



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ATTENTION

Area
RIG 8
Machine Id
DRILLING RIG R8-P-01-G
Component
Gearbox
Fluid
GEAR OIL ISO 220 (100 GAL)

RECOMMENDATION

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

WEAR

All component wear rates are normal.

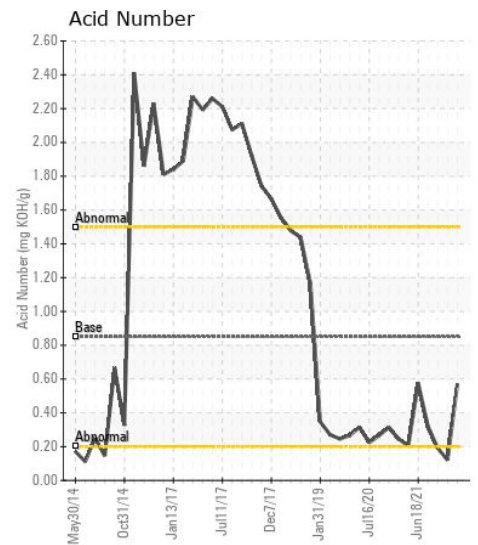
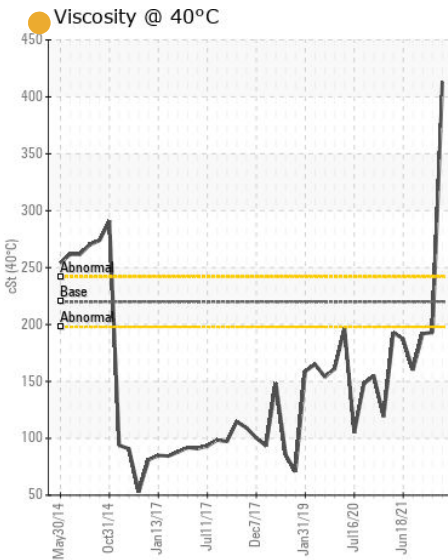
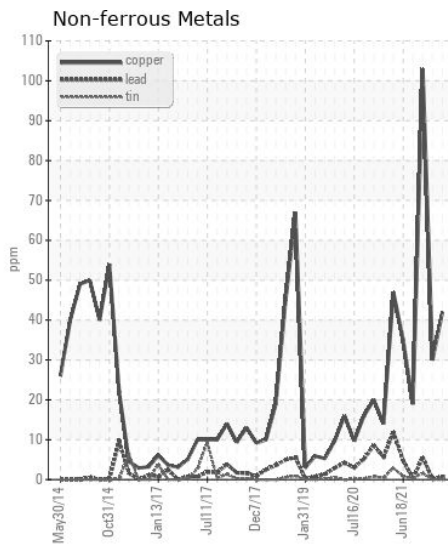
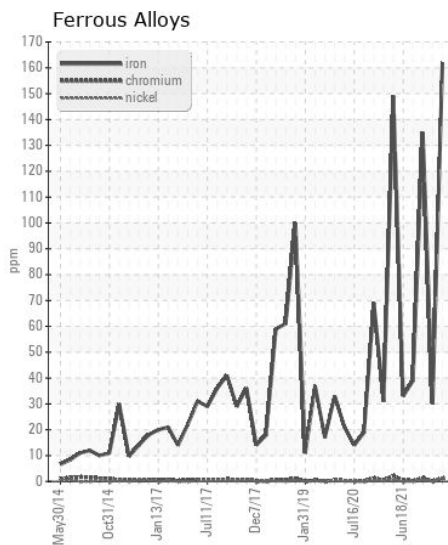
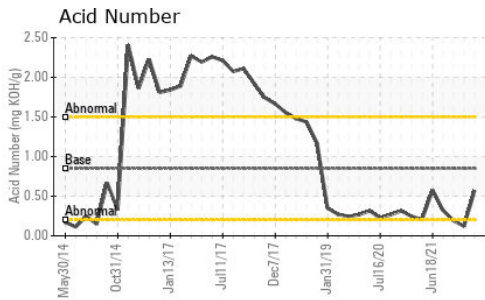
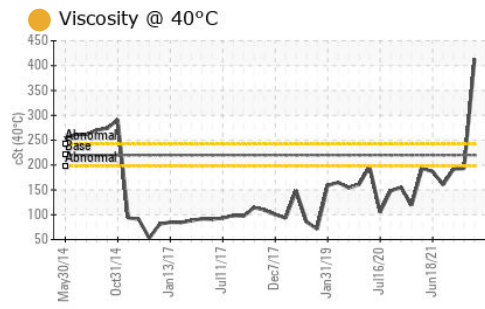
CONTAMINATION

