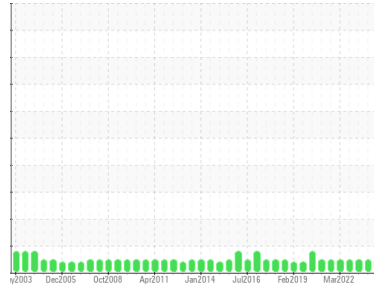




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
EQR [152248]
 Machine Id
CHUTHPU1
 Component
Pump Hydraulic System
 Fluid
SHELL TELLUS 32 (80 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		WC0779129	WC0779143	WC0779145
Sample Date	Client Info		27 Feb 2024	11 Sep 2023	13 Mar 2023
Machine Age	hrs	Client Info	156783	154547	151566
Oil Age	hrs	Client Info	45443	43207	40226
Oil Changed	Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.05	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >20	<1	<1	<1
Chromium	ppm	ASTM D5185(m) >20	0	0	0
Nickel	ppm	ASTM D5185(m) >20	0	<1	0
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	<1	0	<1
Copper	ppm	ASTM D5185(m) >20	<1	1	<1
Tin	ppm	ASTM D5185(m) >20	0	0	0
Antimony	ppm	ASTM D5185(m)	0	0	<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)	0	<1	<1
Barium	ppm	ASTM D5185(m)	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0
Magnesium	ppm	ASTM D5185(m) 11	13	13	12
Calcium	ppm	ASTM D5185(m) 35	41	42	40
Phosphorus	ppm	ASTM D5185(m) 259	253	283	269
Zinc	ppm	ASTM D5185(m) 277	262	279	261
Sulfur	ppm	ASTM D5185(m) 1865	2922	2887	2801
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >15	<1	<1	<1
Sodium	ppm	ASTM D5185(m)	<1	0	0
Potassium	ppm	ASTM D5185(m) >20	<1	0	<1

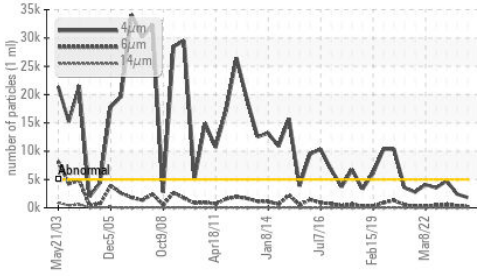
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	1819	2423	4762
Particles >6µm	ASTM D7647	>1300	204	361	613
Particles >14µm	ASTM D7647	>160	16	18	16
Particles >21µm	ASTM D7647	>40	6	6	4
Particles >38µm	ASTM D7647	>10	1	1	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	18/15/11	18/16/11	19/16/11

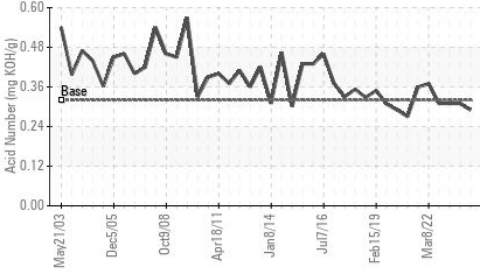


OIL ANALYSIS REPORT

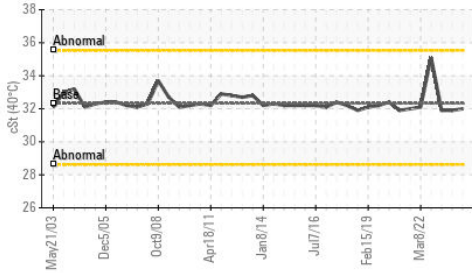
Particle Trend



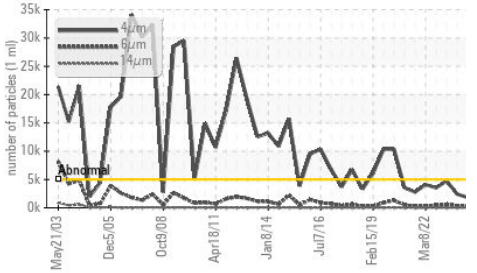
Acid Number



Viscosity @ 40°C



Particle Trend



FLUID DEGRADATION method limit/base current history1 history2

Acid Number (AN) mg KOH/g ASTM D974* 0.32 **0.29** 0.31 0.31

VISUAL method limit/base current history1 history2

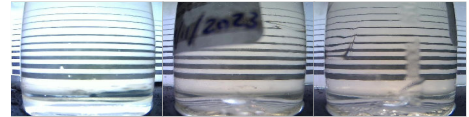
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	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 D7279(m) 32.32 **32.0** 31.9 31.9

SAMPLE IMAGES method limit/base current history1 history2

Color

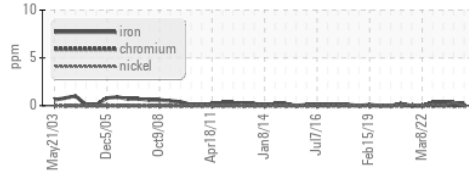


Bottom

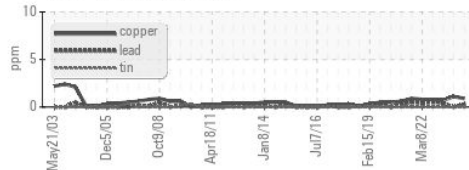


GRAPHS

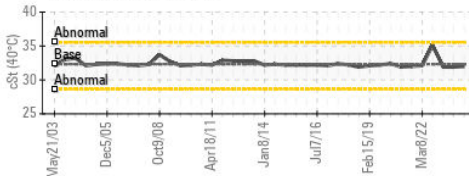
Ferrous Alloys



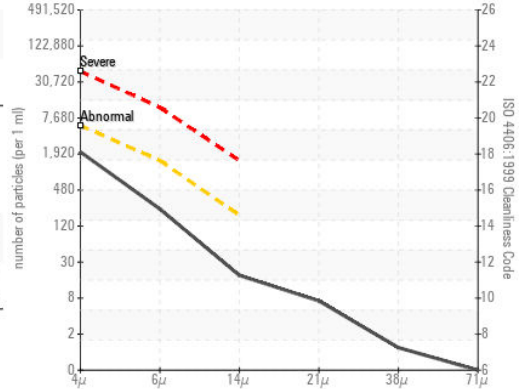
Non-ferrous Metals



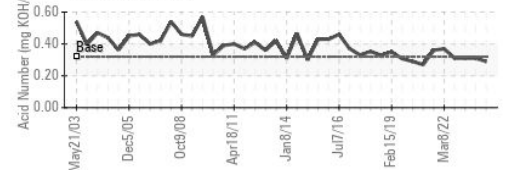
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0779129
Lab Number : **02622331**
Unique Number : 5747450
Test Package : IND 2

Received : 15 Mar 2024
Tested : 18 Mar 2024
Diagnosed : 18 Mar 2024 - Wes Davis

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:

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.