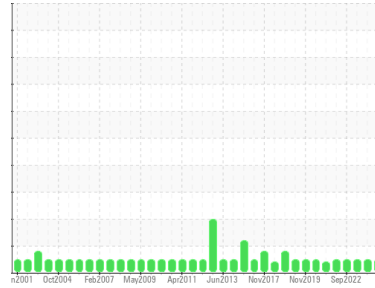




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
EQR [163274]
 Machine Id
DONNHPU4
 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			WC0906708	WC0779125	WC0779152
Sample Date	Client Info			09 Mar 2024	19 Sep 2023	13 Mar 2023
Machine Age	mths	Client Info		336	330	324
Oil Age	mths	Client Info		12	6	1
Oil Changed	Client Info			Not Chngd	Not Chngd	Changed
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)	>40	<1	<1	<1
Chromium	ppm	ASTM D5185(m)	>4	0	0	0
Nickel	ppm	ASTM D5185(m)	>20	<1	<1	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	0
Aluminum	ppm	ASTM D5185(m)	>4	<1	0	0
Lead	ppm	ASTM D5185(m)	>10	1	<1	<1
Copper	ppm	ASTM D5185(m)	>60	3	2	2
Tin	ppm	ASTM D5185(m)	>4	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	17	18	18
Calcium	ppm	ASTM D5185(m)	35	26	27	26
Phosphorus	ppm	ASTM D5185(m)	259	286	306	299
Zinc	ppm	ASTM D5185(m)	277	314	336	310
Sulfur	ppm	ASTM D5185(m)	1865	1455	1202	1177
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

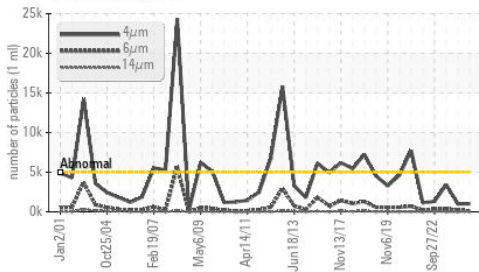
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	<1	<1	<1
Sodium	ppm	ASTM D5185(m)		0	<1	0
Potassium	ppm	ASTM D5185(m)	>20	2	0	1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	1007	997	3394
Particles >6µm		ASTM D7647	>1300	132	198	432
Particles >14µm		ASTM D7647	>160	7	16	18
Particles >21µm		ASTM D7647	>40	2	3	6
Particles >38µm		ASTM D7647	>10	0	0	1
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	17/14/10	17/15/11	19/16/11

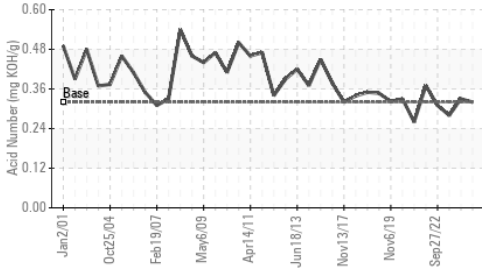


OIL ANALYSIS REPORT

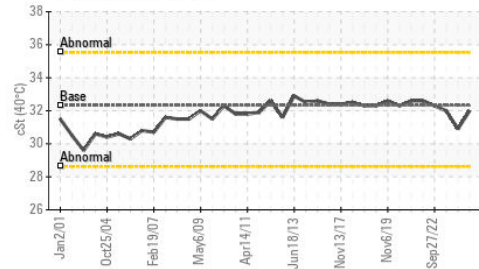
Particle Trend



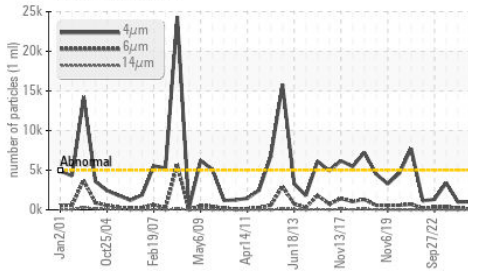
Acid Number



Viscosity @ 40°C



Particle Trend



FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D974*	0.32	0.33	0.28

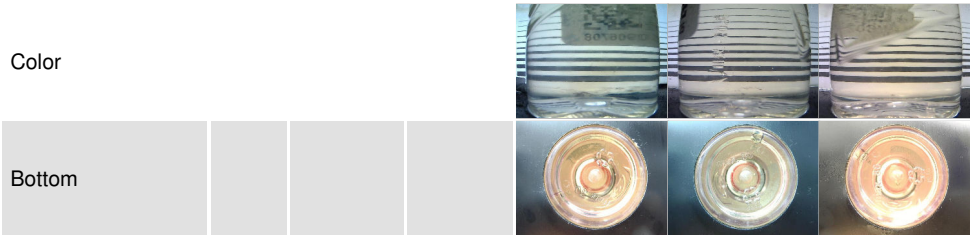
VISUAL

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

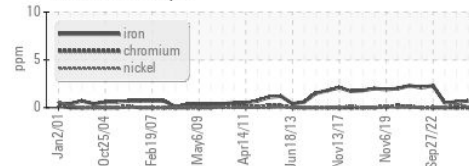
method	limit/base	current	history1	history2
Visc @ 40°C	cSt ASTM D7279(m)	32.32	30.9	32.0

SAMPLE IMAGES

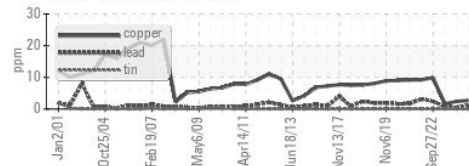


GRAPHS

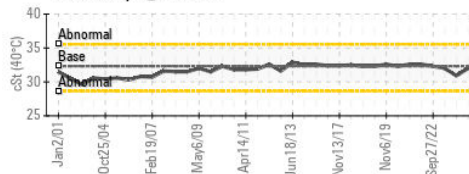
Ferrous Alloys



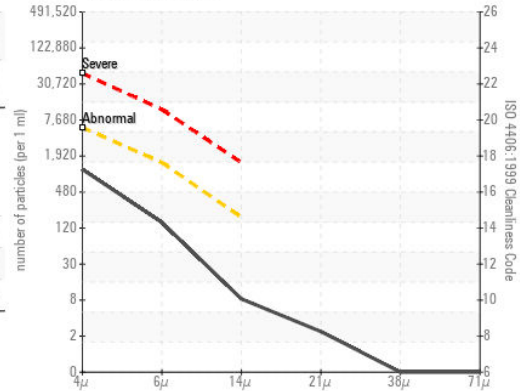
Non-ferrous Metals



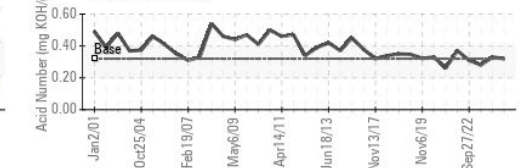
Viscosity @ 40°C



Particle Count



Acid Number



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0906708
Lab Number : 02622337
Unique Number : 5747456
Test Package : IND 2

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.