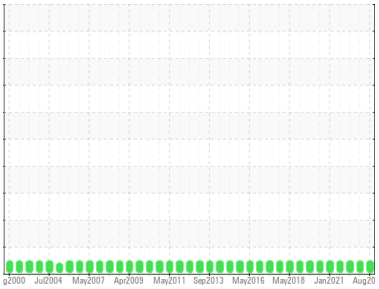
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Area
WQR
Machine Id
CATHHPU7 (S/N 3200-1)
Component
Hydraulic System
Fluid
ESSO NUTO H ISO32 (302 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		**WC0312809**	WC0779195	WC0548070
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 Changd**	Not Changd	Not Changd
Sample Status				**NORMAL**	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>40	**<1**	<1	<1
Chromium	ppm	ASTM D5185(m)	>4	**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)		**0**	0	1
Aluminum	ppm	ASTM D5185(m)	>4	**<1**	0	<1
Lead	ppm	ASTM D5185(m)	>10	**0**	0	<1
Copper	ppm	ASTM D5185(m)	>60	**<1**	<1	<1
Tin	ppm	ASTM D5185(m)	>4	**0**	0	0
Antimony	ppm	ASTM D5185(m)		**0**	1	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)		**0**	0	0
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)		**<1**	0	0
Calcium	ppm	ASTM D5185(m)		**50**	52	51
Phosphorus	ppm	ASTM D5185(m)		**358**	358	323
Zinc	ppm	ASTM D5185(m)		**422**	421	414
Sulfur	ppm	ASTM D5185(m)		**3229**	3311	3274
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

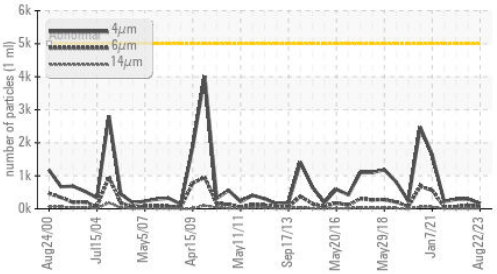
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**4**	4	3
Sodium	ppm	ASTM D5185(m)		**<1**	<1	<1
Potassium	ppm	ASTM D5185(m)	>20	**0**	0	<1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	**163**	298	290
Particles >6µm		ASTM D7647	>1300	**63**	111	63
Particles >14µm		ASTM D7647	>160	**8**	10	8
Particles >21µm		ASTM D7647	>40	**3**	3	2
Particles >38µm		ASTM D7647	>10	**0**	0	1
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	**15/13/10**	15/14/10	15/13/10

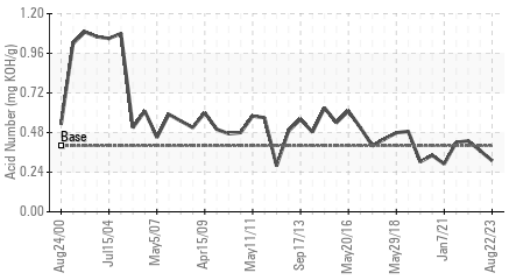
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	.40	**0.31**	0.37	0.43

OIL ANALYSIS REPORT

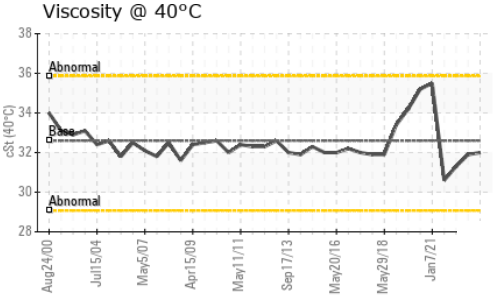
Particle Trend



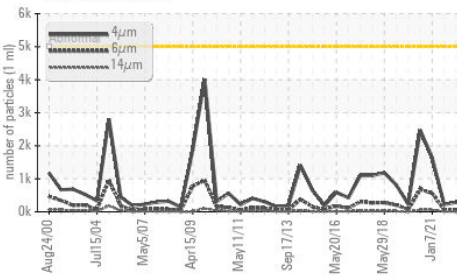
Acid Number



Viscosity @ 40°C



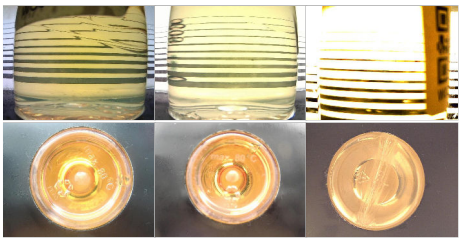
Particle Trend



VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	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

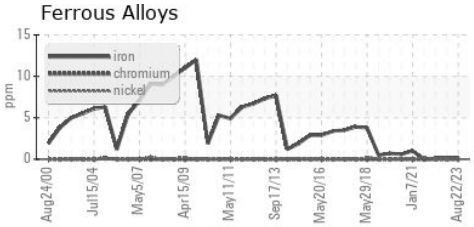
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	32.6	**32.0**	31.9	31.3

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

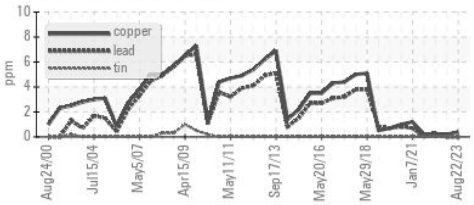


GRAPHS

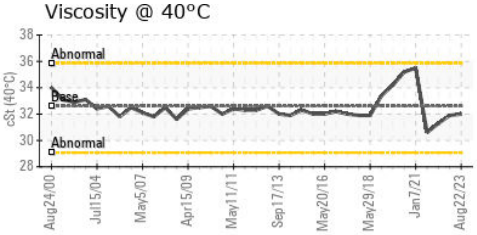
Ferrous Alloys



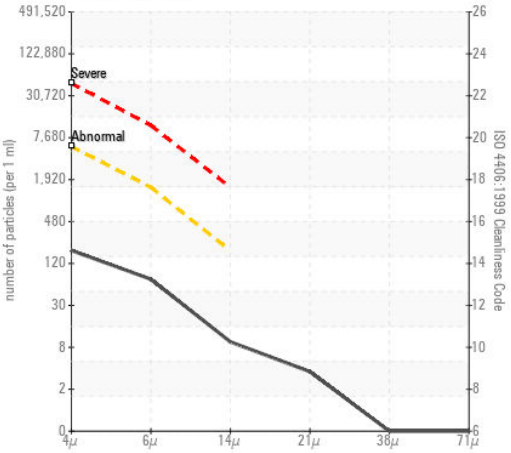
Non-ferrous Metals



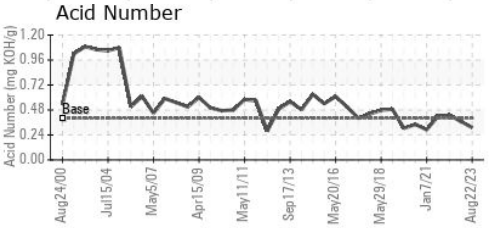
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **ALGONQUIN POWER SYSTEMS INC.**
Sample No. : WC0312809 **Received** : 29 Aug 2023 354 DAVIS ROAD
Lab Number : 02579118 **Diagnosed** : 30 Aug 2023 OAKVILLE, ON
Unique Number : 5632178 **Diagnostician** : Wes Davis CA L6J 2X1
Test Package : IND 2 Contact: Antonino Champ Fernando

To discuss this sample report, contact Customer Service at 1-800-268-2131. antoninoChamp.fernando@algonquinpower.com
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: (905)465-7065
Validity of results and interpretation are based on the sample and information as supplied. F: x: