

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAI

Machine Id **ALSTOM R183**

Component Gearbox Fluid TOTAL CARTER SH 220 (3 GAL)

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.

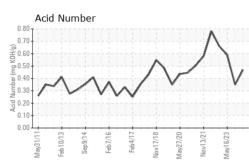
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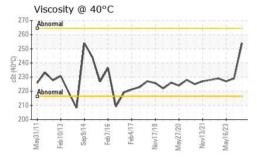
Feb2016 Feb2017 Nov2018 May2020 Nov202

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0798693	WC0781696	WC0781616
Sample Date		Client Info		11 May 2024	16 Nov 2023	16 May 2023
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	NORMAL
CONTAMINATION	٧	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	176	66	113
Chromium	ppm	ASTM D5185m	>10	1	<1	<1
Nickel	ppm	ASTM D5185m	>10	<1	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	4	<1	3
Lead	ppm	ASTM D5185m	>50	3	2	<1
Copper	ppm	ASTM D5185m	>200	51	33	36
Tin	ppm	ASTM D5185m	>10	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		1	<1	6
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		2	<1	4
Manganese	ppm	ASTM D5185m		2	1	1
Magnesium	ppm	ASTM D5185m		4	0	3
Calcium	ppm	ASTM D5185m		14	0	13
Phosphorus	ppm	ASTM D5185m		342	287	407
Zinc	ppm	ASTM D5185m		100	63	44
Sulfur	ppm	ASTM D5185m		4351	3495	5233
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	17	9	15
Sodium	ppm	ASTM D5185m		23	22	21
Potassium	ppm	ASTM D5185m	>20	2	0	2
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.47	0.35	0.59



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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	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
			NORML	NORML	NORML	NORML
Appearance	scalar	*Visual		-		
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		254	229	227
SAMPLE IMAGES	\$	method	limit/base	current	history1	history2
Color				no image	no image	no image
Bottom				no image	no image	no image
GRAPHS						
Iron (ppm)				Lead (ppm)		
0 T 3 - c - c - c - c - c - c - c - c - c			20	0		
0 - Abnormal 0 - Carrier	•		톱 10	Severe		
0- Abnormal	\sim			Abnormal		
eb 10/11	Feb4/17	Nav27/20	6/23	Feb10/13	Feb 7/16 Feb 4/17	//av/2//20
M F S	Feb Nov1	May27/20 Nov13/21	May16/23	-	2	May27/20 Nov13/21 May16/23
Aluminum (ppm)			2	Chromium (p	pm)	
Severe				0		
0 - Abnormal			² 1	Abnormal		
Abnormal				0	~	
	1/17-	3/21-	3/23	1/11 1/13	7/16 -	3/21
May31/11 Feb10/13 Sep9/14 Feb7/16	Feb4/17 Nov17/18	May27/20 Nov13/21	May16/23	May31/11 Feb10/13 Sep9/14	Feb4/17 Feb4/17 Nov17/18	May27/20 Nov13/21 May16/23
Copper (ppm)	2	2 -	2	Silicon (ppm)		2 - 2
0 - Severe			= 10	0		
0 - Abnormal				0 - Abnormal	$\sim \sim$	
	8				9 2 8	3
May31/11 Feb10/13 Sep9/14 Feb7/16	Feb4/17 Nov17/18	May27/20 Nov13/21	May16/23	May31/11 Feb10/13 Sep9/14	Feb 7/16 Feb 4/17 Nov17/18	May27/20 Nov13/21 May16/23
≝ [™] [∞] [™] Viscosity @ 40°C	Nor Nor	Mar No		Acid Number	н н б	Ma Ma
0 _T			Acid Number (mg K0H/g)			
			J = 0.5		~~~	~
	8	20 +	0.0 Nur	- m +	17	21+
May31/11 Feb10/13 Sep9/14 Feb7/16	Feb4/17 Nov17/18	May27/20 Nov13/21	May16/23 Acid	May31/11 Feb10/13 Sep9/14	Feb7/16 Feb4/17 Nov17/18	May27/20 Nov13/21 May16/23
VearCheck USA - 501 VC0798693 6179482 1030808 IOB 2	Madiso Recei Teste Diagr	ved : 14 d : 15	r, NC 27513 I May 2024 5 May 2024 May 2024 - V		WAS	AMTRAK EED RAIL 2ND FLOOR SHINGTON, DC US 20018 HAEL PORTER

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)

Report Id: AMTRAK [WUSCAR] 06179482 (Generated: 05/15/2024 17:30:44) Rev: 1

Certificate L2367

Laboratory Sample No. Lab Number Unique Number Test Package

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