



OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
ALSTOM 2014

Component
Rear Left Gearbox

Fluid
TOTAL CARTER SH 220 (--- 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	WC0649716	---	---
Sample Date	Client Info	12 Nov 2023	---	---
Machine Age	hrs Client Info	0	---	---
Oil Age	hrs Client Info	0	---	---
Oil Changed	Client Info	N/A	---	---
Sample Status		NORMAL	---	---

WEAR METALS

method	limit/base	current	history1	history2
Iron ppm ASTM D5185m	>200	151	---	---
Chromium ppm ASTM D5185m	>10	<1	---	---
Nickel ppm ASTM D5185m	>10	<1	---	---
Titanium ppm ASTM D5185m		0	---	---
Silver ppm ASTM D5185m		0	---	---
Aluminum ppm ASTM D5185m	>25	2	---	---
Lead ppm ASTM D5185m	>50	2	---	---
Copper ppm ASTM D5185m	>200	32	---	---
Tin ppm ASTM D5185m	>10	<1	---	---
Vanadium ppm ASTM D5185m		0	---	---
Cadmium ppm ASTM D5185m		2	---	---

ADDITIVES

method	limit/base	current	history1	history2
Boron ppm ASTM D5185m		2	---	---
Barium ppm ASTM D5185m		0	---	---
Molybdenum ppm ASTM D5185m		0	---	---
Manganese ppm ASTM D5185m		2	---	---
Magnesium ppm ASTM D5185m		<1	---	---
Calcium ppm ASTM D5185m		7	---	---
Phosphorus ppm ASTM D5185m		345	---	---
Zinc ppm ASTM D5185m		90	---	---
Sulfur ppm ASTM D5185m		3199	---	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon ppm ASTM D5185m	>50	18	---	---
Sodium ppm ASTM D5185m		38	---	---
Potassium ppm ASTM D5185m	>20	0	---	---

FLUID DEGRADATION

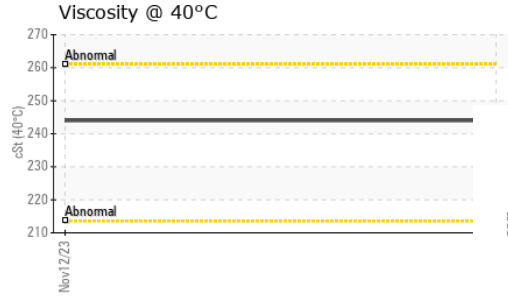
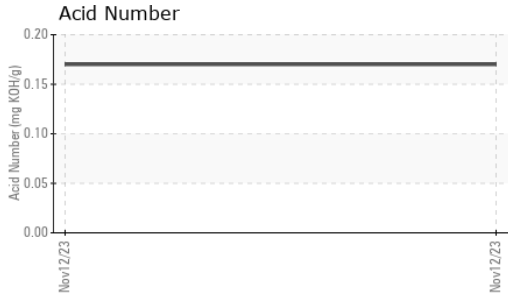
method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g ASTM D8045		0.17	---	---

VISUAL

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



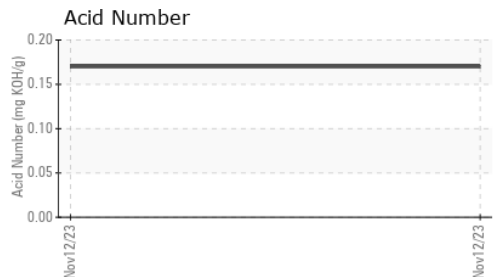
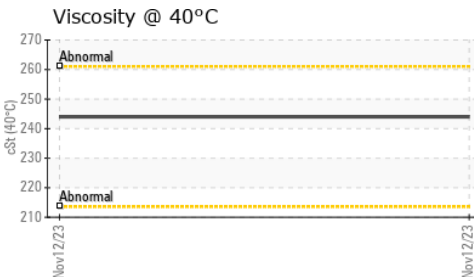
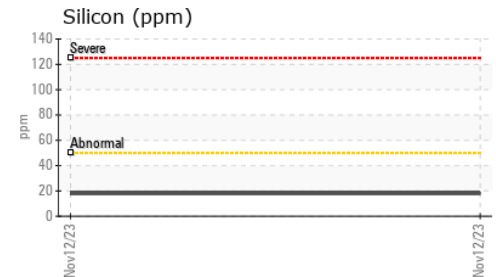
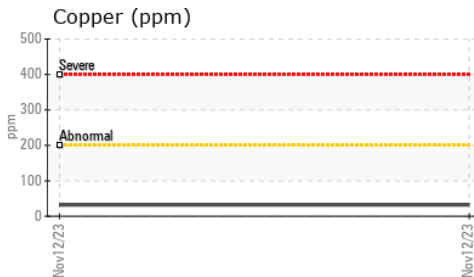
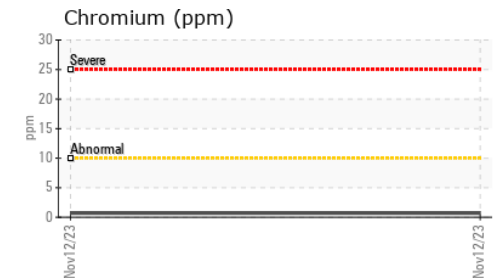
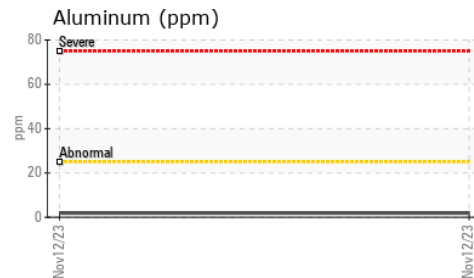
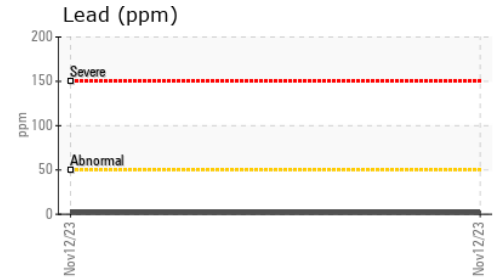
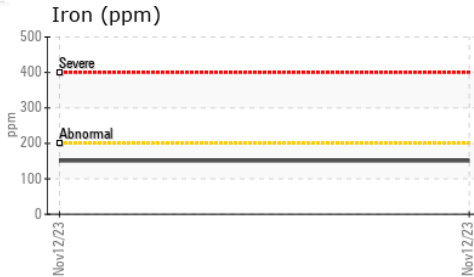
OIL ANALYSIS REPORT



FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	244	---	---

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

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0649716 **Received** : 17 Nov 2023
Lab Number : **06011050** **Diagnosed** : 20 Nov 2023
Unique Number : 10750194 **Diagnostician** : Wes Davis
Test Package : MOB 2

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)

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: