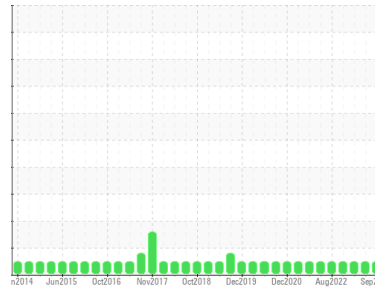




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**LLHPUG-1 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		<b>WC0843688</b>	WC0729453	WC0729461
Sample Date	Client Info		<b>26 Sep 2023</b>	05 Jun 2023	19 Mar 2023
Machine Age	hrs	Client Info	<b>7000</b>	7000	7000
Oil Age	hrs	Client Info	<b>7000</b>	0	7000
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >20	<b>4</b>	4	4
Chromium	ppm	ASTM D5185(m) >20	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m) >20	<b>6</b>	6	5
Titanium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1
Aluminum	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185(m) >20	<b>1</b>	1	1
Copper	ppm	ASTM D5185(m) >20	<b>52</b>	54	51
Tin	ppm	ASTM D5185(m) >20	<b>0</b>	0	0
Antimony	ppm	ASTM D5185(m)	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1
Barium	ppm	ASTM D5185(m)	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1
Calcium	ppm	ASTM D5185(m)	<b>73</b>	77	77
Phosphorus	ppm	ASTM D5185(m)	<b>245</b>	266	264
Zinc	ppm	ASTM D5185(m)	<b>288</b>	287	276
Sulfur	ppm	ASTM D5185(m)	<b>707</b>	730	708
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >15	<b>&lt;1</b>	<1	<1
Sodium	ppm	ASTM D5185(m)	<b>&lt;1</b>	0	0
Potassium	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	2	1

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	<b>346</b>	191	120
Particles >6µm	ASTM D7647	>1300	<b>104</b>	60	45
Particles >14µm	ASTM D7647	>160	<b>8</b>	5	4
Particles >21µm	ASTM D7647	>40	<b>2</b>	2	2
Particles >38µm	ASTM D7647	>10	<b>0</b>	0	0
Particles >71µm	ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>16/14/10</b>	15/13/10	14/13/9

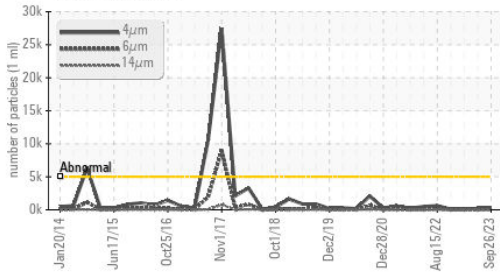
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	<b>0.34</b>	0.32	0.20