There is a moderate amount of visible silt present in the sample.

FLUID CONDITION

Viscosity of sample indicates oil is within ISO 460 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0013928	KL0012468	KL0008011
Sample Date		Client Info		29 Mar 2024	19 May 2023	27 May 2022
Machine Age	days	Client Info		45371	45063	44713
Oil Age	days	Client Info		0	0	0
Filter Age	days	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	Changed	N/A
Sample Status				ABNORMAL	ABNORMAL	SEVERE
Iron	ppm	ASTM D5185m	>200	162	30	135
Chromium	ppm	ASTM D5185m	>10	1	<1	1
Nickel	ppm	ASTM D5185m	>10	1	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	1
Silver	ppm	ASTM D5185m		0	0	2
Aluminum	ppm	ASTM D5185m	>25	8	2	24
Lead	ppm	ASTM D5185m	>50	<1	<1	6
Copper	ppm	ASTM D5185m	>200	42	30	103
Tin	ppm	ASTM D5185m	>10	0	0	2
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>50	35	14	116
Potassium	ppm	ASTM D5185m	>20	11	4	9
Water		WC Method	>0.2	NEG	NEG	NEG
Particles >4µm		ASTM D7647		---	---	---
Particles >6µm		ASTM D7647	>5000	---	---	---
Particles >14µm		ASTM D7647	>640	---	---	---
Particles >21µm		ASTM D7647	>160	---	---	---
Particles >38µm		ASTM D7647	>40	---	---	---
Particles >71µm		ASTM D7647	>10	---	---	---
Oil Cleanliness		ISO 4406 (c)	>19/16	---	---	---
Silt	scalar	*Visual	NONE	▲ MODER	NONE	▲ MODER
Debris	scalar	*Visual	NONE	NONE	▲ MODER	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	▲ 0.2%
Sodium	ppm	ASTM D5185m		79	31	13
Boron	ppm	ASTM D5185m	50	24	0	6
Barium	ppm	ASTM D5185m	15	36	0	159
Molybdenum	ppm	ASTM D5185m	15	392	5	<1
Manganese	ppm	ASTM D5185m		1	<1	1
Magnesium	ppm	ASTM D5185m	50	12	7	8
Calcium	ppm	ASTM D5185m	50	48	31	122
Phosphorus	ppm	ASTM D5185m	350	236	110	165
Zinc	ppm	ASTM D5185m	100	34	25	53
Sulfur	ppm	ASTM D5185m	12500	7884	5731	5594
Acid Number (AN)	mg KOH/g	ASTM D8045	0.85	0.57	0.12	0.19
Visc @ 40°C	cSt	ASTM D445	220	413	193	192



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013928 **Received** : 10 Apr 2024
Lab Number : 06145281 **Tested** : 13 Apr 2024
Unique Number : 10970089 **Diagnosed** : 13 Apr 2024 - Don Baldrige
Test Package : MOB 2 (Additional Tests: PrtCount)

MCVAY DRILLING
 401 E BENDER BLVD
 HOBBS, NM
 US 88241

Contact: DOMINIK MENDOZA
 dominik4819@yahoo.com

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)

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