



# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Area  
**RIG 879**  
 Machine Id  
**R879-HPU**  
 Component  
**Hydraulic System**  
 Fluid  
**NOT GIVEN (--- GAL)**



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample. Please note that this is a corrected copy for laboratory data updates for particle counts.

### Wear

All component wear rates are normal.

### Contamination

The amount and size of particulates present in the system are acceptable. The system and fluid cleanliness is acceptable.

### 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		<b>KL0012747</b>	---	---
Sample Date	Client Info		<b>23 Sep 2023</b>	---	---
Machine Age	hrs	Client Info	<b>0</b>	---	---
Oil Age	hrs	Client Info	<b>0</b>	---	---
Oil Changed	Client Info		<b>N/A</b>	---	---
Sample Status			<b>NORMAL</b>	---	---

## WEAR METALS

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

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>0</b>	---	---
Barium	ppm	ASTM D5185m	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m	<b>0</b>	---	---
Manganese	ppm	ASTM D5185m	<b>0</b>	---	---
Magnesium	ppm	ASTM D5185m	<b>4</b>	---	---
Calcium	ppm	ASTM D5185m	<b>51</b>	---	---
Phosphorus	ppm	ASTM D5185m	<b>325</b>	---	---
Zinc	ppm	ASTM D5185m	<b>399</b>	---	---
Sulfur	ppm	ASTM D5185m	<b>2168</b>	---	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >20	<b>2</b>	---	---
Sodium	ppm	ASTM D5185m	<b>&lt;1</b>	---	---
Potassium	ppm	ASTM D5185m >20	<b>0</b>	---	---

## FLUID CLEANLINESS

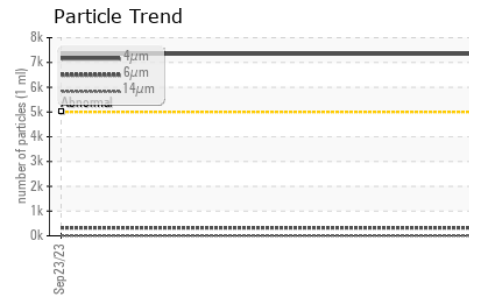
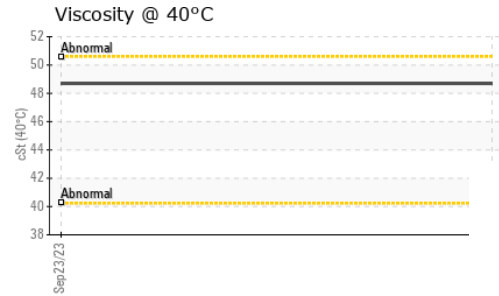
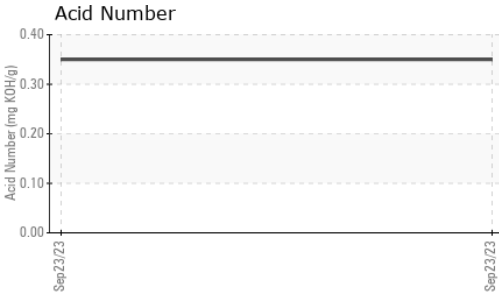
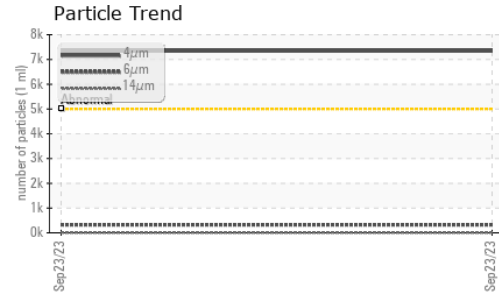
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	<b>7342</b>	---	---
Particles >6µm	ASTM D7647	>1300	<b>323</b>	---	---
Particles >14µm	ASTM D7647	>160	<b>8</b>	---	---
Particles >21µm	ASTM D7647	>40	<b>2</b>	---	---
Particles >38µm	ASTM D7647	>10	<b>0</b>	---	---
Particles >71µm	ASTM D7647	>3	<b>0</b>	---	---
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>20/16/10</b>	---	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>0.35</b>	---	---



# OIL ANALYSIS REPORT



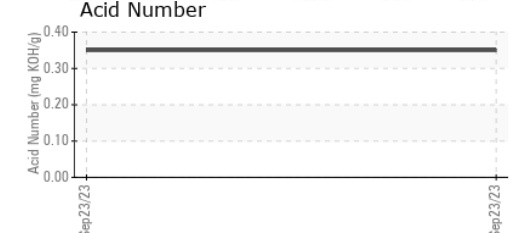
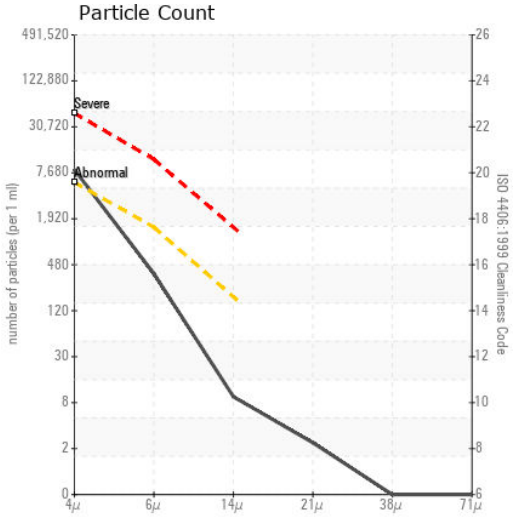
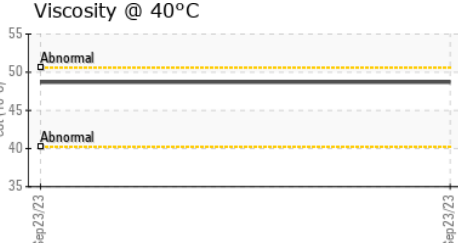
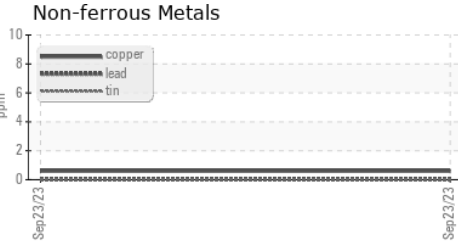
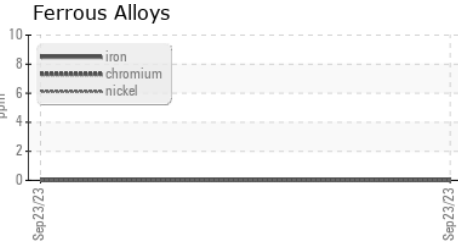
VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---
Precipitate	scalar	*Visual	NONE	NONE	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
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	48.7	---	---

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.** : KL0012747 **Received** : 29 Sep 2023  
**Lab Number** : 05965347 **Diagnosed** : 03 Oct 2023  
**Unique Number** : 10671898 **Diagnostician** : Doug Bogart  
**Test Package** : MOB 2

**PATTERSON - UTI DRILLING**  
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 ricky.mata@patenergy.com  
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 F: (432)561-9388

Certificate L2367  
 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)