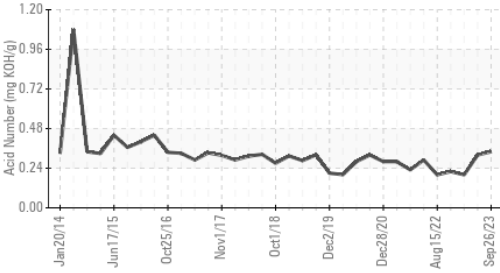


# OIL ANALYSIS REPORT

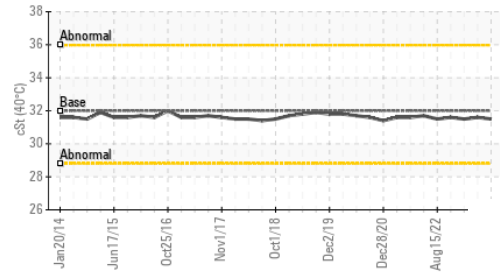
**Particle Trend**



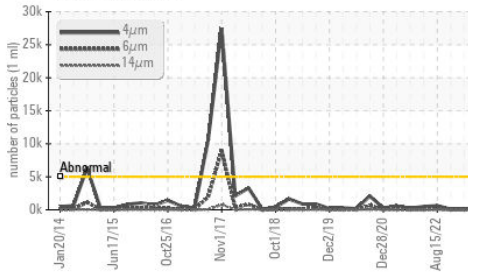
**Acid Number**



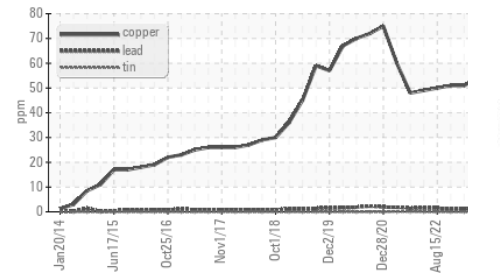
**Viscosity @ 40°C**



**Particle Trend**



**Non-ferrous Metals**

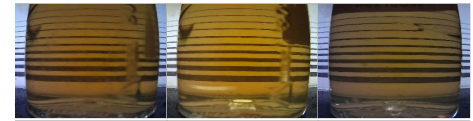


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	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)	32.0	31.5	31.6

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color

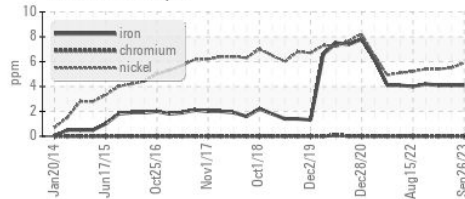


Bottom

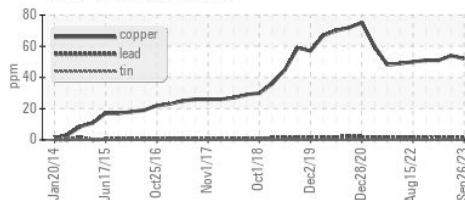


## GRAPHS

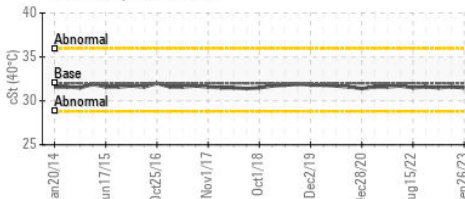
**Ferrous Alloys**



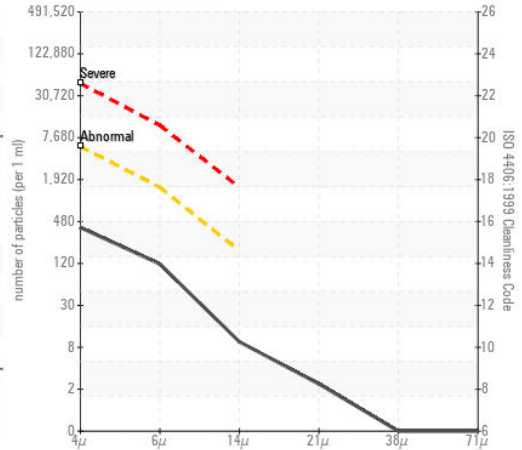
**Non-ferrous Metals**



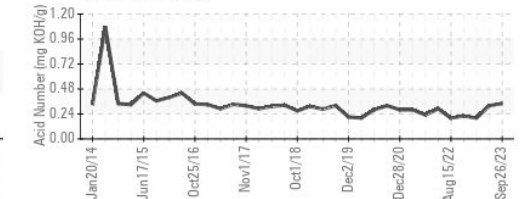
**Viscosity @ 40°C**



**Particle Count**



**Acid Number**



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Long Lake Hydro Inc. (Regional Power)  
**Sample No.** : WC0843688 **Received** : 10 Oct 2023 1104 Railway St.  
**Lab Number** : 02587999 **Diagnosed** : 11 Oct 2023 Stewart, BC  
**Unique Number** : 5657065 **Diagnostician** : Kevin Marson CA V0T 1W0  
**Test Package** : IND 2 ( Additional Tests: TAN Man )

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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