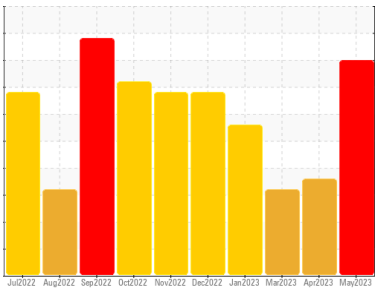
OIL DIAGNOSTICS

PROBLEM SUMMARY

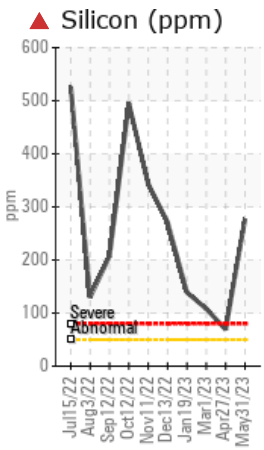
Sample Rating Trend

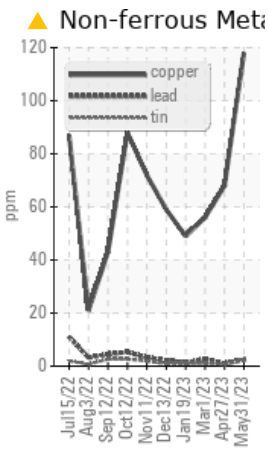


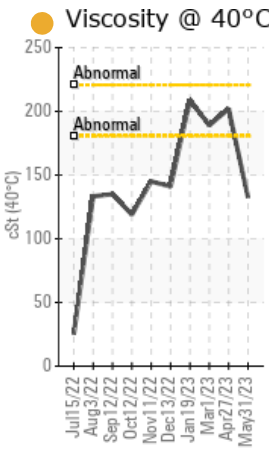
DIRT

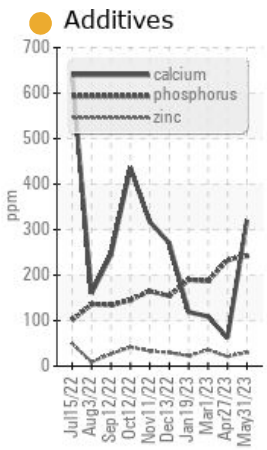
Machine Id
BASIN DRILLING 105
Component
1 Pump
Fluid
BAD ASS 220 (--- GAL)

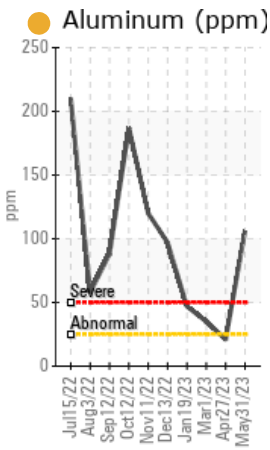
COMPONENT CONDITION SUMMARY











RECOMMENDATION

We advise that you check all areas where dirt can enter the system. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	ABNORMAL
Copper	ppm	ASTM D5185m	>50	▲ **118**	▲ 68	▲ 56
Silicon	ppm	ASTM D5185m	>50	▲ **277**	▲ 69	▲ 108
Debris	scalar	*Visual	NONE	▲ **MODER**	▲ MODER	NONE

Customer Id: DELSHR
Sample No.: PCA0096198
Lab Number: 05864462
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

Action	Status	Date	Done By	Description
Resample	MISSED	Jul 12 2023	?	We recommend an early resample to monitor this condition.
Check Dirt Access	MISSED	Jul 12 2023	?	We advise that you check all areas where dirt can enter the system.

