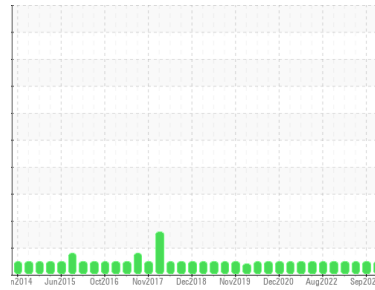




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
LLHPUG-2 LONG LAKE

Component
Hydraulic System

Fluid
SHELL TELLUS S2 M 32 (150 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			WC0843684	WC0843699	WC0729452
Sample Date	Client Info			21 Dec 2023	26 Sep 2023	05 Jun 2023
Machine Age	hrs	Client Info		238	238	238
Oil Age	hrs	Client Info		0	238	0
Oil Changed	Client Info			N/A	N/A	N/A
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	6	6	6
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		<1	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	<1	<1	<1
Lead	ppm	ASTM D5185(m)	>20	2	6	2
Copper	ppm	ASTM D5185(m)	>20	45	46	47
Tin	ppm	ASTM D5185(m)	>20	0	0	0
Antimony	ppm	ASTM D5185(m)		0	0	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
Barium	ppm	ASTM D5185(m)		0	<1	0
Molybdenum	ppm	ASTM D5185(m)		0	0	0
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)		1	<1	<1
Calcium	ppm	ASTM D5185(m)		40	40	42
Phosphorus	ppm	ASTM D5185(m)		252	261	272
Zinc	ppm	ASTM D5185(m)		274	281	283
Sulfur	ppm	ASTM D5185(m)		1116	1090	1101
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

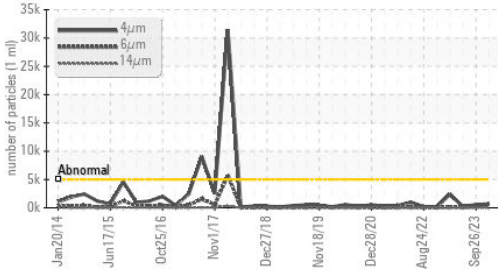
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	<1	<1	<1
Sodium	ppm	ASTM D5185(m)		0	<1	0
Potassium	ppm	ASTM D5185(m)	>20	11	7	1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	693	574	224
Particles >6µm		ASTM D7647	>1300	244	205	77
Particles >14µm		ASTM D7647	>160	20	20	6
Particles >21µm		ASTM D7647	>40	4	3	3
Particles >38µm		ASTM D7647	>10	1	0	0
Particles >71µm		ASTM D7647	>3	1	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	17/15/11	16/15/11	15/13/10

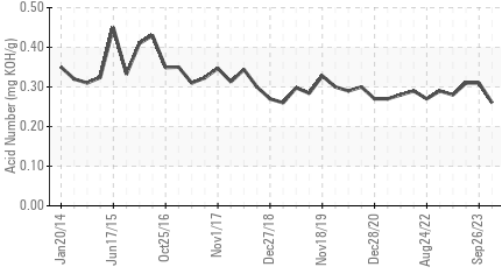


OIL ANALYSIS REPORT

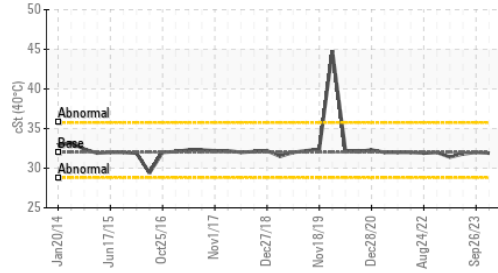
Particle Trend



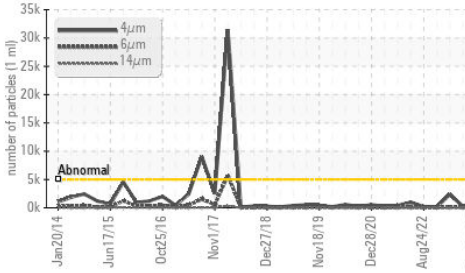
Acid Number



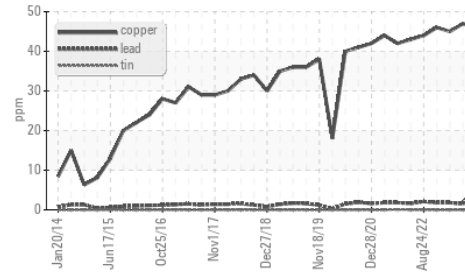
Viscosity @ 40°C



Particle Trend



Non-ferrous Metals



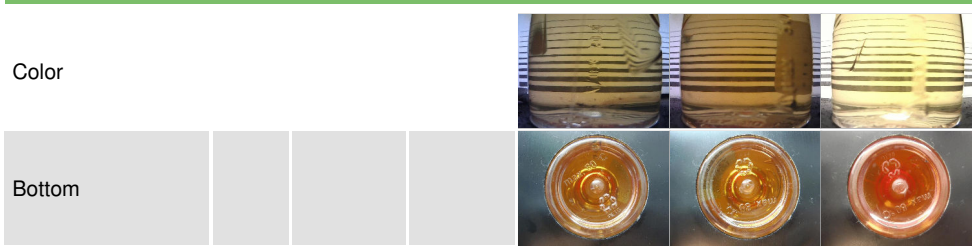
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.26	0.31	0.31
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	NEG

FLUID PROPERTIES

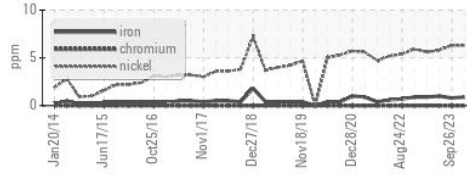
	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	31.9	32.0	31.8

SAMPLE IMAGES

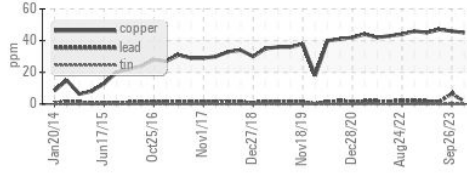


GRAPHS

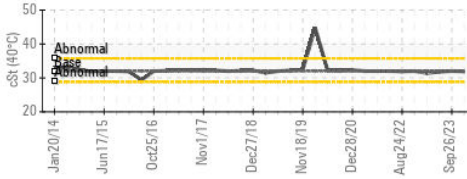
Ferrous Alloys



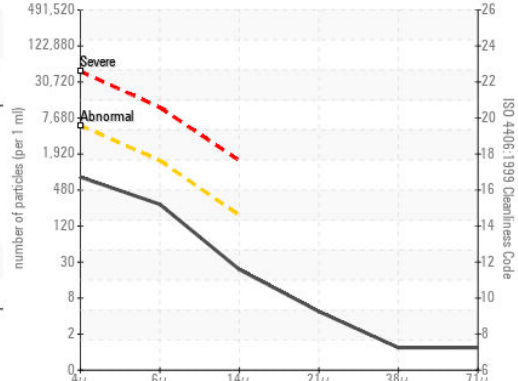
Non-ferrous Metals



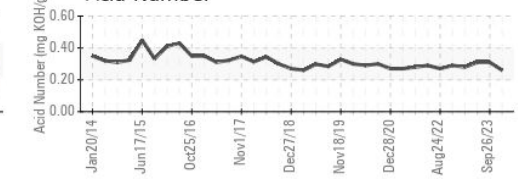
Viscosity @ 40°C



Particle Count



Acid Number



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Long Lake Hydro Inc. (Regional Power)
Sample No. : WC0843684 **Received** : 12 Jan 2024 1104 Railway St.
Lab Number : 02608561 **Diagnosed** : 16 Jan 2024 Stewart, BC
Unique Number : 5709647 **Diagnostician** : Kevin Marson CA V0T 1W0
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.

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