



OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
RIG 816
 Machine Id
R816-MP-02
 Component
Agitator Gearbox
 Fluid
EP 320 (--- GAL)

DIAGNOSIS

▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

▲ Contamination

There is a high amount of silt (particulates < 14 microns in size) 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		KL0013155	---	---
Sample Date	Client Info		01 Nov 2023	---	---
Machine Age	Client Info		0	---	---
Oil Age	Client Info		0	---	---
Oil Changed	Client Info		N/A	---	---
Sample Status			ABNORMAL	---	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m	>20	23	---	---
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	<1	---	---
Lead	ppm ASTM D5185m	>10	0	---	---
Copper	ppm ASTM D5185m	>75	20	---	---
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		2	---	---
Barium	ppm ASTM D5185m		0	---	---
Molybdenum	ppm ASTM D5185m		0	---	---
Manganese	ppm ASTM D5185m		0	---	---
Magnesium	ppm ASTM D5185m		0	---	---
Calcium	ppm ASTM D5185m		17	---	---
Phosphorus	ppm ASTM D5185m		127	---	---
Zinc	ppm ASTM D5185m		40	---	---
Sulfur	ppm ASTM D5185m		6784	---	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m	>20	9	---	---
Sodium	ppm ASTM D5185m		12	---	---
Potassium	ppm ASTM D5185m	>20	0	---	---

FLUID CLEANLINESS

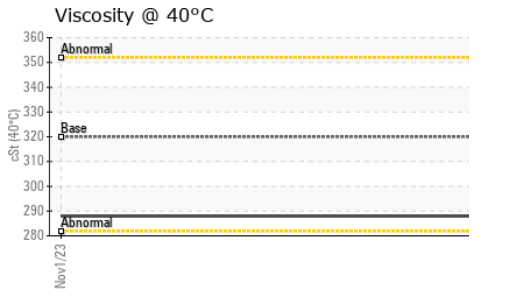
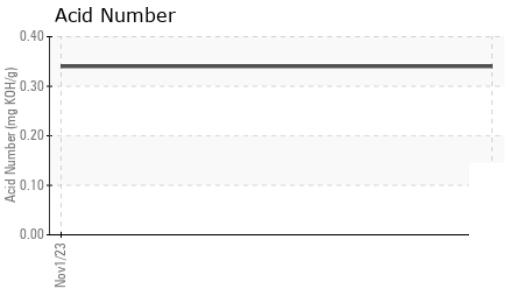
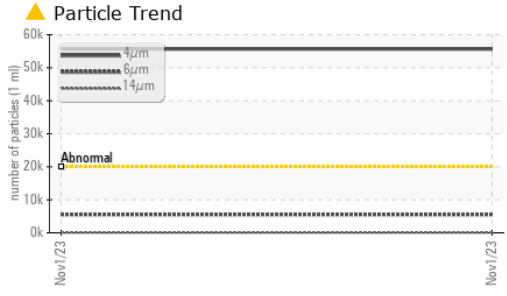
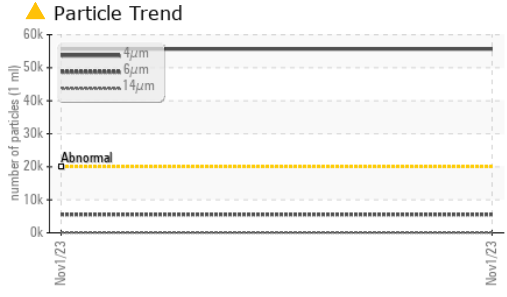
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	▲ 55659	---	---
Particles >6µm	ASTM D7647	>5000	▲ 5550	---	---
Particles >14µm	ASTM D7647	>640	104	---	---
Particles >21µm	ASTM D7647	>160	18	---	---
Particles >38µm	ASTM D7647	>40	0	---	---
Particles >71µm	ASTM D7647	>10	0	---	---
Oil Cleanliness	ISO 4406 (c)	>21/19/16	▲ 23/20/14	---	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D8045		0.34	---	---



OIL ANALYSIS REPORT



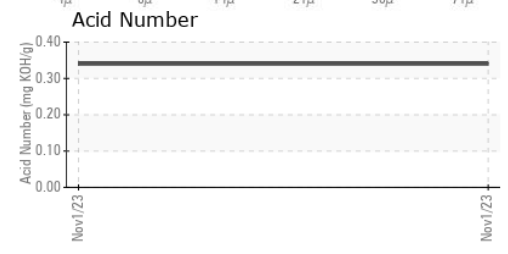
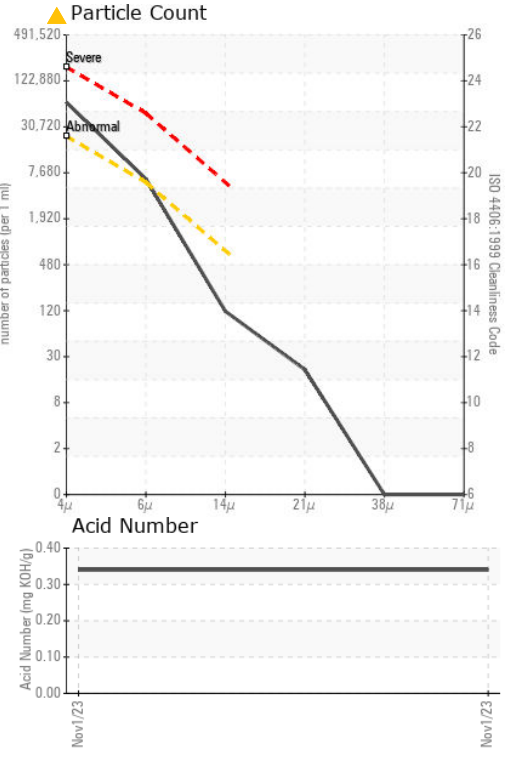
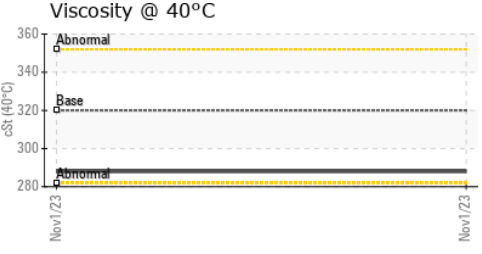
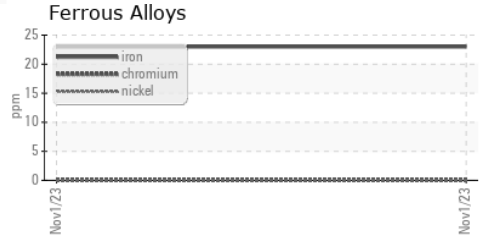
VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---
Precipitate	scalar	*Visual	NONE	NONE	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
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	320	288	---	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------

Color				no image	no image
Bottom				no image	no image

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013155 **Received** : 06 Nov 2023
Lab Number : 05999025 **Diagnosed** : 07 Nov 2023
Unique Number : 10727385 **Diagnostician** : Doug Bogart
Test Package : MOB 2 (Additional Tests: PrtCount)

PATTERSON - UTI DRILLING
 9915 WEST INDUSTRIAL
 MIDLAND, TX
 US 79706
 Contact: RICKY MATA
 ricky.mata@patenergy.com
 T: (832)219-4559
 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)