HISTORICAL DIAGNOSIS

DIRT

27 Apr 2023 Diag: Jonathan Hester

We advise that you check all areas where dirt can enter the system. Resample at the next service interval to monitor.The copper level is abnormal. All other component wear rates are normal. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. Moderate concentration of visible dirt/debris present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

DIRT

01 Mar 2023 Diag: Don Baldridge

We advise that you check all areas where dirt can enter the system. We recommend an early resample to monitor this condition.The copper level is abnormal. All other component wear rates are normal. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

view report

DIRT

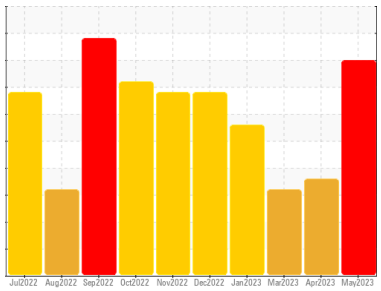
19 Jan 2023 Diag: Don Baldridge

We advise that you check all areas where dirt can enter the system. 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. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The AN level is acceptable for this fluid. The oil is no longer serviceable due to the presence of contaminants.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Machine Id
BASIN DRILLING 105
Component
1 Pump
Fluid
BAD ASS 220 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check all areas where dirt can enter the system. We recommend an early resample to monitor this condition.

Wear
The copper level is abnormal. All other component wear rates are normal.

Contamination
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. Moderate concentration of visible dirt/debris present in the oil.

Fluid Condition
Additive levels indicate the addition of a different brand, or type of oil. Viscosity of sample indicates oil is within ISO 150 range, advise investigate. Confirm oil type.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0096198**	PCA0096211	PCA0090231
Sample Date		Client Info		**31 May 2023**	27 Apr 2023	01 Mar 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				**SEVERE**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>500	**219**	86	134
Chromium	ppm	ASTM D5185m	>7	**3**	2	2
Nickel	ppm	ASTM D5185m		**<1**	0	<1
Titanium	ppm	ASTM D5185m		**6**	1	2
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**106**	21	35
Lead	ppm	ASTM D5185m	>35	**2**	1	3
Copper	ppm	ASTM D5185m	>50	**118**	68	56
Tin	ppm	ASTM D5185m	>5	**3**	<1	1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**17**	21	3
Barium	ppm	ASTM D5185m		**566**	66	112
Molybdenum	ppm	ASTM D5185m		**<1**	<1	1
Manganese	ppm	ASTM D5185m		**4**	1	3
Magnesium	ppm	ASTM D5185m		**22**	7	12
Calcium	ppm	ASTM D5185m		**320**	62	109
Phosphorus	ppm	ASTM D5185m		**242**	233	187
Zinc	ppm	ASTM D5185m		**30**	21	36
Sulfur	ppm	ASTM D5185m		**8393**	6693	9991

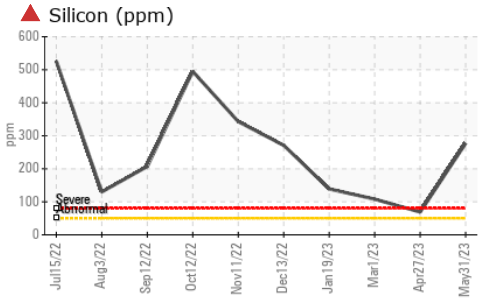
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**277**	69	108
Sodium	ppm	ASTM D5185m		**40**	54	16
Potassium	ppm	ASTM D5185m	>20	**39**	8	11

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.19**	0.31	0.18

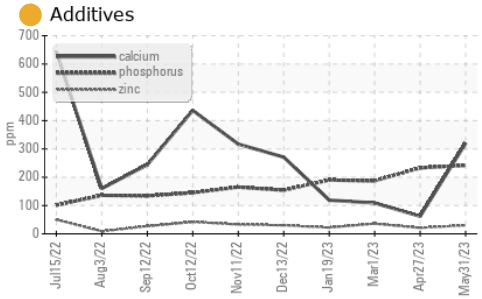
OIL ANALYSIS REPORT

OIL DIAGNOSTICS

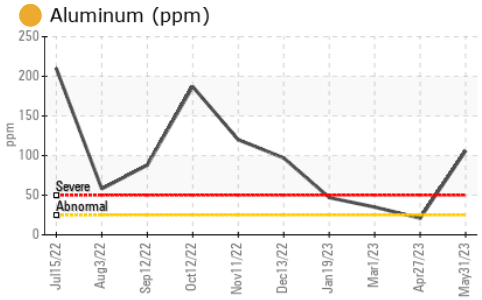
Silicon (ppm)



