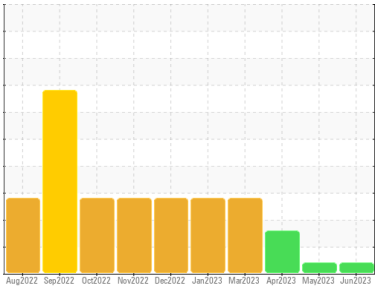
OIL DIAGNOSTICS

PROBLEM SUMMARY

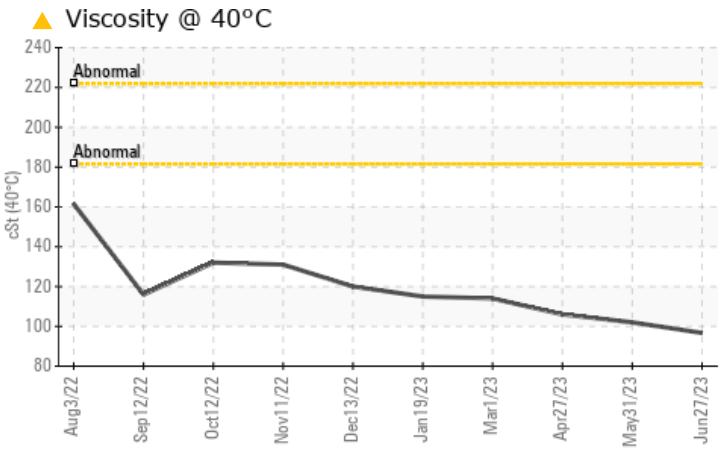
Sample Rating Trend



VISCOSITY

Machine Id
BASIN DRILLING 105
Component
Top Drive
Fluid
BAD ASS 220 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				ATTENTION	ATTENTION	ABNORMAL
Visc @ 40°C	cSt	ASTM D445		**96.7**	102	106

Customer Id: DELSHR
Sample No.: PCA0096228
Lab Number: 05893845
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

31 May 2023 Diag: Doug Bogart

VISCOSITY

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. Viscosity of sample indicates oil is within ISO 100 range, advise investigate. Confirm oil type.

view report

27 Apr 2023 Diag: Jonathan Hester

DEGRADATION

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.All component wear rates are normal. There is no indication of any contamination in the oil. The AN level is above the recommended limit. Viscosity of sample indicates oil is within ISO 100 range, advise investigate. Confirm oil type.

view report

01 Mar 2023 Diag: Don Baldridge

DIRT

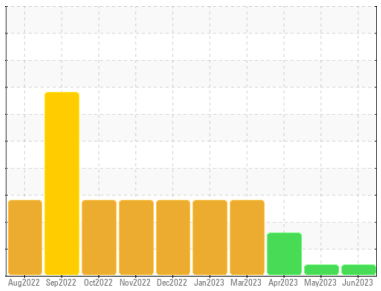
We advise that you check all areas where dirt can enter the system. Resample at the next service interval to monitor.All component wear rates are normal. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The oil viscosity is lower than normal. Confirm oil type. The AN level is acceptable for this fluid.

view report

OIL DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY

Machine Id
BASIN DRILLING 105
Component
Top Drive
Fluid
BAD ASS 220 (--- GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
Viscosity of sample indicates oil is within ISO 100 range, advise investigate. Confirm oil type.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0096228**	PCA0096199	PCA0096217
Sample Date		Client Info		**27 Jun 2023**	31 May 2023	27 Apr 2023
Machine Age	mls	Client Info		**0**	0	0
Oil Age	mls	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ATTENTION**	ATTENTION	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>500	**69**	98	93
Chromium	ppm	ASTM D5185m	>10	**1**	<1	<1
Nickel	ppm	ASTM D5185m	>5	**<1**	<1	<1
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>10	**9**	8	8
Lead	ppm	ASTM D5185m	>10	**0**	<1	0
Copper	ppm	ASTM D5185m	>25	**3**	7	3
Tin	ppm	ASTM D5185m	>5	**0**	<1	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**360**	253	371
Barium	ppm	ASTM D5185m		**137**	107	94
Molybdenum	ppm	ASTM D5185m		**<1**	<1	<1
Manganese	ppm	ASTM D5185m		**<1**	1	<1
Magnesium	ppm	ASTM D5185m		**6**	4	4
Calcium	ppm	ASTM D5185m		**97**	120	174
Phosphorus	ppm	ASTM D5185m		**1428**	1704	1524
Zinc	ppm	ASTM D5185m		**18**	3	13
Sulfur	ppm	ASTM D5185m		**25056**	30104	22866

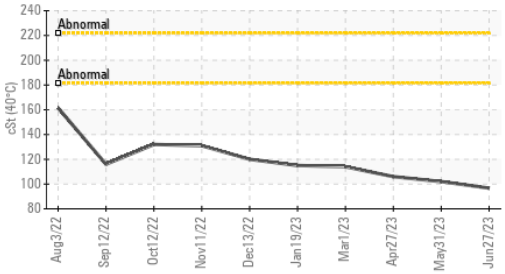
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**27**	26	31
Sodium	ppm	ASTM D5185m		**4**	4	6
Potassium	ppm	ASTM D5185m	>20	**3**	3	4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**3.37**	3.62	▲ 3.55

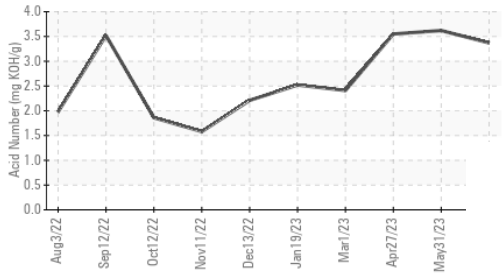
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	LIGHT	MODER
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**LIGHT**	NONE	MODER
Debris	scalar	*Visual	NONE	**NONE**	LIGHT	NONE
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	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

OIL ANALYSIS REPORT

▲ Viscosity @ 40°C

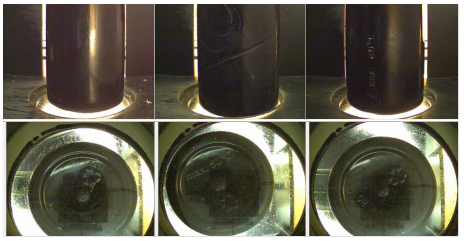


Acid Number



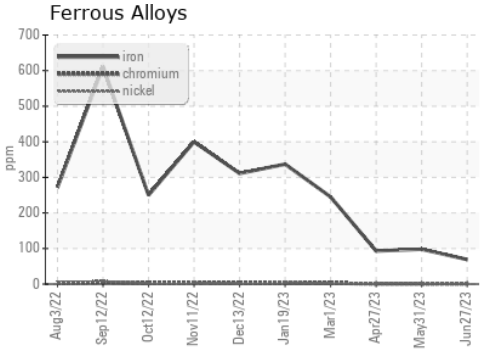
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		▲ **96.7**	▲ 102	▲ 106

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

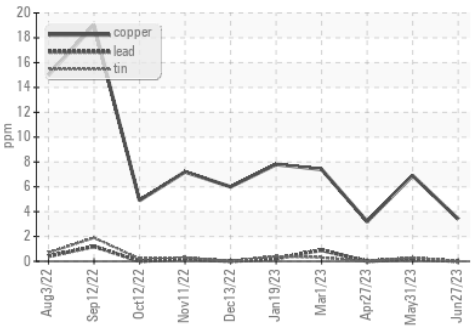


GRAPHS

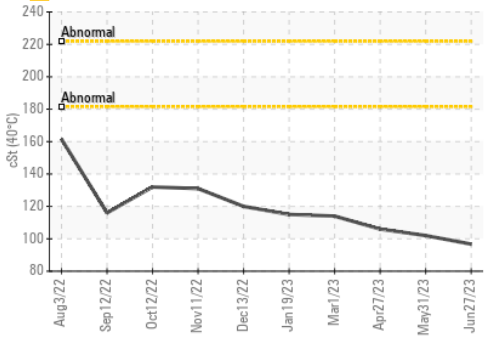
Ferrous Alloys



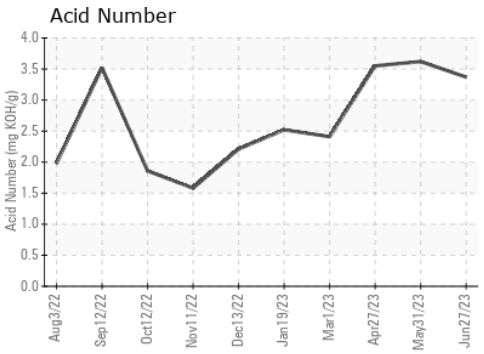
Non-ferrous Metals



▲ Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0096228 **Received** : 10 Jul 2023
Lab Number : 05893845 **Diagnosed** : 12 Jul 2023
Unique Number : 10549655 **Diagnostician** : Jonathan Hester
Test Package : IND 2

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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