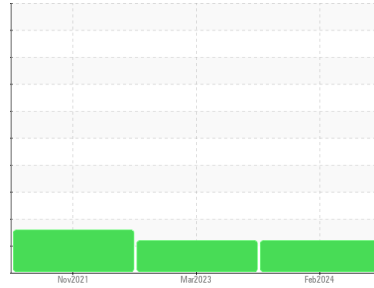




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
PALFINGER 100463381 - UNITED RENTALS

Component
Hydraulic System

Fluid
AW HYDRAULIC OIL ISO 32 (--- GAL)

DIAGNOSIS

Recommendation

The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on 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.

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		WC0813967	WC0747169	WC0573338
Sample Date	Client Info		23 Feb 2024	10 Mar 2023	30 Nov 2021
Machine Age	hrs	Client Info	661	523	326
Oil Age	hrs	Client Info	661	523	0
Oil Changed	Client Info		Not Chngd	N/A	Not Chngd
Sample Status			ABNORMAL	ABNORMAL	ABNORMAL

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	<1	3	0
Chromium	ppm	ASTM D5185m	>10	<1	<1	0
Nickel	ppm	ASTM D5185m	>10	<1	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	<1
Aluminum	ppm	ASTM D5185m	>10	0	0	0
Lead	ppm	ASTM D5185m	>10	0	0	0
Copper	ppm	ASTM D5185m	>75	1	1	1
Tin	ppm	ASTM D5185m	>10	0	0	<1
Antimony	ppm	ASTM D5185m		---	---	<1
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	0	0
Molybdenum	ppm	ASTM D5185m	5	0	1	1
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m	25	3	3	4
Calcium	ppm	ASTM D5185m	200	87	86	93
Phosphorus	ppm	ASTM D5185m	300	281	263	290
Zinc	ppm	ASTM D5185m	370	358	336	355
Sulfur	ppm	ASTM D5185m	2500	1597	1366	1178

CONTAMINANTS

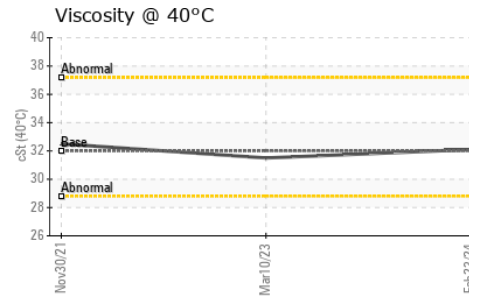
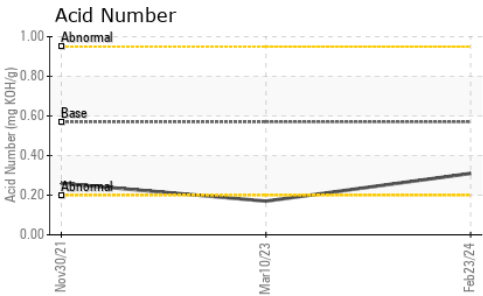
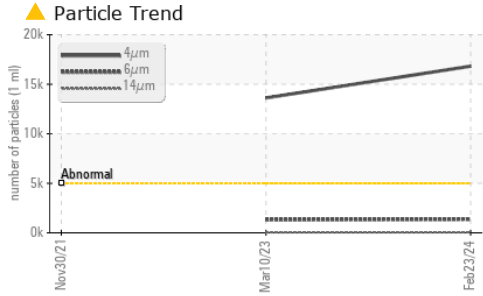
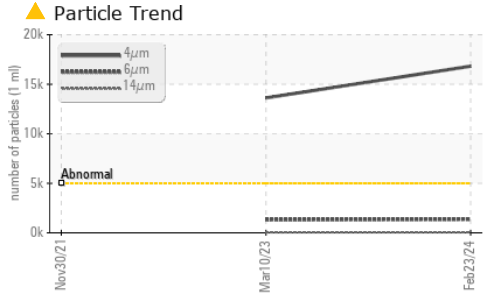
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>20	<1	1	<1
Sodium	ppm	ASTM D5185m		2	0	0
Potassium	ppm	ASTM D5185m	>20	0	<1	0

