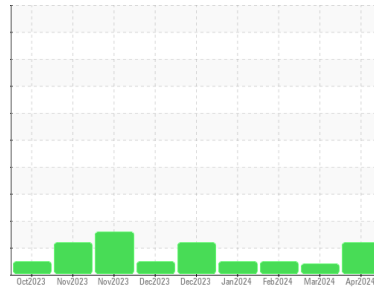




# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area  
**RIG 258**  
 Machine Id  
**R258-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. Please specify the component make and model with your next sample.

### Wear

All component wear rates are normal.

### Contamination

There is a light 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			<b>KL0014295</b>	KL0013735	KL0013762
Sample Date	Client Info			<b>03 Apr 2024</b>	05 Mar 2024	06 Feb 2024
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed	Client Info			<b>N/A</b>	N/A	N/A
Sample Status				<b>ATTENTION</b>	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.2	<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	<b>17</b>	14	21
Chromium	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>0</b>	0	<1
Lead	ppm	ASTM D5185m	>50	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>200	<b>6</b>	6	10
Tin	ppm	ASTM D5185m	>10	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	50	<b>&lt;1</b>	4	4
Barium	ppm	ASTM D5185m	15	<b>2</b>	0	2
Molybdenum	ppm	ASTM D5185m	15	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m	50	<b>&lt;1</b>	0	<1
Calcium	ppm	ASTM D5185m	50	<b>22</b>	12	20
Phosphorus	ppm	ASTM D5185m	350	<b>152</b>	122	140
Zinc	ppm	ASTM D5185m	100	<b>4</b>	3	19
Sulfur	ppm	ASTM D5185m	12500	<b>9373</b>	8560	7680

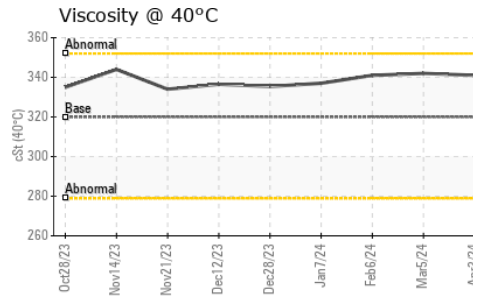
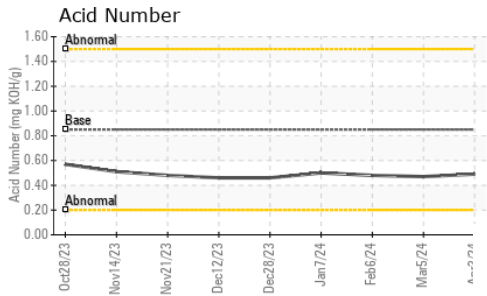
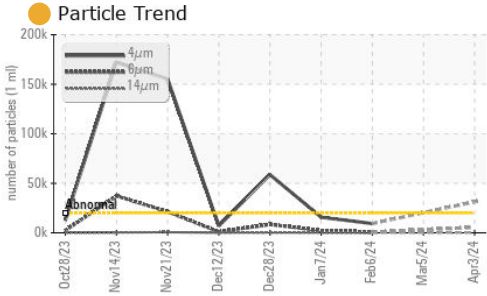
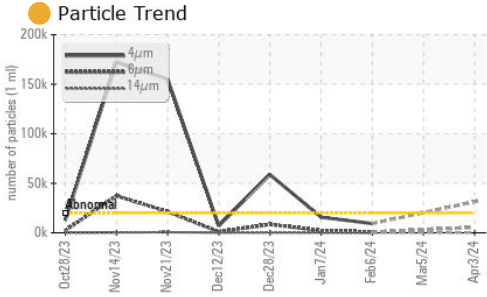
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	<b>5</b>	4	6
Sodium	ppm	ASTM D5185m		<b>7</b>	7	13
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	0

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	<b>31334</b>	---	9315
Particles >6µm		ASTM D7647	>5000	<b>5497</b>	---	683
Particles >14µm		ASTM D7647	>640	<b>107</b>	---	17
Particles >21µm		ASTM D7647	>160	<b>17</b>	---	2
Particles >38µm		ASTM D7647	>40	<b>1</b>	---	0
Particles >71µm		ASTM D7647	>10	<b>0</b>	---	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>22/20/14</b>	---	20/17/11

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.85	<b>0.49</b>	0.47	0.48



# OIL ANALYSIS REPORT

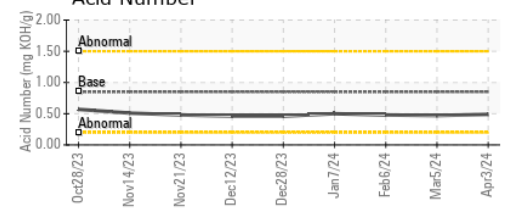
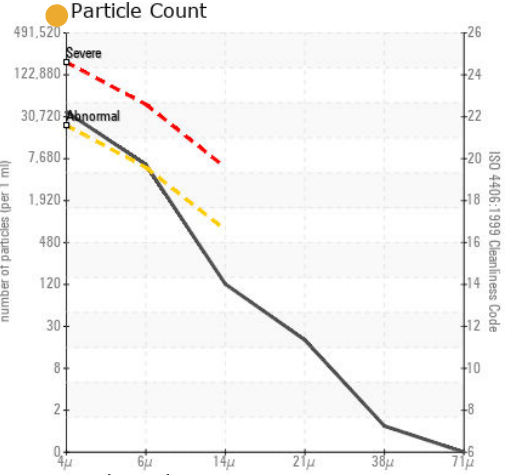
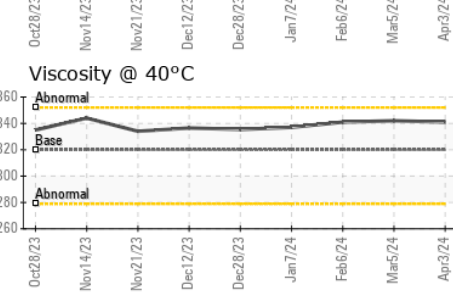
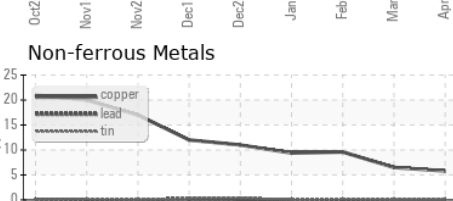
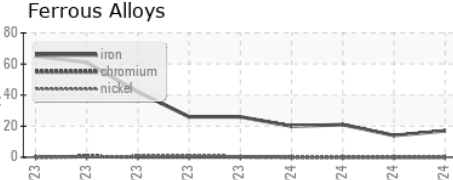


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	▲ MODER	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	320	341	342

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KL0014295      **Received** : 11 Apr 2024  
**Lab Number** : 06145844      **Tested** : 12 Apr 2024  
**Unique Number** : 10975922      **Diagnosed** : 12 Apr 2024 - Wes Davis  
**Test Package** : MOB 2 ( Additional Tests: PrtCount )

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