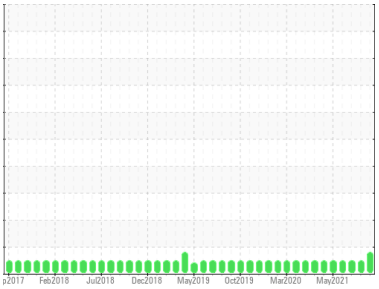
OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Machine Id
WOODWARD JOGGER
Component
Hydraulic System
Fluid
AW HYDRAULIC OIL ISO 32 (--- GAL)

DIAGNOSIS

Recommendation
We recommend you service the filters on this component. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample.

Wear
All component wear rates are normal.

Contamination
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

Fluid Condition
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PTK0000293**	PTK0000300	PTK0001177
Sample Date		Client Info		**09 Nov 2023**	13 Jun 2023	23 Nov 2022
Machine Age	wks	Client Info		**0**	0	0
Oil Age	wks	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**	6	5
Chromium	ppm	ASTM D5185m	>10	**0**	<1	<1
Nickel	ppm	ASTM D5185m	>10	**0**	0	<1
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>10	**0**	0	<1
Lead	ppm	ASTM D5185m	>10	**0**	0	0
Copper	ppm	ASTM D5185m	>75	**<1**	<1	<1
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

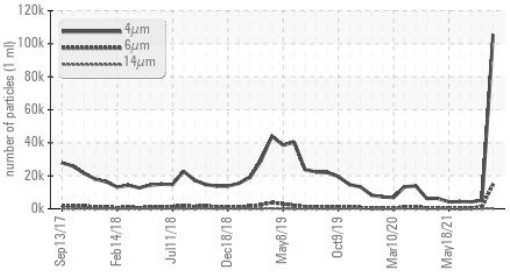
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	5	**0**	0	0
Barium	ppm	ASTM D5185m	5	**0**	2	0
Molybdenum	ppm	ASTM D5185m	5	**0**	<1	<1
Manganese	ppm	ASTM D5185m		**0**	0	0
Magnesium	ppm	ASTM D5185m	25	**1**	3	3
Calcium	ppm	ASTM D5185m	200	**110**	118	118
Phosphorus	ppm	ASTM D5185m	300	**345**	350	372
Zinc	ppm	ASTM D5185m	370	**468**	460	446
Sulfur	ppm	ASTM D5185m	2500	**2142**	2338	2557

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

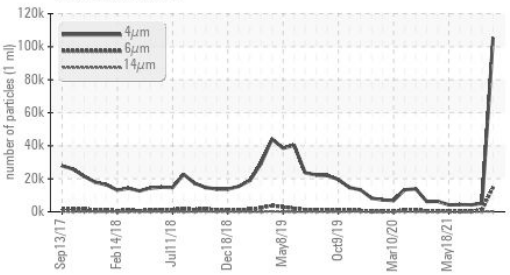
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		**105351**	5063	4214
Particles >6µm	ASTM D7647	>2500	▲ **14839**	1072	401
Particles >14µm	ASTM D7647	>320	**229**	144	32
Particles >21µm	ASTM D7647	>80	**50**	42	9
Particles >38µm	ASTM D7647	>20	**1**	2	0
Particles >71µm	ASTM D7647	>4	**0**	0	0
Oil Cleanliness	ISO 4406 (c)	>18/15	▲ **21/15**	17/14	16/12

OIL ANALYSIS REPORT

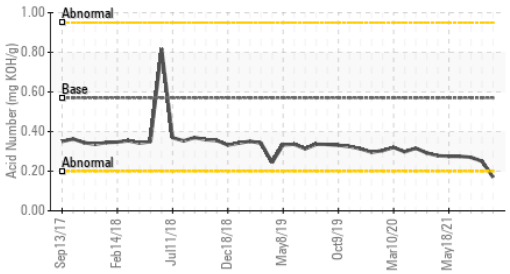
Particle Trend



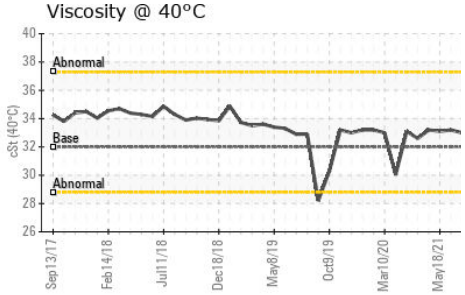
Particle Trend



Acid Number



Viscosity @ 40°C

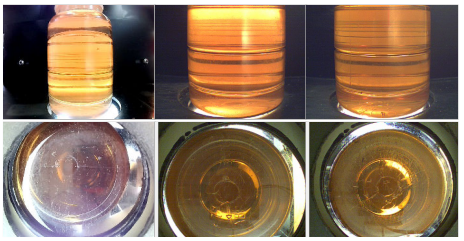


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	**0.17**	0.25	0.27

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	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

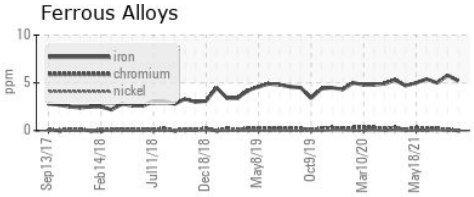
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	32	**32.6**	32.6	33.0

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

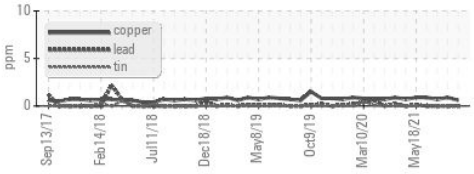


GRAPHS

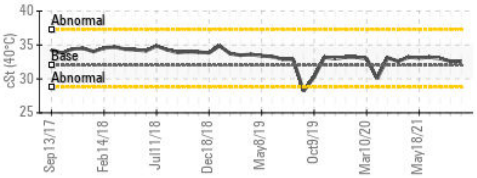
Ferrous Alloys



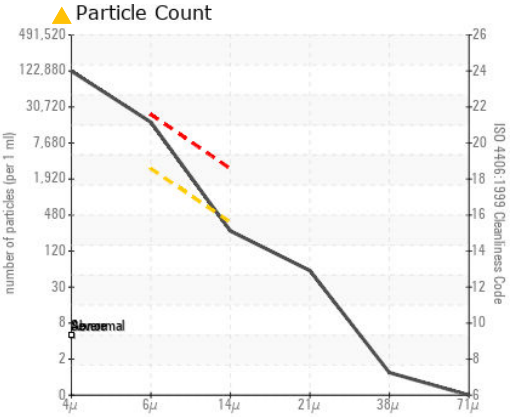
Non-ferrous Metals



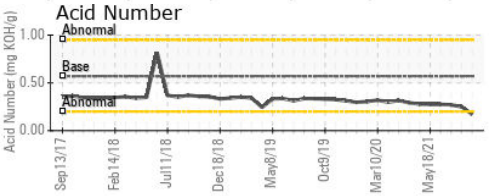
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PTK0000293
Lab Number : 06017312
Unique Number : 10756456
Test Package : MOB 2

Received : 24 Nov 2023
Diagnosed : 28 Nov 2023
Diagnostician : Wes Davis

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)

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