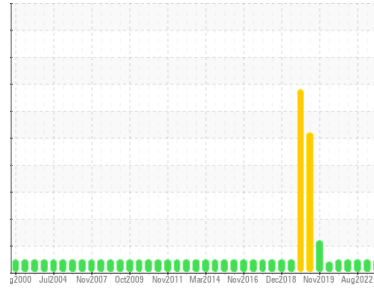




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
WQR
 Machine Id
CATHGEN7BRGUPP (S/N 211148-3)
 Component
Upper Bearing
 Fluid
ESSO TERESSTIC ISO 100 (37 GAL)

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		WC0779199	WC0779193	WC0548076
Sample Date	Client Info		22 Aug 2023	08 Feb 2023	03 Aug 2022
Machine Age	hrs	Client Info	148043	143463	139261
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status			NORMAL	NORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m) >20	0	0	<1
Chromium	ppm	ASTM D5185(m) >20	0	0	0
Nickel	ppm	ASTM D5185(m) >20	<1	0	<1
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	0	0
Aluminum	ppm	ASTM D5185(m) >20	<1	0	<1
Lead	ppm	ASTM D5185(m) >20	0	0	0
Copper	ppm	ASTM D5185(m) >20	<1	0	0
Tin	ppm	ASTM D5185(m) >20	0	0	0
Antimony	ppm	ASTM D5185(m)	0	<1	<1
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) .2	0	0	0
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 0	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0
Magnesium	ppm	ASTM D5185(m) 1.2	0	0	0
Calcium	ppm	ASTM D5185(m) .2	<1	0	<1
Phosphorus	ppm	ASTM D5185(m) 2.4	4	3	3
Zinc	ppm	ASTM D5185(m) 1.9	2	2	2
Sulfur	ppm	ASTM D5185(m) 2250	2568	2692	2670
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

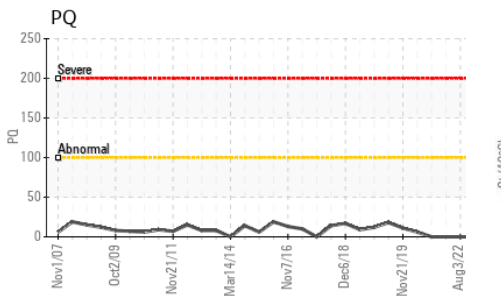
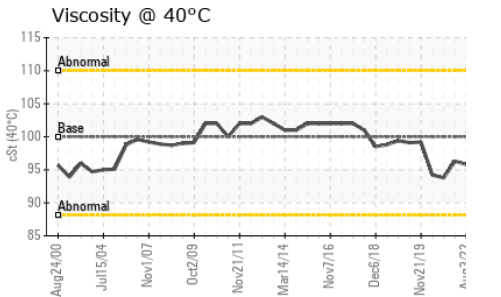
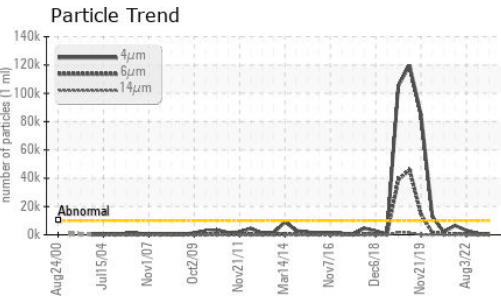
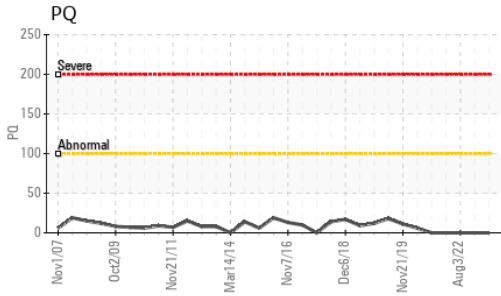
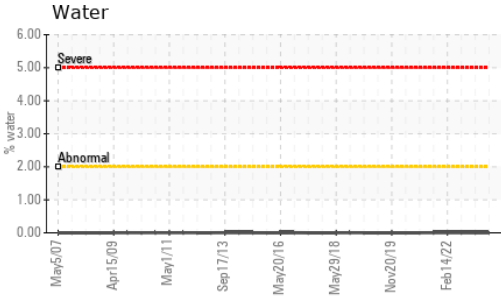
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >15	2	2	2
Sodium	ppm	ASTM D5185(m)	0	<1	0
Potassium	ppm	ASTM D5185(m) >20	0	<1	<1
Water	%	ASTM D6304* >2	0.002	0.001	0.002
ppm Water	ppm	ASTM D6304*	19.3	11.0	17.9

