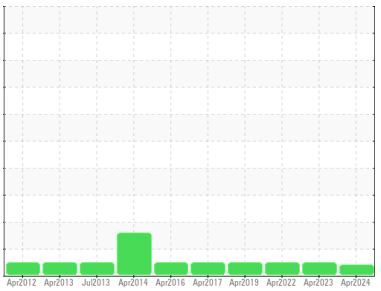
OIL ANALYSIS REPORT

Sample Rating Trend



VIS DEBRIS

Machine Id
ALSTON 3501
Component
Hydraulic System
Fluid
ESSO UNIVIS N 32 (55 GAL)

DIAGNOSIS

Recommendation
We recommend you service the filters on this component. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

Wear
All component wear rates are normal.

Contamination
Moderate concentration of visible dirt/debris present 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		**WC0798882**	WC0673237	WC0592285
Sample Date		Client Info		**06 Apr 2024**	09 Apr 2023	08 Apr 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				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	NEG

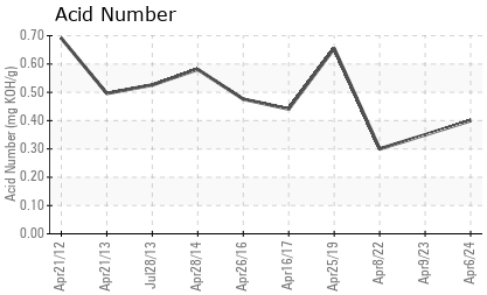
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**5**	0	0
Chromium	ppm	ASTM D5185m	>10	**<1**	0	<1
Nickel	ppm	ASTM D5185m	>10	**8**	5	5
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	0	<1
Aluminum	ppm	ASTM D5185m	>10	**0**	<1	0
Lead	ppm	ASTM D5185m	>10	**13**	10	7
Copper	ppm	ASTM D5185m	>75	**11**	2	2
Tin	ppm	ASTM D5185m	>10	**0**	0	0
Antimony	ppm	ASTM D5185m		**---**	---	---
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

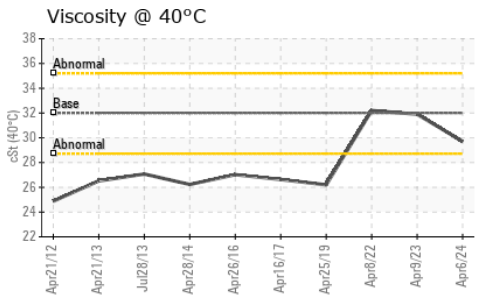
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	.1	**0**	0	2
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m	.3	**0**	0	0
Manganese	ppm	ASTM D5185m		**<1**	<1	0
Magnesium	ppm	ASTM D5185m	0	**<1**	0	0
Calcium	ppm	ASTM D5185m	74	**52**	49	50
Phosphorus	ppm	ASTM D5185m	266	**356**	351	355
Zinc	ppm	ASTM D5185m	338	**450**	458	417
Sulfur	ppm	ASTM D5185m		**3326**	2612	2184

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**2**	<1	<1
Sodium	ppm	ASTM D5185m		**3**	0	<1
Potassium	ppm	ASTM D5185m	>20	**1**	0	0

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	**---**	2650	2415
Particles >6µm		ASTM D7647	>1300	**---**	616	403
Particles >14µm		ASTM D7647	>160	**---**	35	8
Particles >21µm		ASTM D7647	>40	**---**	10	2
Particles >38µm		ASTM D7647	>10	**---**	1	0
Particles >71µm		ASTM D7647	>3	**---**	0	0
Oil Cleanliness		ISO 4406 (c)	>20/17/14	**---**	19/16/12	18/16/10

OIL ANALYSIS REPORT

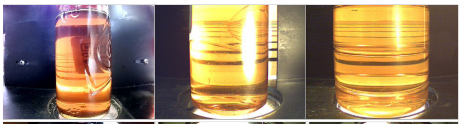
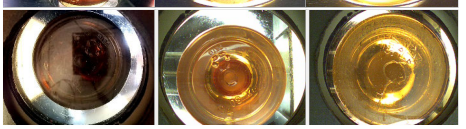




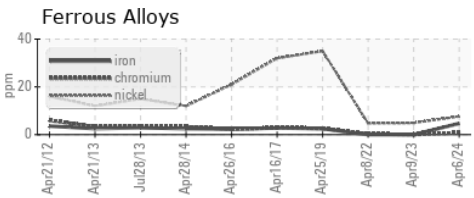
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.40**	0.35	0.30

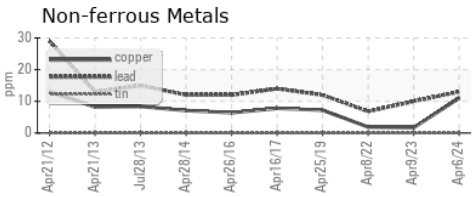
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	▲ **MODER**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

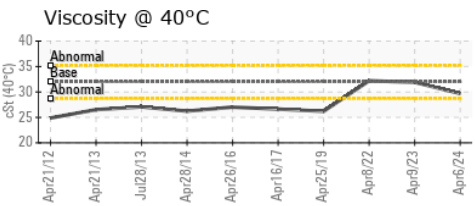
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	32	**29.7**	31.9	32.2

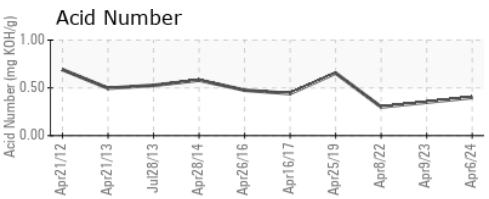
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS









Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0798882
Lab Number : 06153050
Unique Number : 10983128
Test Package : MOB 2

Received : 18 Apr 2024
Tested : 22 Apr 2024
Diagnosed : 22 Apr 2024 - Don Baldridge

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: