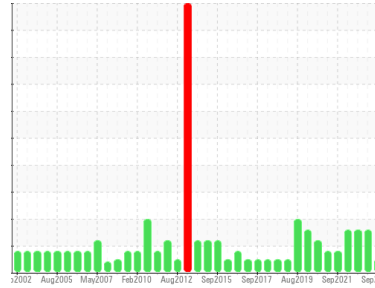




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**COR**  
Machine Id  
**LONGGEN4BRGDS**  
Component  
**Bearing**  
Fluid  
**SHELL TURBO T ISO 68 (25 LTR)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable.

### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0790725</b>	WC0681468	WC0681480
Sample Date	Client Info		<b>12 Sep 2023</b>	15 Mar 2023	15 Sep 2022
Machine Age	mths	Client Info	<b>310</b>	304	298
Oil Age	mths	Client Info	<b>34</b>	28	22
Oil Changed	Client Info		<b>Changed</b>	Not Changd	Not Changd
Sample Status			<b>NORMAL</b>	ABNORMAL	ABNORMAL

## WEAR METALS

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

## ADDITIVES

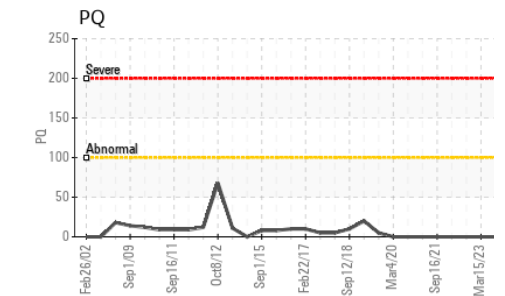
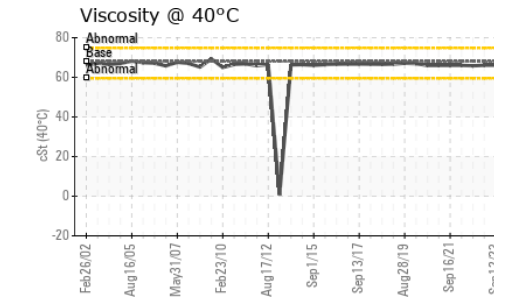
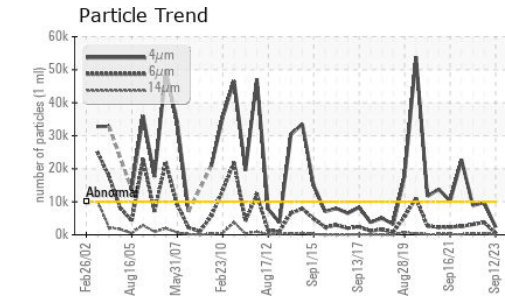
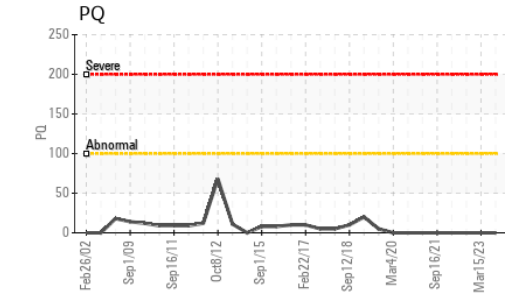
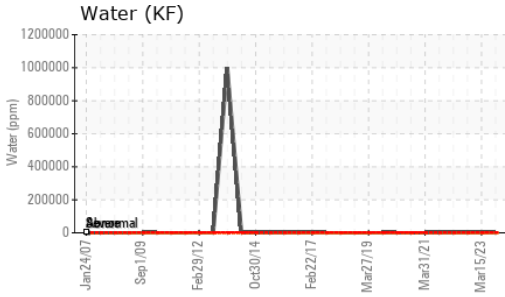
	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	<b>&lt;1</b>	0	<1
Barium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Calcium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Phosphorus	ppm	ASTM D5185(m)	<b>&lt;1</b>	0	0
Zinc	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1
Sulfur	ppm	ASTM D5185(m)	<b>27</b>	24	24
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >15	<b>0</b>	0	0
Sodium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Potassium	ppm	ASTM D5185(m) >20	<b>0</b>	<1	0
Water	%	ASTM D6304* >2	<b>0.001</b>	0.001	0.001
ppm Water	ppm	ASTM D6304*	<b>14.4</b>	3.0	8.8

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	<b>2320</b>	9801	8860
Particles >6µm	ASTM D7647	>2500	<b>493</b>	▲ 3776	▲ 3158
Particles >14µm	ASTM D7647	>160	<b>44</b>	▲ 440	▲ 401
Particles >21µm	ASTM D7647	>40	<b>16</b>	▲ 144	▲ 148
Particles >38µm	ASTM D7647	>10	<b>2</b>	8	11
Particles >71µm	ASTM D7647	>3	<b>0</b>	1	1
Oil Cleanliness	ISO 4406 (c)	>20/18/14	<b>18/16/13</b>	▲ 20/19/16	▲ 20/19/16

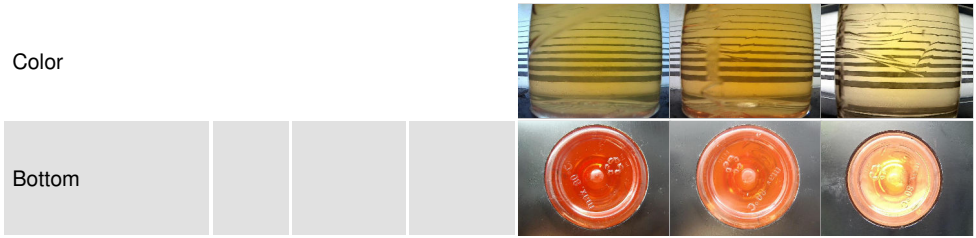


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	.05	<b>0.06</b>	0.06	0.04

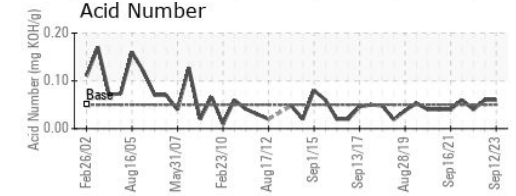
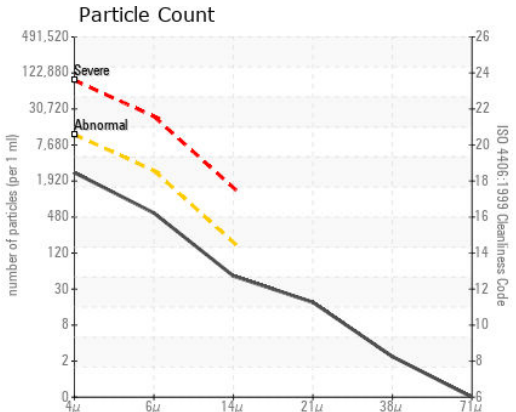
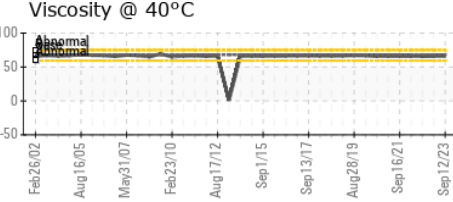
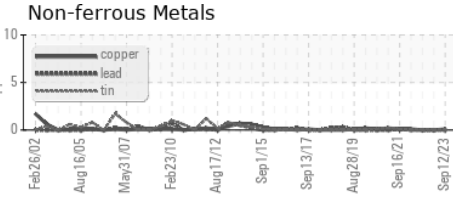
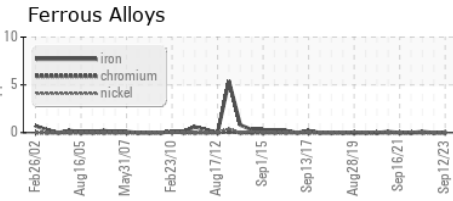
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	68	<b>66.1</b>	66.1	65.8

SAMPLE IMAGES		method	limit/base	current	history1	history2
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## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0790725 **Received** : 12 Oct 2023  
**Lab Number** : **02588628** **Tested** : 13 Oct 2023  
**Unique Number** : 5657694 **Diagnosed** : 13 Oct 2023 - Kevin Marson  
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount, TAN Man )

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

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.