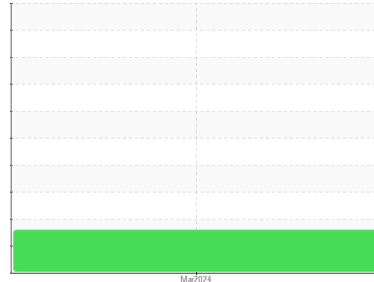




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
RIG 252
 Machine Id
R252-MP-01
 Component
Gearbox
 Fluid
GEAR OIL ISO 320 (--- GAL)

DIAGNOSIS

▲ Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

▲ Contamination

There is a high amount of particulates present in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	KL0011755	---	---
Sample Date	Client Info	22 Mar 2024	---	---
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	>0.2	NEG	---

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>200	19	---
Chromium	ppm	ASTM D5185m	>10	<1	---
Nickel	ppm	ASTM D5185m	>10	<1	---
Titanium	ppm	ASTM D5185m		0	---
Silver	ppm	ASTM D5185m		0	---
Aluminum	ppm	ASTM D5185m	>25	1	---
Lead	ppm	ASTM D5185m	>50	0	---
Copper	ppm	ASTM D5185m	>200	21	---
Tin	ppm	ASTM D5185m	>10	1	---
Vanadium	ppm	ASTM D5185m		<1	---
Cadmium	ppm	ASTM D5185m		0	---

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	50	11	---
Barium	ppm	ASTM D5185m	15	<1	---
Molybdenum	ppm	ASTM D5185m	15	<1	---
Manganese	ppm	ASTM D5185m		<1	---
Magnesium	ppm	ASTM D5185m	50	4	---
Calcium	ppm	ASTM D5185m	50	18	---
Phosphorus	ppm	ASTM D5185m	350	174	---
Zinc	ppm	ASTM D5185m	100	23	---
Sulfur	ppm	ASTM D5185m	12500	10595	---

CONTAMINANTS

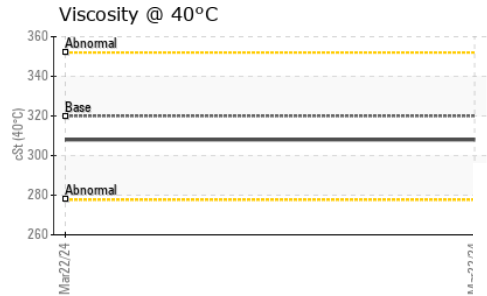
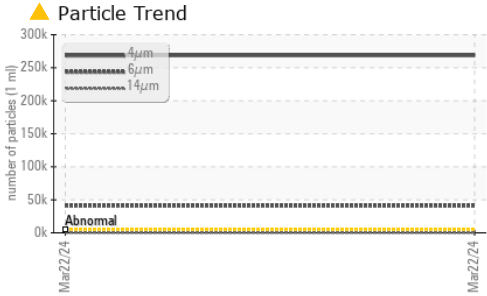
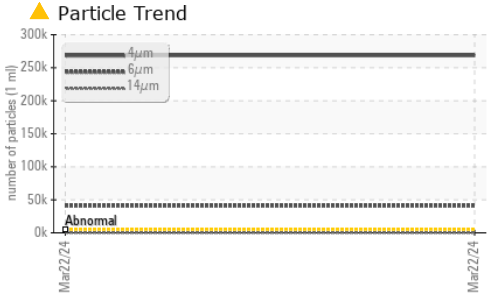
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>50	12	---
Sodium	ppm	ASTM D5185m		18	---
Potassium	ppm	ASTM D5185m	>20	1	---

FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	▲ 268580	---
Particles >6µm	ASTM D7647	>1300	▲ 40950	---
Particles >14µm	ASTM D7647	>160	▲ 216	---
Particles >21µm	ASTM D7647	>40	24	---
Particles >38µm	ASTM D7647	>10	2	---
Particles >71µm	ASTM D7647	>3	0	---
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 25/23/15	---



OIL ANALYSIS REPORT



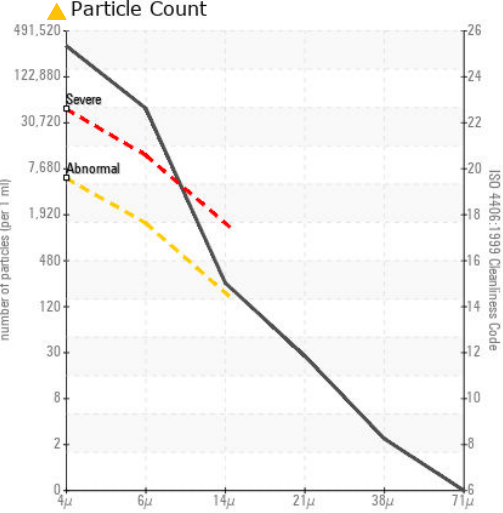
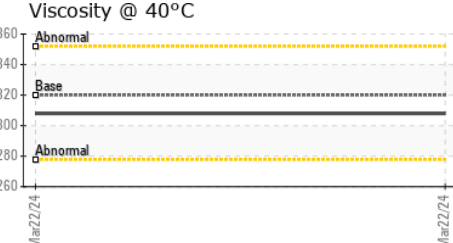
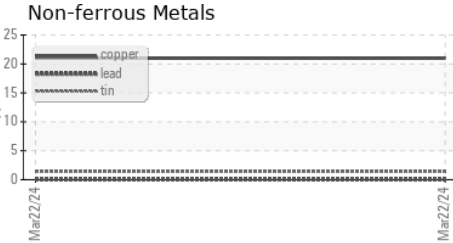
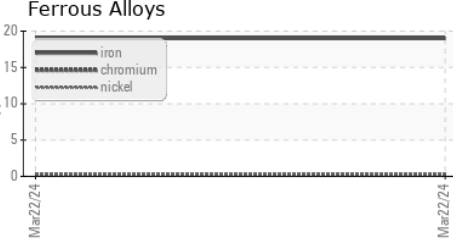
VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---
Precipitate	scalar	*Visual	NONE	NONE	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---	---
Free Water	scalar	*Visual		NEG	---	---

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	320	308	---	---

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

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0011755 **Received** : 27 Mar 2024
Lab Number : **06131191** **Tested** : 28 Mar 2024
Unique Number : 10950656 **Diagnosed** : 28 Mar 2024 - Doug Bogart
Test Package : FLEET (Additional Tests: PrtCount)

PATTERSON - UTI DRILLING
 9915 WEST INDUSTRIAL
 MIDLAND, TX
 US 79706
 Contact: RICKY MATA
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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)