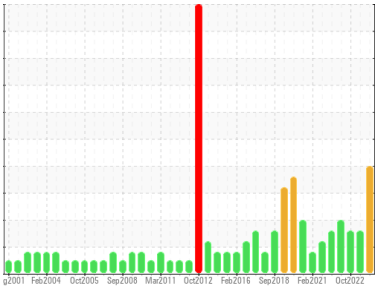
PROBLEM SUMMARY

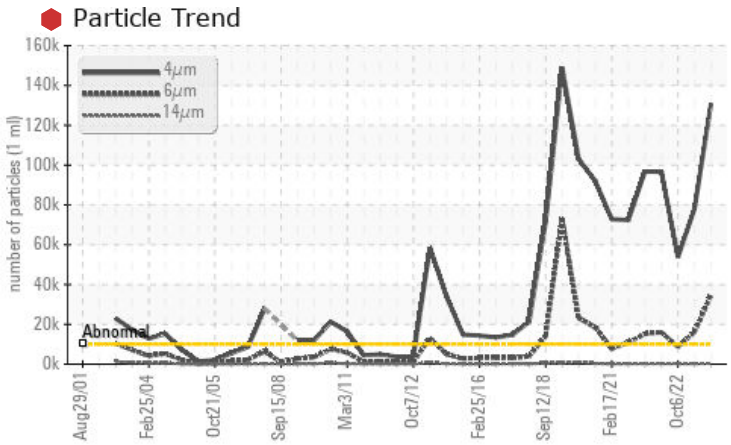
Area
COR
Machine Id
LONGGEN3BRGUS
Component
Bearing
Fluid
SHELL TURBO T ISO 68 (25 LTR)

Sample Rating Trend



ISO

COMPONENT CONDITION SUMMARY



RECOMMENDATION

Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	ABNORMAL
Particles >4µm		ASTM D7647	>10000	**130678**	77991	53775
Particles >6µm		ASTM D7647	>2500	**34633**	16079	8782
Particles >14µm		ASTM D7647	>160	**362**	232	241
Oil Cleanliness		ISO 4406 (c)	>20/18/14	**24/22/16**	23/21/15	23/20/15

Customer Id: ALGMIS
Sample No.: WC0790722
Lab Number: 02588630
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Kevin Marson +1 (289)291-4644 x4644
Kevin.Marson@wearcheck.com

To change component or sample information:
Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component.
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
Check Breathers	---	---	?	The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather.
Check Seals	---	---	?	Check seals and/or filters for points of contaminant entry.

HISTORICAL DIAGNOSIS

04 Jul 2023 Diag: Kevin Marson

ISO

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

06 Oct 2022 Diag: Kevin Marson

ISO

The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.All component wear rates are normal. Oil Cleanliness are abnormally high. Particles >4µm are abnormally high. Particles >6µm are abnormally high. Particles >14µm are notably high. The water content is negligible. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

23 Feb 2022 Diag: Kevin Marson

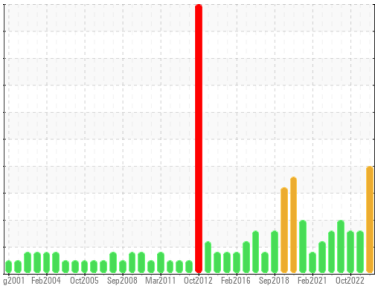
ISO

Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.All component wear rates are normal. Particles >4µm are severely high. Particles >6µm are abnormally high. Particles >14µm are notably high. Particles >21µm are notably high. The water content is negligible. 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
COR
Machine Id
LONGGEN3BRGUS
Component
Bearing
Fluid
SHELL TURBO T ISO 68 (25 LTR)

DIAGNOSIS

Recommendation

Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

Wear

All component wear rates are normal.

Contamination

There is a high amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible.

Fluid Condition

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0790722**	WC0790734	WC0681478
Sample Date		Client Info		**12 Sep 2023**	04 Jul 2023	06 Oct 2022
Machine Age	mths	Client Info		**316**	314	300
Oil Age	mths	Client Info		**2**	9	12
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	ABNORMAL	ABNORMAL

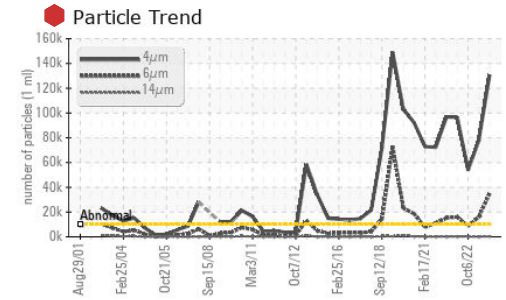
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	0	0
Iron	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Chromium	ppm	ASTM D5185(m)	>20	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>20	**<1**	0	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**<1**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**<1**	<1	0
Lead	ppm	ASTM D5185(m)	>20	**<1**	<1	0
Copper	ppm	ASTM D5185(m)	>20	**2**	3	1
Tin	ppm	ASTM D5185(m)	>20	**0**	0	0
Antimony	ppm	ASTM D5185(m)		**0**	0	0
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

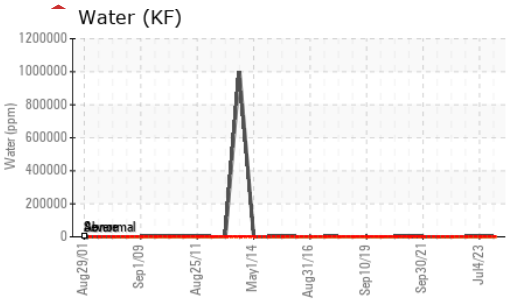
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**<1**	0	0
Barium	ppm	ASTM D5185(m)		**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	0	0
Magnesium	ppm	ASTM D5185(m)		**0**	0	0
Calcium	ppm	ASTM D5185(m)		**0**	9	0
Phosphorus	ppm	ASTM D5185(m)		**<1**	3	0
Zinc	ppm	ASTM D5185(m)		**2**	6	3
Sulfur	ppm	ASTM D5185(m)		**34**	33	17
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

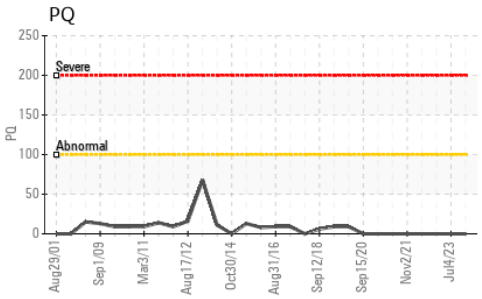
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	**0**	0	0
Sodium	ppm	ASTM D5185(m)		**0**	0	0
Potassium	ppm	ASTM D5185(m)	>20	**0**	<1	0
Water	%	ASTM D6304*	>2	**0.002**	0.001	0.001
ppm Water	ppm	ASTM D6304*		**21.5**	4.5	7.2

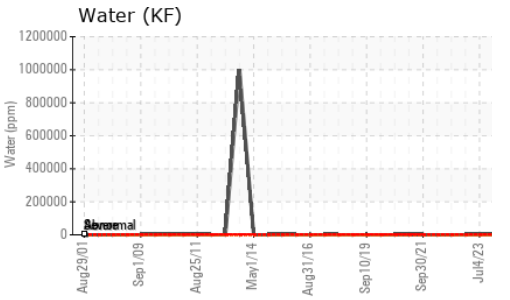
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	**130678**	77991	53775
Particles >6µm		ASTM D7647	>2500	**34633**	16079	8782
Particles >14µm		ASTM D7647	>160	**362**	232	241
Particles >21µm		ASTM D7647	>40	**45**	35	54
Particles >38µm		ASTM D7647	>10	**2**	1	1
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>20/18/14	**24/22/16**	23/21/15	23/20/15

