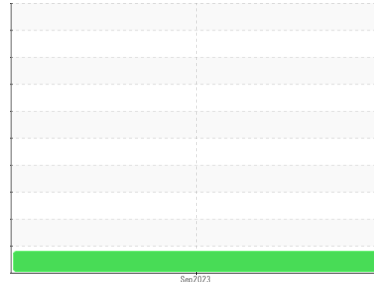




OIL ANALYSIS REPORT

Sample Rating Trend

ISO



Area
RIG 252
 Machine Id
R252-HPU
 Component
Hydraulic System
 Fluid
AW HYDRAULIC OIL ISO 46 (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) AW HYDRAULIC OIL ISO 46. Please confirm.

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	KL0012744	---	---
Sample Date	Client Info	29 Sep 2023	---	---
Machine Age	hrs Client Info	0	---	---
Oil Age	hrs Client Info	0	---	---
Oil Changed	Client Info	N/A	---	---
Sample Status		ABNORMAL	---	---

CONTAMINATION

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

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >20	<1	---	---
Chromium	ppm ASTM D5185m >10	0	---	---
Nickel	ppm ASTM D5185m >10	0	---	---
Titanium	ppm ASTM D5185m	0	---	---
Silver	ppm ASTM D5185m	0	---	---
Aluminum	ppm ASTM D5185m >10	2	---	---
Lead	ppm ASTM D5185m >10	0	---	---
Copper	ppm ASTM D5185m >75	1	---	---
Tin	ppm ASTM D5185m >10	0	---	---
Vanadium	ppm ASTM D5185m	0	---	---
Cadmium	ppm ASTM D5185m	0	---	---

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 5	0	---	---
Barium	ppm ASTM D5185m 5	0	---	---
Molybdenum	ppm ASTM D5185m 5	<1	---	---
Manganese	ppm ASTM D5185m	0	---	---
Magnesium	ppm ASTM D5185m 25	4	---	---
Calcium	ppm ASTM D5185m 200	54	---	---
Phosphorus	ppm ASTM D5185m 300	325	---	---
Zinc	ppm ASTM D5185m 370	436	---	---
Sulfur	ppm ASTM D5185m 2500	2576	---	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >20	3	---	---
Sodium	ppm ASTM D5185m	<1	---	---
Potassium	ppm ASTM D5185m >20	<1	---	---

FLUID CLEANLINESS

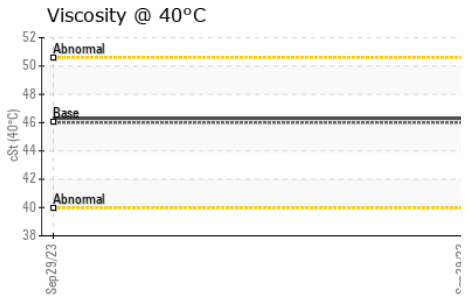
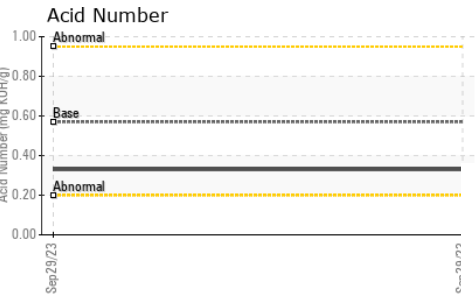
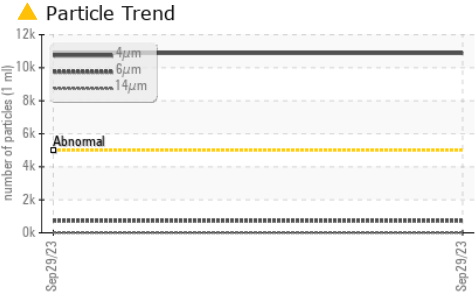
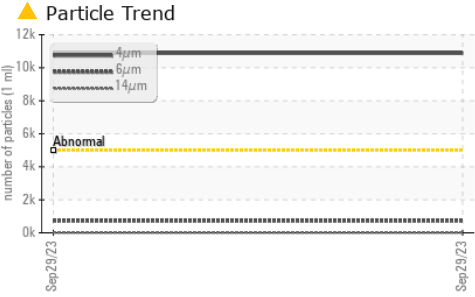
method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	▲ 10879	---	---
Particles >6µm	ASTM D7647 >1300	729	---	---
Particles >14µm	ASTM D7647 >160	12	---	---
Particles >21µm	ASTM D7647 >40	4	---	---
Particles >38µm	ASTM D7647 >10	0	---	---
Particles >71µm	ASTM D7647 >3	0	---	---
Oil Cleanliness	ISO 4406 (c) >19/17/14	▲ 21/17/11	---	---

FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D8045 0.57	0.33	---	---



OIL ANALYSIS REPORT



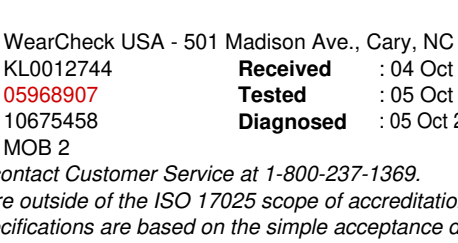
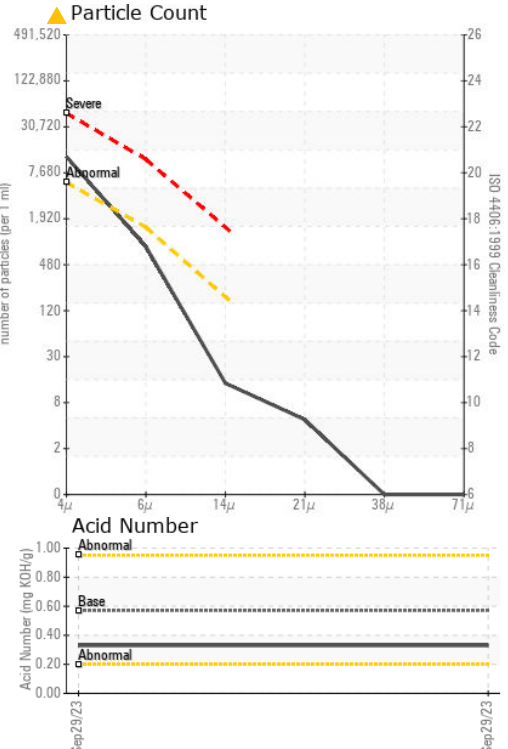
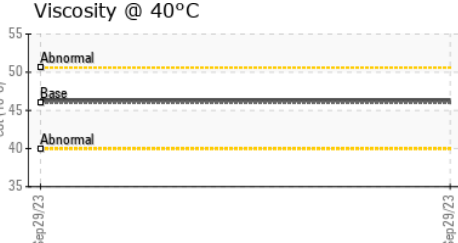
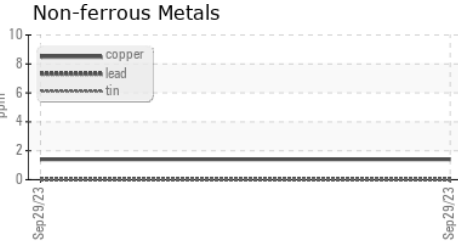
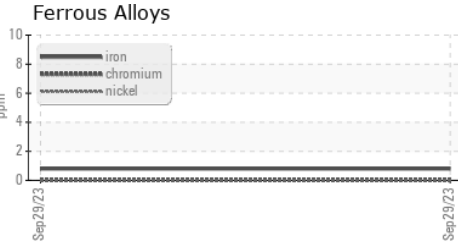
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	46.3	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color		no image	no image
Bottom		no image	no image

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0012744 **Received** : 04 Oct 2023
Lab Number : 05968907 **Tested** : 05 Oct 2023
Unique Number : 10675458 **Diagnosed** : 05 Oct 2023 - Wes Davis
Test Package : MOB 2

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 MIDLAND, TX
 US 79706
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 ricky.mata@patenergy.com
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 F: (432)561-9388

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)