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	▲ 16822	▲ 13618	---
Particles >6µm	ASTM D7647	>1300	● 1366	● 1323	---
Particles >14µm	ASTM D7647	>160	55	51	---
Particles >21µm	ASTM D7647	>40	16	11	---
Particles >38µm	ASTM D7647	>10	1	0	---
Particles >71µm	ASTM D7647	>3	0	0	---
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 21/18/13	▲ 21/18/13	---



OIL ANALYSIS REPORT

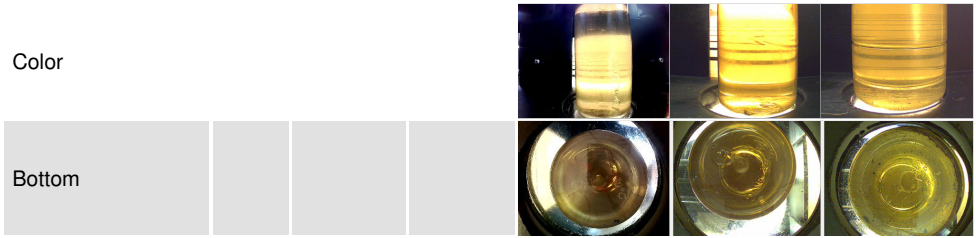


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	0.31	0.17	0.26

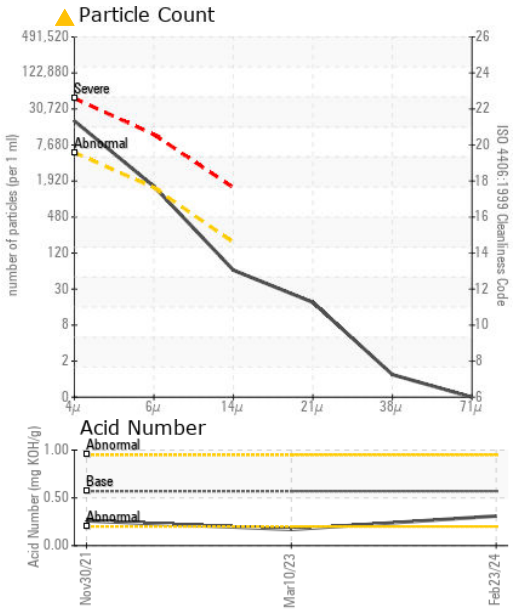
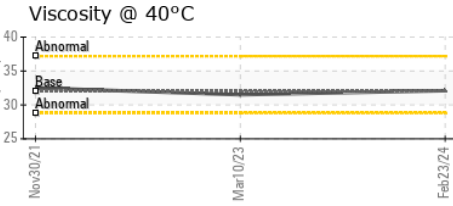
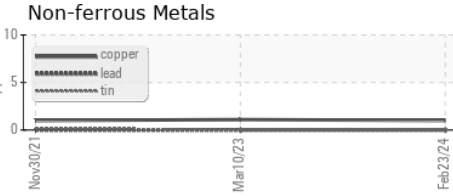
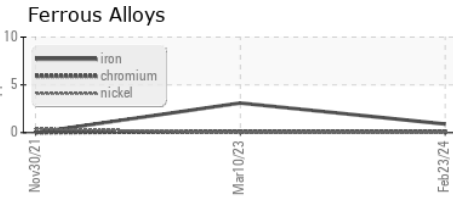
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	▲ MODER
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	LIGHT	▲ MODER
Sand/Dirt	scalar	*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	32.1	31.5	32.5

SAMPLE IMAGES		method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0813967 **Received** : 18 Mar 2024
Lab Number : **06121548** **Tested** : 19 Mar 2024
Unique Number : 10930381 **Diagnosed** : 19 Mar 2024 - Wes Davis
Test Package : CONST

PALFINGER - BRANCH 410
 632 CEDAR SWAMP RD
 JACKSON, NJ
 US 08527
 Contact: ANTHONY HARTIGAN
 a.hartigan@palfinger.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)