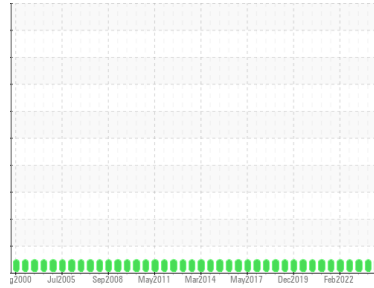




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
WQR
 Machine Id
CATHHPU6 (S/N 32002)
 Component
Hydraulic System
 Fluid
ESSO NUTO H ISO 32 (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		WC0312810	WC0779198	WC0429472
Sample Date	Client Info		22 Aug 2023	08 Feb 2023	07 Sep 2022
Machine Age	hrs	Client Info	147659	143263	138242
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		Not Changed	Not Changed	Not Changed
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	0	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	0
Aluminum	ppm	ASTM D5185(m)	>4	0	0	0
Lead	ppm	ASTM D5185(m)	>10	0	0	3
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	<1	<1
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)	5	<1	0	0
Calcium	ppm	ASTM D5185(m)	50	53	54	40
Phosphorus	ppm	ASTM D5185(m)	330	393	380	346
Zinc	ppm	ASTM D5185(m)	420	447	439	422
Sulfur	ppm	ASTM D5185(m)	2700	4396	4493	2364
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

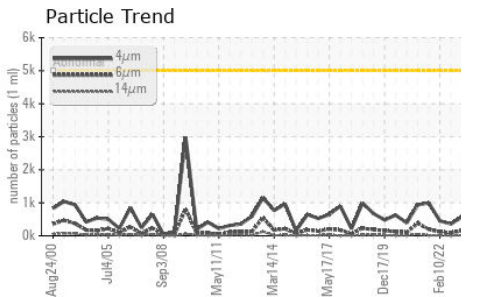
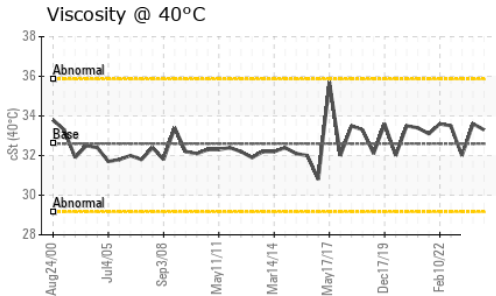
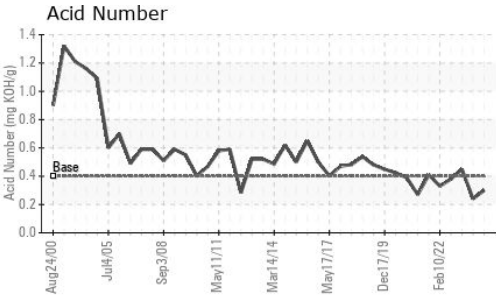
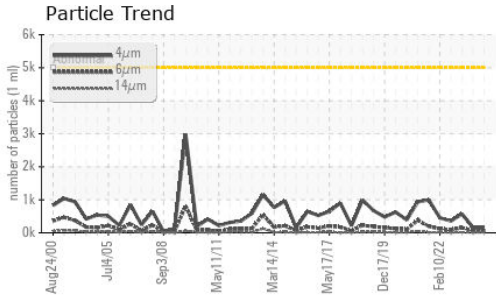
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>20	9	9	4
Sodium	ppm	ASTM D5185(m)		<1	<1	<1
Potassium	ppm	ASTM D5185(m)	>20	0	0	<1

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	154	162	572
Particles >6µm	ASTM D7647	>1300	63	66	152
Particles >14µm	ASTM D7647	>160	10	9	17
Particles >21µm	ASTM D7647	>40	3	1	7
Particles >38µm	ASTM D7647	>10	0	0	1
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	14/13/10	15/13/10	16/14/11

FLUID DEGRADATION

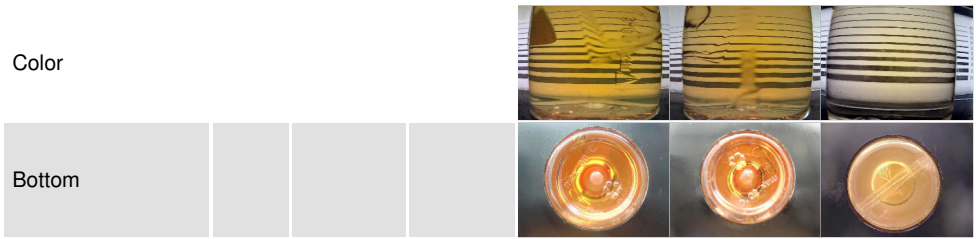
	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D974*	.40	0.30	0.24	0.45



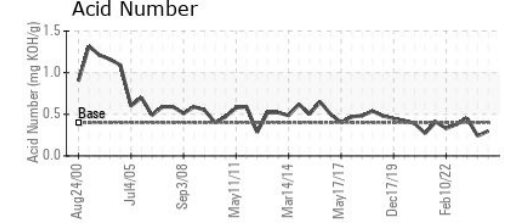
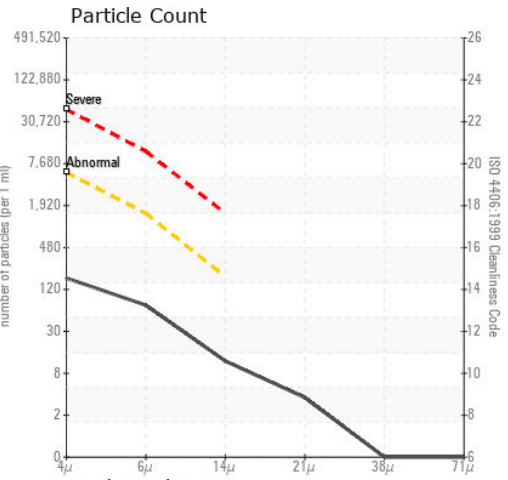
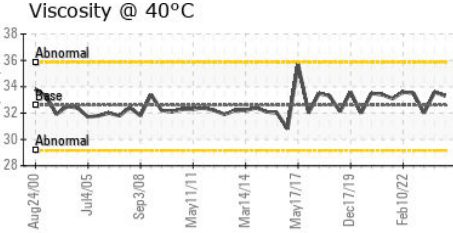
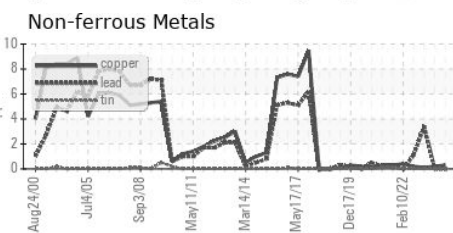
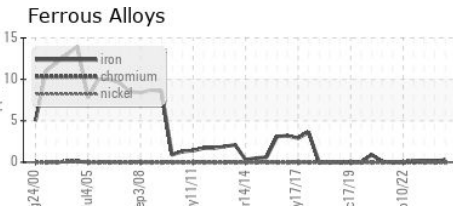
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	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)	32.6	33.3	33.6

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. : WC0312810 Received : 29 Aug 2023 354 DAVIS ROAD
 Lab Number : 02579117 Diagnosed : 30 Aug 2023 OAKVILLE, ON
 Unique Number : 5632177 Diagnostician : Wes Davis CA L6J 2X1
 Test Package : IND 2

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.
 Contact: Antonino Champ Fernando antoninoChamp.fernando@algonquinpower.com T: (905)465-7065 F: x: