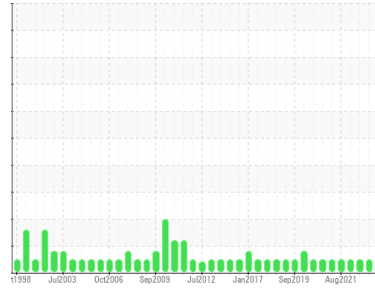




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**COR**  
Machine Id  
**LONGHPU1**  
Component  
**Hydraulic System**  
Fluid  
**SHELL TURBO T ISO 68 (800 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 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>WC0790714</b>	WC0681489	WC0681496
Sample Date	Client Info		<b>06 Sep 2023</b>	02 Mar 2023	05 Oct 2022
Machine Age	mths	Client Info	<b>309</b>	303	297
Oil Age	mths	Client Info	<b>126</b>	120	114
Oil Changed	Client Info		<b>Not Changed</b>	Not Changed	Not Changed
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>40	<b>&lt;1</b>	<1
Chromium	ppm	ASTM D5185(m)	>4	<b>0</b>	0
Nickel	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0
Silver	ppm	ASTM D5185(m)		<b>&lt;1</b>	0
Aluminum	ppm	ASTM D5185(m)	>4	<b>0</b>	<1
Lead	ppm	ASTM D5185(m)	>10	<b>3</b>	3
Copper	ppm	ASTM D5185(m)	>60	<b>&lt;1</b>	<1
Tin	ppm	ASTM D5185(m)	>4	<b>0</b>	<1
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	0
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0
Magnesium	ppm	ASTM D5185(m)		<b>0</b>	0
Calcium	ppm	ASTM D5185(m)		<b>1</b>	0
Phosphorus	ppm	ASTM D5185(m)		<b>2</b>	<1
Zinc	ppm	ASTM D5185(m)		<b>2</b>	1
Sulfur	ppm	ASTM D5185(m)		<b>140</b>	72
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	<b>0</b>	0
Sodium	ppm	ASTM D5185(m)		<b>4</b>	5
Potassium	ppm	ASTM D5185(m)	>20	<b>0</b>	<1

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		<b>1184</b>	241	1274
Particles >6µm	ASTM D7647	>1300	<b>391</b>	82	449
Particles >14µm	ASTM D7647	>160	<b>27</b>	11	44
Particles >21µm	ASTM D7647	>40	<b>7</b>	5	9
Particles >38µm	ASTM D7647	>10	<b>1</b>	1	0
Particles >71µm	ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>--/17/14	<b>17/16/12</b>	15/14/11	17/16/13

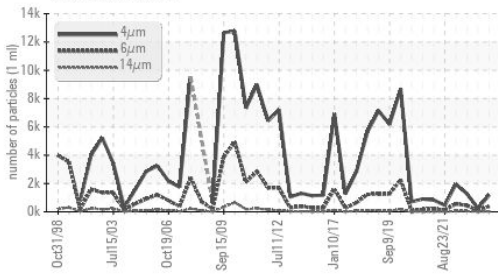
## FLUID DEGRADATION

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

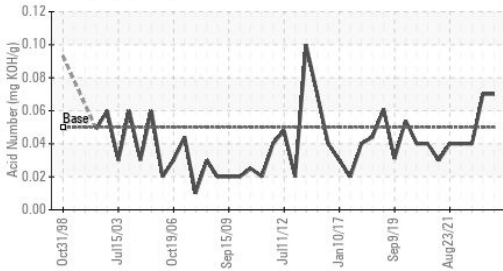


# OIL ANALYSIS REPORT

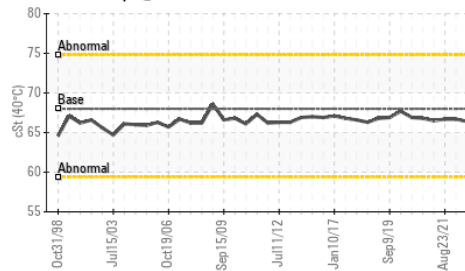
Particle Trend



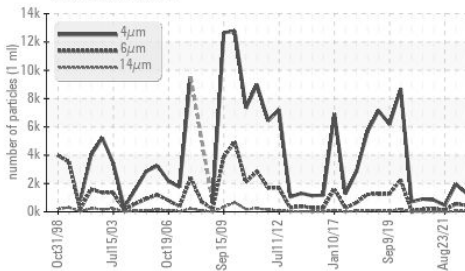
Acid Number



Viscosity @ 40°C



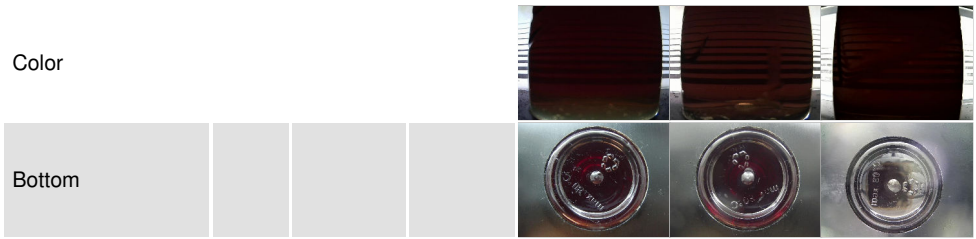
Particle Trend



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

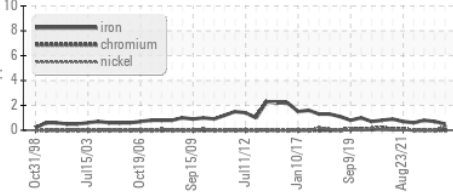
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	68	66.5	66.4

SAMPLE IMAGES	method	limit/base	current	history1	history2
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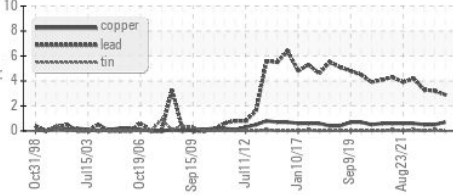


## GRAPHS

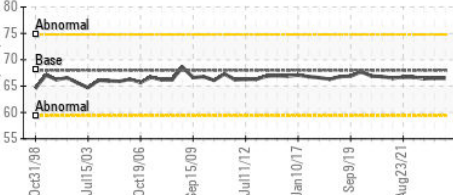
Ferrous Alloys



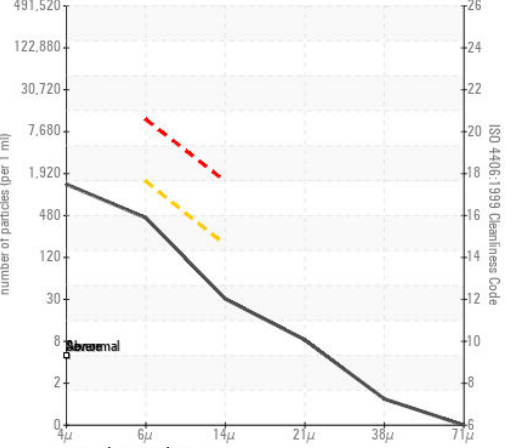
Non-ferrous Metals



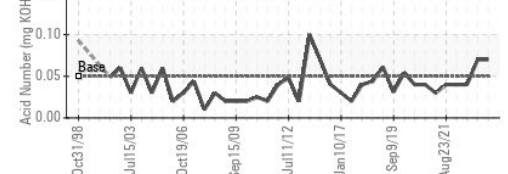
Viscosity @ 40°C



Particle Count



Acid Number



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 ALGONQUIN POWER SYSTEMS INC.  
**Sample No.** : WC0790714 **Received** : 03 Oct 2023 354 DAVIS ROAD  
**Lab Number** : 02586438 **Diagnosed** : 04 Oct 2023 OAKVILLE, ON  
**Unique Number** : 5655504 **Diagnostician** : Wes Davis CA L6J 2X1  
**Test Package** : IND 2 ( Additional Tests: TAN Man )  
 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.