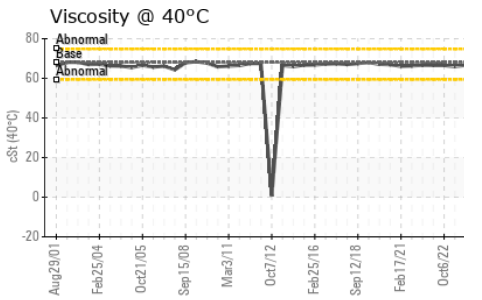
OIL ANALYSIS REPORT









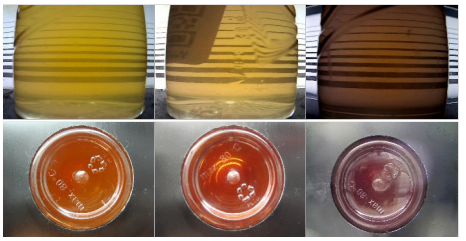


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	.05	**0.07**	0.04	0.07

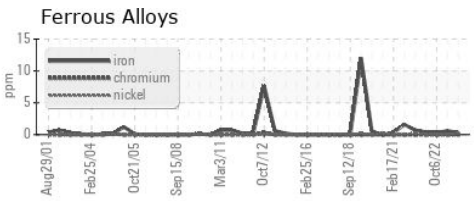
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Appearance	scalar	Visual*	NORML	**NORML**	NORML	NORML
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

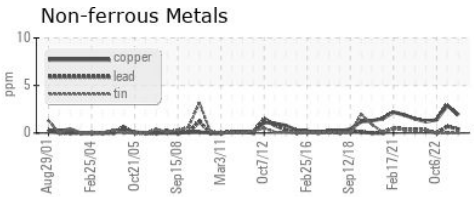
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	68	**66.6**	66.0	66.5

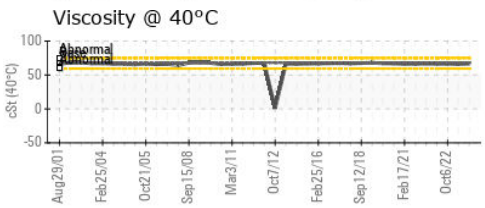
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

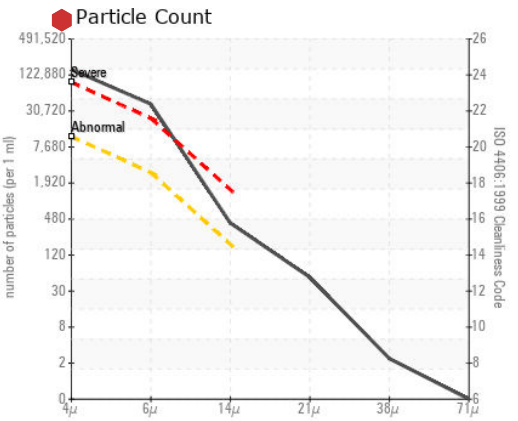


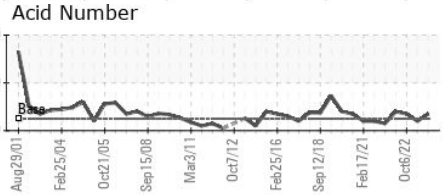
GRAPHS











ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0790722
Lab Number : 02588630
Unique Number : 5657696
Test Package : IND 2 (Additional Tests: KF, PrtCount, TAN Man)

Received : 12 Oct 2023
Tested : 13 Oct 2023
Diagnosed : 13 Oct 2023 - Kevin Marson

To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.

ALGONQUIN POWER SYSTEMS INC.
354 DAVIS ROAD
OAKVILLE, ON
CA L6J 2X1
Contact: Antonino Champ Fernando
antoninoChamp.fernando@algonquinpower.com
T: (905)465-7065
F: x: