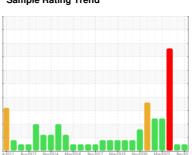


OIL ANALYSIS REPORT

Sample Rating Trend







ALSTOM R086

Component

Gearbox

TOTAL CARTER SH 220 (3 GAL)

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

Fluid Condition

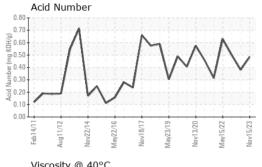
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

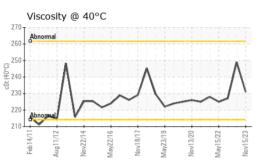
±2011 Aug2012 Nov2014 Moy2016 Nov2017 Moy2019 Nov2020 Moy2022 Nov20;						
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0673301	WC0798859	WC0667753
Sample Date		Client Info		15 Nov 2023	10 Nov 2023	13 Nov 2022
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	SEVERE
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	116	160	458
Chromium	ppm	ASTM D5185m	>10	<1	1	3
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		0	0	2
Aluminum	ppm	ASTM D5185m	>25	2	3	9
Lead	ppm	ASTM D5185m	>50	2	2	6
Copper	ppm	ASTM D5185m	>200	40	44	93
Tin	ppm	ASTM D5185m	>10	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0	0	3
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	<1
Manganese	ppm	ASTM D5185m		2	3	6
Magnesium	ppm	ASTM D5185m		<1	0	4
Calcium	ppm	ASTM D5185m		2	0	8
Phosphorus	ppm	ASTM D5185m		344	344	395
Zinc	ppm	ASTM D5185m		95	92	197
Sulfur	ppm	ASTM D5185m		3550	3729	3397
CONTAMINANTS	3	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	15	20	98
Sodium	ppm	ASTM D5185m		15	16	19
Potassium	ppm	ASTM D5185m	>20	<1	1	4
FLUID DEGRADA	NOITA	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.486	0.38	0.50



OIL ANALYSIS REPORT

FLUID PROPERTIES



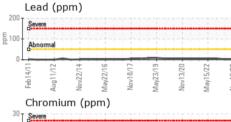


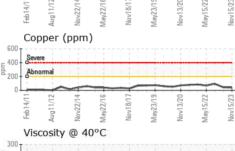
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

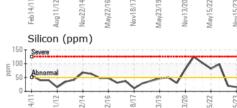
I LOID I HOI LIH					
Visc @ 40°C	cSt	ASTM D445	231	249	227

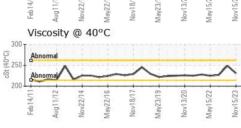
O/TIVII EE IIVI/TGEO	metriou	IIIIIII Dasc	Odifont	Thotory	Thotory
Color			no image	no image	no image
Bottom			no image	no image	no image
GRAPHS					

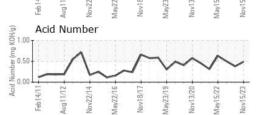
Iron (opm)							
Severe					111	114		
200 A6memal	$^{\prime}$		~/	_	\sqrt{I}	V		mdd
0	/ V		-		٧			
Feb14/11	Nov22/14	May22/16	Nov18/17	May23/19	Nov13/20	May15/22	Nov15/23	
	num (p	pm)						
Severe								
E FO								8
50 - Abnormal		7						2
						-		
1	4	9		6	0	2		















Certificate L2367

Laboratory

Sample No. Lab Number **Unique Number**

: WC0673301 : 06056858

: 10822807 Test Package : MOB 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Recieved : 10 Jan 2024 Diagnosed : 12 Jan 2024

: Jonathan Hester Diagnostician

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

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)

F: