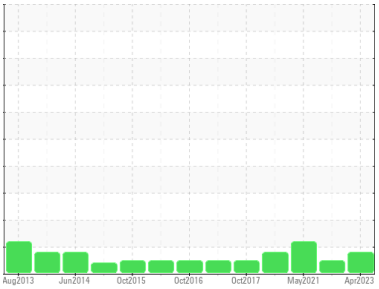
PROBLEM SUMMARY

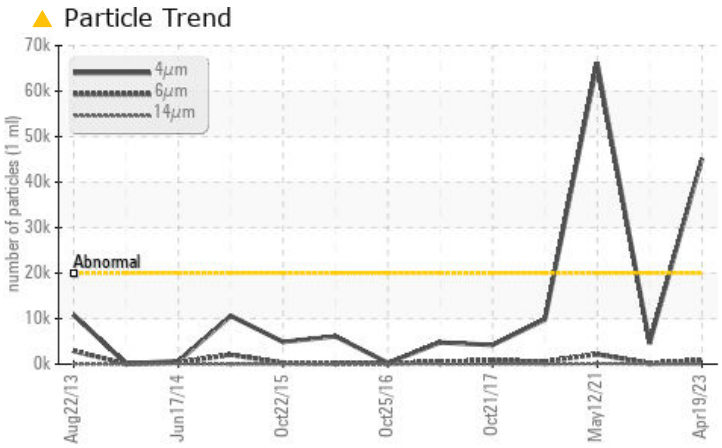
Area
HIGHLAND [600380485]
Machine Id
07WEA80814
Component
Hydraulic System
Fluid
SHELL TELLUS ARTIC 32 (--- LTR)

Sample Rating Trend



ISO

COMPONENT CONDITION SUMMARY



RECOMMENDATION

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

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	NORMAL	ABNORMAL
Particles >4µm		ASTM D7647	>20000	▲ **45182**	4598	▲ 66220
Oil Cleanliness		ISO 4406 (c)	>21/18/15	▲ **23/17/12**	19/15/10	▲ 23/18/14

Customer Id: NORHIG
Sample No.: NX05928140
Lab Number: 05928140
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldridge +1
don.b505@comcast.net

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

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component.

HISTORICAL DIAGNOSIS

17 May 2022 Diag: Don Baldridge

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

12 May 2021 Diag: Don Baldridge

WEAR

We recommend you service the filters on this component. Resample at the next service interval to monitor.The iron level is abnormal. All other component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid.

view report

29 Apr 2020 Diag: Don Baldridge

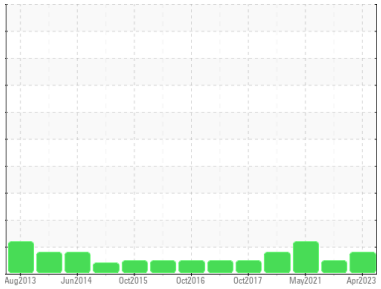
WEAR

No corrective action is recommended at this time. Resample at the next service interval to monitor.The iron level is abnormal. All other component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
HIGHLAND [600380485]
Machine Id
07WEA80814
Component
Hydraulic System
Fluid
SHELL TELLUS ARTIC 32 (--- LTR)

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 silt (particulates < 14 microns in size) present in the oil.

Fluid Condition
The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**NX05928140**	NX05602774	NX05387360
Sample Date		Client Info		**19 Apr 2023**	17 May 2022	12 May 2021
Machine Age	mths	Client Info		**0**	0	0
Oil Age	mths	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	NORMAL	ABNORMAL

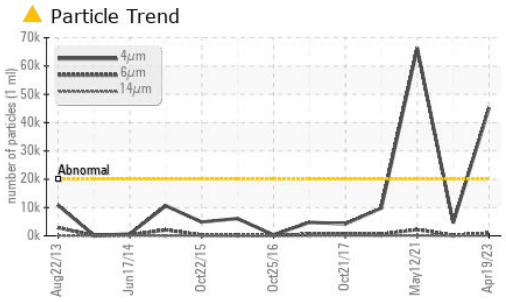
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		**15**	16	16
Iron	ppm	ASTM D5185m	>20	**14**	9	▲ 24
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	1
Nickel	ppm	ASTM D5185m	>20	**0**	<1	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**<1**	<1	0
Aluminum	ppm	ASTM D5185m	>20	**0**	0	0
Lead	ppm	ASTM D5185m	>20	**1**	<1	2
Copper	ppm	ASTM D5185m	>20	**<1**	<1	<1
Tin	ppm	ASTM D5185m	>20	**0**	<1	<1
Antimony	ppm	ASTM D5185m		**---**	---	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

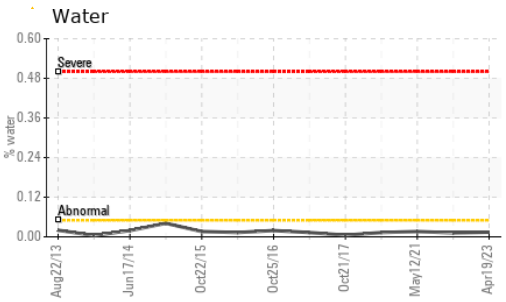
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	5	**0**	<1	<1
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	0	**0**	0	<1
Manganese	ppm	ASTM D5185m	0	**0**	0	<1
Magnesium	ppm	ASTM D5185m	0	**0**	0	<1
Calcium	ppm	ASTM D5185m	5	**0**	0	<1
Phosphorus	ppm	ASTM D5185m	600	**789**	565	602
Zinc	ppm	ASTM D5185m	50	**66**	45	113
Sulfur	ppm	ASTM D5185m	900	**988**	736	833

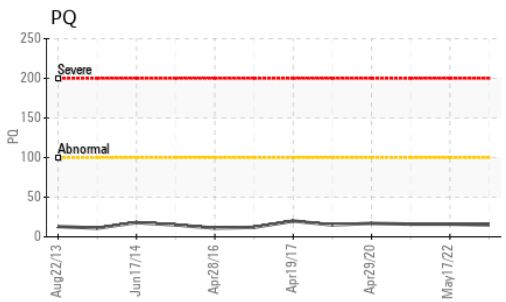
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**1**	<1	3
Sodium	ppm	ASTM D5185m		**0**	0	<1
Potassium	ppm	ASTM D5185m	>20	**<1**	0	0
Water	%	ASTM D6304	>0.05	**0.014**	0.012	0.016
ppm Water	ppm	ASTM D6304	>500	**143.2**	121.6	168.1

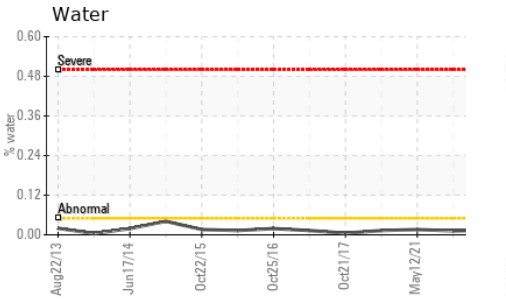
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	▲ **45182**	4598	▲ 66220
Particles >6µm	ASTM D7647	>2500	**899**	183	2163
Particles >14µm	ASTM D7647	>320	**37**	9	111
Particles >21µm	ASTM D7647	>80	**9**	1	23
Particles >38µm	ASTM D7647	>20	**0**	0	2
Particles >71µm	ASTM D7647	>4	**0**	0	0
Oil Cleanliness	ISO 4406 (c)	>21/18/15	▲ **23/17/12**	19/15/10	▲ 23/18/14

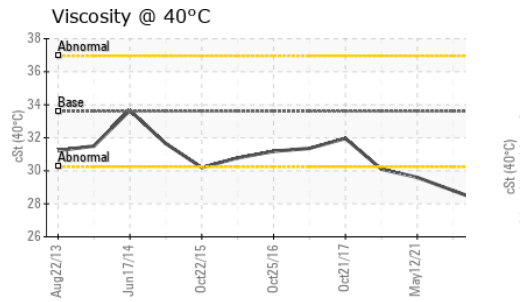
OIL ANALYSIS REPORT









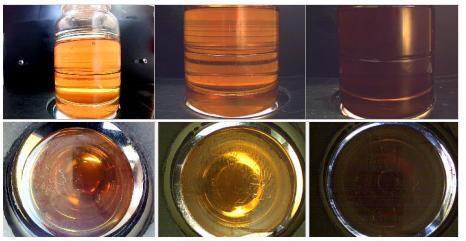


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.20	**0.16**	0.16	0.238

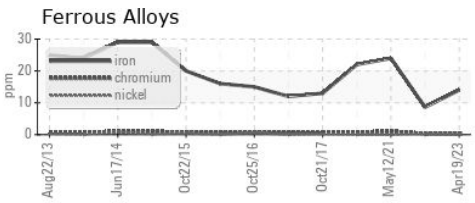
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

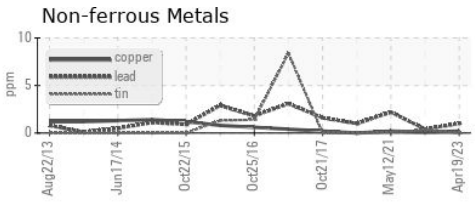
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	33.6	**28.0**	28.8	29.6

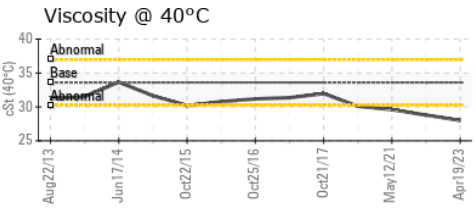
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

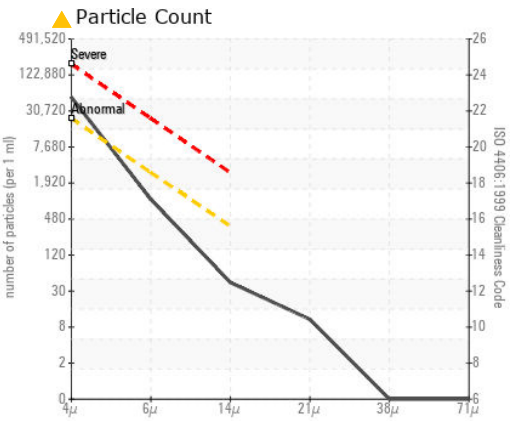


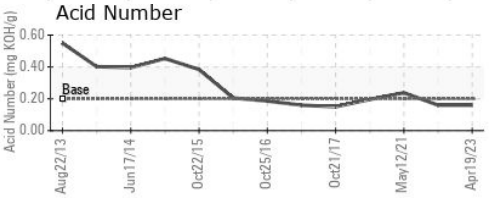
GRAPHS











Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : NX05928140 **Received** : 18 Aug 2023
Lab Number : 05928140 **Diagnosed** : 21 Aug 2023
Unique Number : 10608087 **Diagnostician** : Don Baldridge
Test Package : IND 2 (Additional Tests: KF, PQ)

Certificate L2367

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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