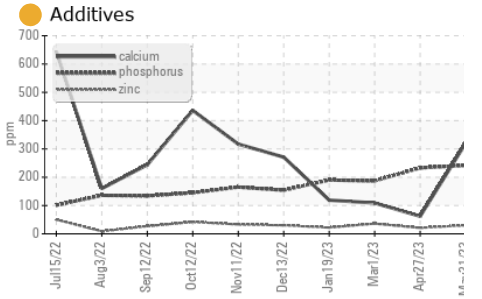
Additives



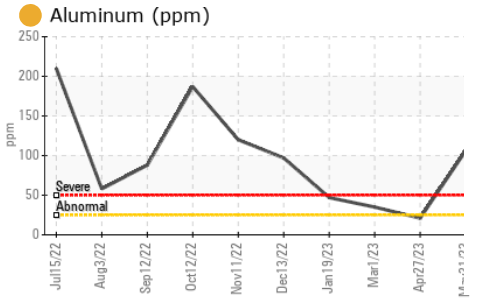
Aluminum (ppm)



Additives

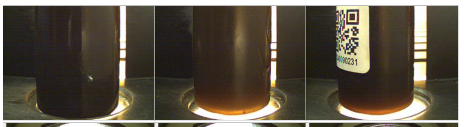
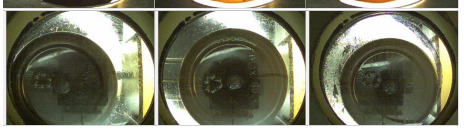


Aluminum (ppm)



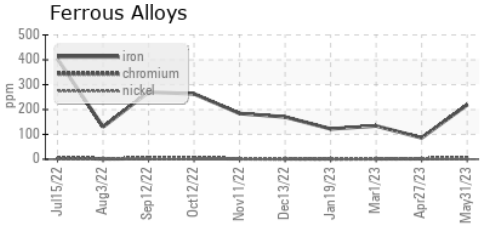
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	▲ **MODER**	▲ MODER	NONE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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		**132.6**	202	189

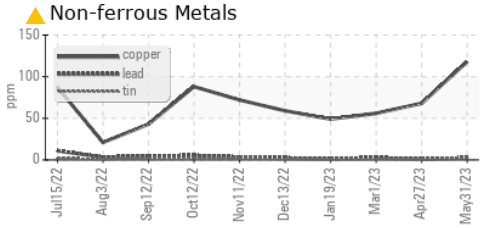
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

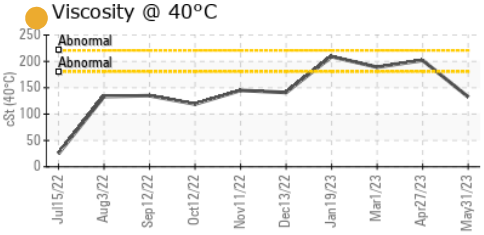
Ferrous Alloys



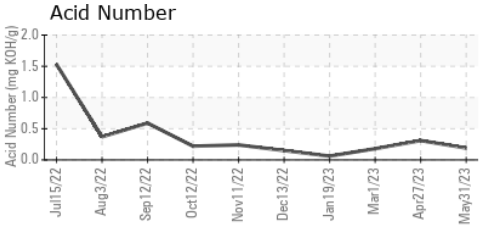
▲ Non-ferrous Metals



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0096198
Lab Number : 05864462
Unique Number : 10498927
Test Package : IND 2

Received : 05 Jun 2023
Tested : 09 Jun 2023
Diagnosed : 09 Jun 2023 - Jonathan Hester

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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