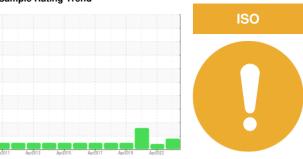


# **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id ALSTOM 3219

Component Hydraulic System

**ESSO UNIVIS N 32 (55 GAL)** 

### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

## Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

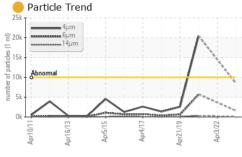
## **Fluid Condition**

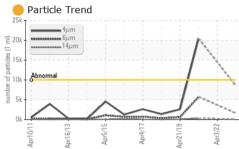
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

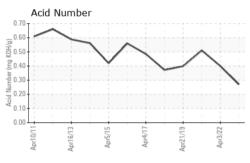
		Apr2011	Apr2013 Apr2015	Apr2017 Apr2019 A	pr2022	
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0798847	WC0643761	WC0381172
Sample Date		Client Info		22 Mar 2024	03 Apr 2022	27 Mar 2020
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				ATTENTION	ABNORMAL	ABNORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
ron	ppm	ASTM D5185m	>20	<1	5	4
Chromium	ppm	ASTM D5185m	>10	1	6	5
Nickel	ppm	ASTM D5185m	>10	11	37	31
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>10	<1	<1	0
_ead	ppm	ASTM D5185m	>10	4	17	14
Copper	ppm	ASTM D5185m	>75	2	9	8
Γin	ppm	ASTM D5185m	>10	<1	<1	<1
Antimony	ppm	ASTM D5185m				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	0	0	4
Barium	ppm	ASTM D5185m		0	0	<1
Molybdenum	ppm	ASTM D5185m	.3	0	0	0
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m	0	1	1	2
Calcium	ppm	ASTM D5185m	74	51	71	66
Phosphorus	ppm	ASTM D5185m	266	346	422	342
Zinc	ppm	ASTM D5185m	338	440	478	486
Sulfur	ppm	ASTM D5185m		2535	2976	2550
CONTAMINANTS	5	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	1	1	2
Sodium	ppm	ASTM D5185m		2	3	2
Potassium	ppm	ASTM D5185m	>20	0	<1	<1
FLUID CLEANLIN	NESS	method	limit/base	current	history1	history2
Particles >4μm		ASTM D7647	>10000	8505		<u>^</u> 20442
Particles >6µm		ASTM D7647	>1300	<u> </u>		<u></u> 5738
Particles >14µm		ASTM D7647	>160	96		<b>△</b> 324
Particles >21µm		ASTM D7647	>40	36		<b>▲</b> 73
Particles >38µm		ASTM D7647	>10	3		4
Particles >71µm		ASTM D7647	>3	0		0
artiolog >7 TµIII				-		

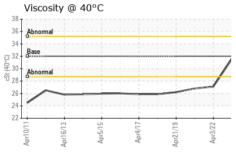


# **OIL ANALYSIS REPORT**









FLUID DEGRADA	FLUID DEGRADATION			current	history1		
Acid Number (AN)	mg KOH/g	ASTM D8045		0.27	0.40	0.510	
VISUAL		method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT	
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	▲ MODER	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	NORML	
<b>Emulsified Water</b>	scalar	*Visual	>0.1	NEG	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	NEG	
FLUID PROPERT	TES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	32	31.6	27.1	26.8	
SAMPLE IMAGES		method	limit/base	current	history1	history2	
Color			1				

	APHS	\ f =				O Dov	tiala Car	.nt			
40 T	ous Allo	ys				491,520 T	ticle Cou	ını			т26
10	iron										120
20-	***** chromiu	ım	ACRES MANAGEMENT OF THE PARTY O			122,880 <b>Severe</b>					-24
	nickel				\	30,720					-22
0		The same of the sa				Abnor	mal				- 0
0/11	Apr16/13	Apr5/15	Apr4/17.	Apr21/19	Apr3/22 .	7,680					120 5
Apr10/11	Apri	Apr	Apr	Apr2	Apr	<u>a</u> 1,920-		18			18
Non	-ferrous	Motals				1,920 - 480 - 120 - 30 - 30 - 30 - 30 - 30 - 30 - 30 -					-10 -100 i 33 ce de la constanta de la constan
20 T	remous	Metais				if par		1			l significant
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Apr10/1	Apr16/13	Apr5/15	Apr4/17	Apr21/19	Apr3/22	2+				_	18
Ap	Apr	A	Ā	Apr	A	0,		-,		20	6
Visc	osity @	40°C				- <b>Δ</b> ci	<sup>6μ</sup> d Numbe	14µ	$21\mu$	$38\mu$	71 <u>ū</u>
40 T						8 1.00 T	a IVallib				
35 - Abnor					_	Ng K	1				
35 - Base 30 - Abnor	mal					0.50		<b>\</b>			_
						Acid Number (mg KOH/g)					
20		10		6	- 5	= 0.00 +				6	7
Apr10/1	Apr16/13.	Apr5/15	Apr4/17.	Apr21/19	Apr3/22	Ac Apr10/1	Apr16/13	Apr5/15	Apr4/17	Apr21/19	Apr3/22
Api	Apr	Ą	Ą	Apr	Ą	Api	Apr	Α̈́	Ą	Арт	Ą





Certificate 12367

Laboratory Sample No.

: WC0798847 Lab Number : 06140625

Unique Number : 10965433 Test Package : MOB 2

**Bottom** 

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 05 Apr 2024

**Tested** : 08 Apr 2024 : 09 Apr 2024 - Don Baldridge Diagnosed

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

**AMTRAK**