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	724	884	3124
Particles >6µm	ASTM D7647	>2500	116	77	323
Particles >14µm	ASTM D7647	>160	13	8	25
Particles >21µm	ASTM D7647	>40	4	3	8
Particles >38µm	ASTM D7647	>10	0	0	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>20/18/14	17/14/11	17/13/10	19/16/12



OIL ANALYSIS REPORT

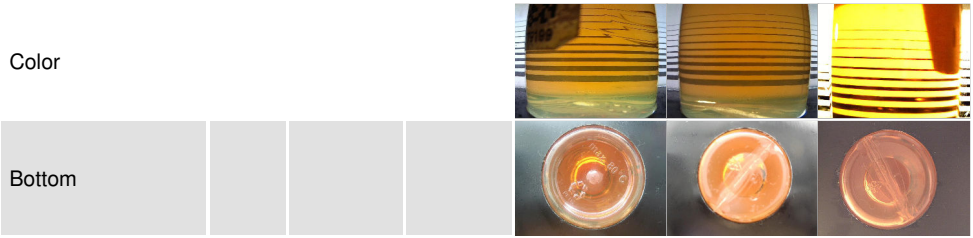


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.02	0.04	0.03	0.04

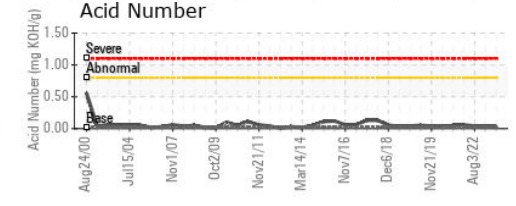
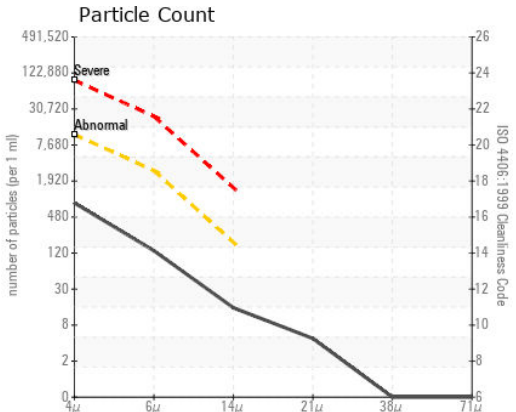
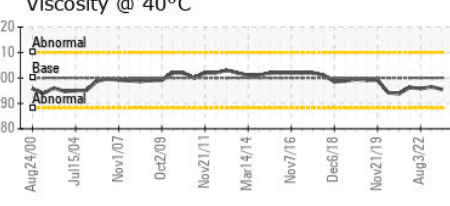
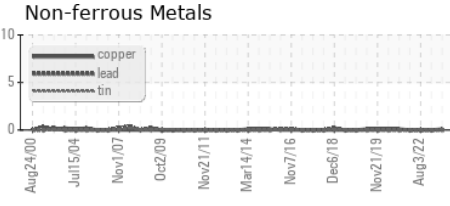
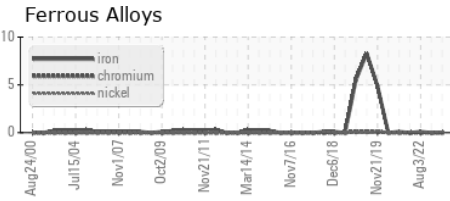
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	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)	100	95.5	96.5	95.8

SAMPLE IMAGES		method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **ALGONQUIN POWER SYSTEMS INC.**
Sample No. : WC0779199 **Received** : 29 Aug 2023
Lab Number : **02579132** **Diagnosed** : 30 Aug 2023
Unique Number : 5632192 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: KF, PQ, PrtCount, TAN Man)

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 OAKVILLE, ON
 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.