



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
[BOSTON MA]
 Machine Id
ALSTOM R140
 Component
Gearbox
 Fluid
REDUCTELF SP SYNTHETIC 220 (3 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WCM2295870	WCM2287425	WCM2279203
Sample Date		Client Info		03 Feb 2018	07 Aug 2016	08 Feb 2016
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	96	102	68
Chromium	ppm	ASTM D5185m	>10	<1	<1	0
Nickel	ppm	ASTM D5185m		<1	<1	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	2	1
Lead	ppm	ASTM D5185m	>50	1	2	0
Copper	ppm	ASTM D5185m	>200	33	50	19
Tin	ppm	ASTM D5185m	>10	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	LIGHT	LIGHT	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

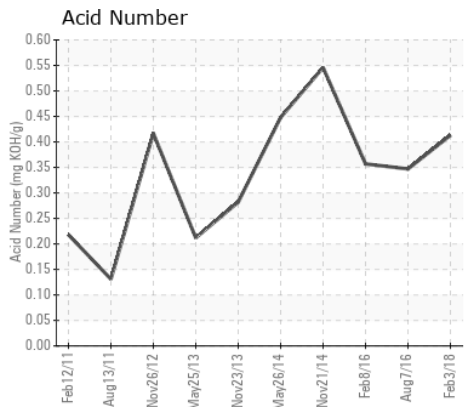
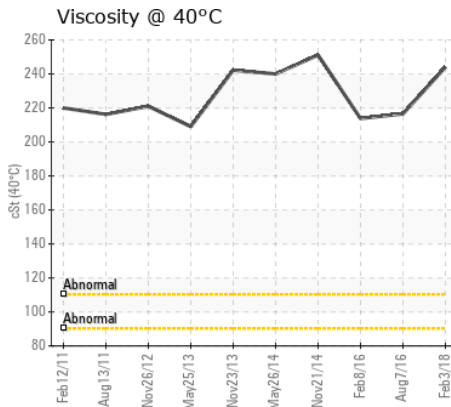
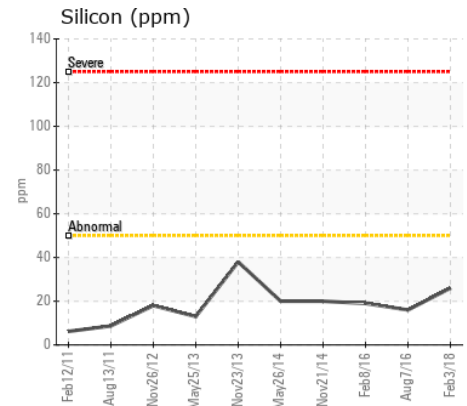
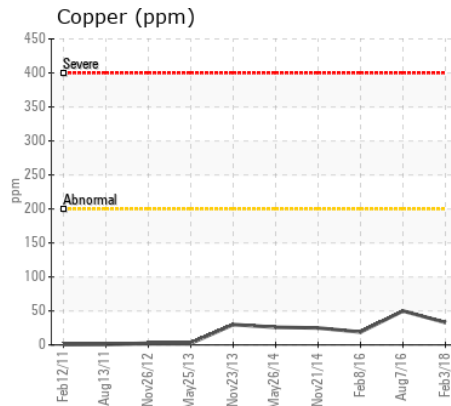
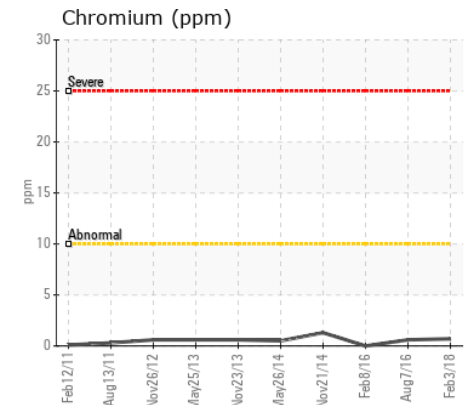
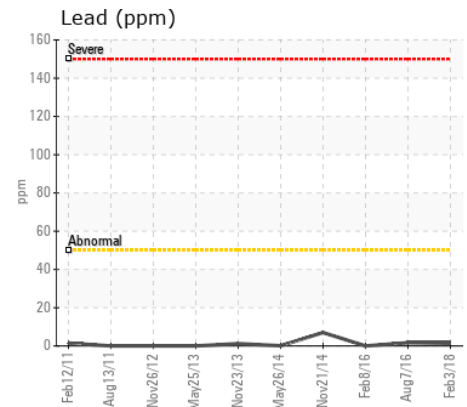
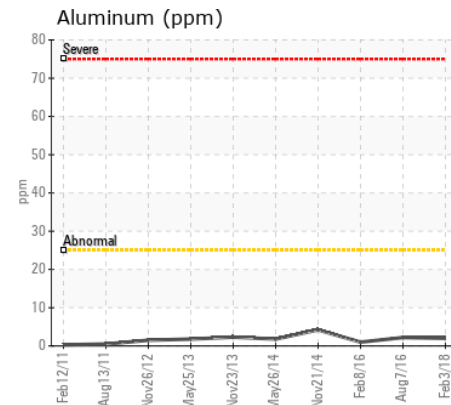
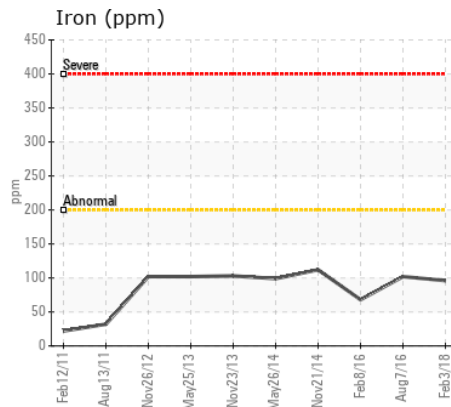
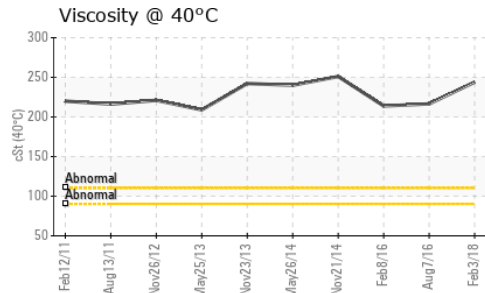
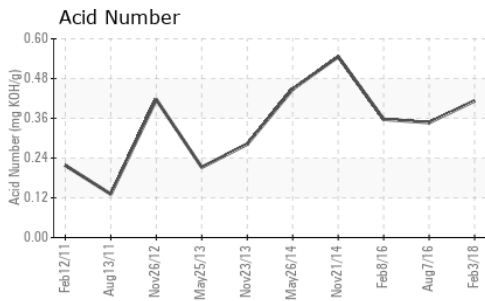
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	26	16	19
Potassium	ppm	ASTM D5185m	>20	6	4	0
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT	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

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		30	4	10
Boron	ppm	ASTM D5185m		2	0	<1
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		1	<1	0
Manganese	ppm	ASTM D5185m		1	1	<1
Magnesium	ppm	ASTM D5185m		1	<1	<1
Calcium	ppm	ASTM D5185m		8	3	3
Phosphorus	ppm	ASTM D5185m		276	153	145
Zinc	ppm	ASTM D5185m		50	74	33
Sulfur	ppm	ASTM D5185m		3127	460	902
Acid Number (AN)	mg KOH/g	ASTM D8045		0.413	0.347	0.357
Visc @ 40°C	cSt	ASTM D445		244.0	216.5	213.8



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WCM2295870
Lab Number : 04406813
Unique Number : 8095496
Test Package : MOB 2

Received : 14 Feb 2018
Tested : 15 Feb 2018
Diagnosed : 15 Feb 2018 - Jonathan Hester

AMTRAK
 1401 W STREET NE, HIGH SPEED RAIL 2ND FLOOR
 WASHINGTON, DC
 US 20018

Contact: MICHAEL PORTER
 michael.porter@amtrak.com

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)

T: (202)870-1399

F: