5185m >20	<b>1</b>	2	<1

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>0.44</b>	0.60	0.74



# OIL ANALYSIS REPORT

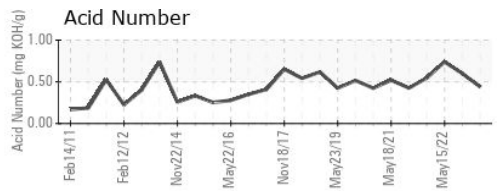
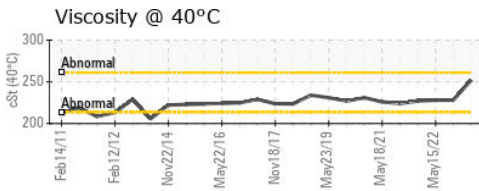
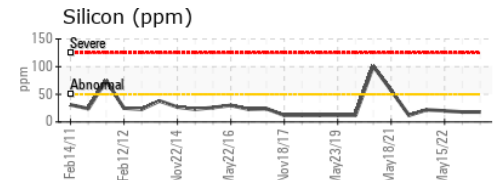
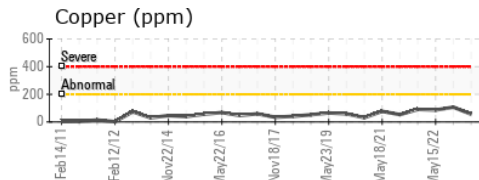
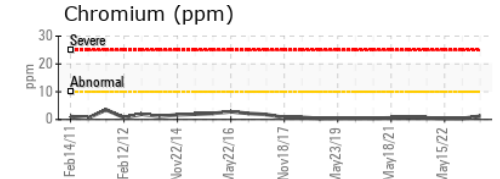
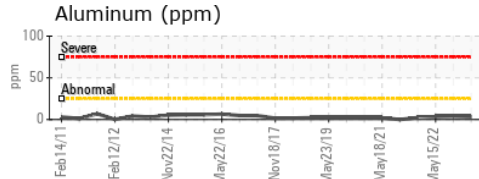
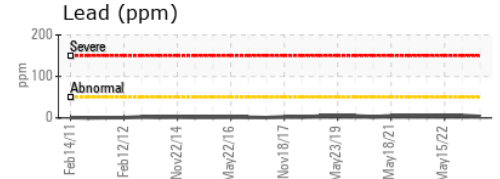
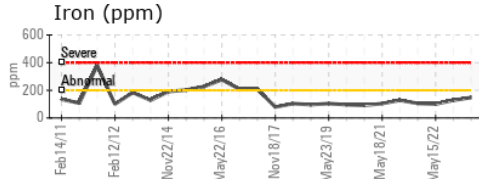


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	<b>252</b>	228	228

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

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0798909 **Received** : 17 Nov 2023  
**Lab Number** : 06011605 **Diagnosed** : 20 Nov 2023  
**Unique Number** : 10750749 **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)