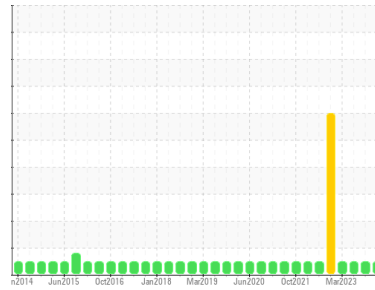




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**LLBHPU 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>WC0843676</b>	WC0843698	WC0729451
Sample Date	Client Info	<b>21 Dec 2023</b>	26 Sep 2023	05 Jun 2023
Machine Age	hrs	Client Info	<b>0</b>	0
Oil Age	hrs	Client Info	<b>0</b>	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.05	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	<1	<1
Chromium	ppm	ASTM D5185(m) >20	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m) >20	<b>2</b>	3	3
Titanium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	1	<1
Copper	ppm	ASTM D5185(m) >20	<b>20</b>	21	22
Tin	ppm	ASTM D5185(m) >20	<b>0</b>	0	0
Antimony	ppm	ASTM D5185(m)	<b>0</b>	0	<1
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>0</b>	<1	<1
Barium	ppm	ASTM D5185(m)	<b>0</b>	<1	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>4</b>	4	4
Calcium	ppm	ASTM D5185(m)	<b>67</b>	66	70
Phosphorus	ppm	ASTM D5185(m)	<b>266</b>	269	290
Zinc	ppm	ASTM D5185(m)	<b>310</b>	317	316
Sulfur	ppm	ASTM D5185(m)	<b>1873</b>	1801	1842
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>0</b>	0	0
Potassium	ppm	ASTM D5185(m) >20	<b>11</b>	0	1

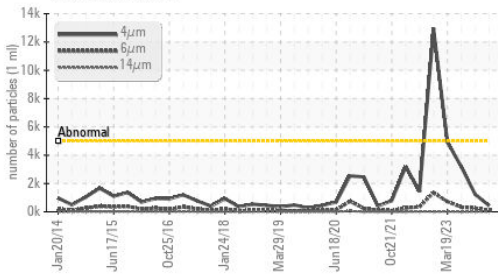
## FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	<b>437</b>	1232	3194
Particles >6µm	ASTM D7647 >1300	<b>109</b>	270	332
Particles >14µm	ASTM D7647 >160	<b>13</b>	18	8
Particles >21µm	ASTM D7647 >40	<b>4</b>	4	3
Particles >38µm	ASTM D7647 >10	<b>1</b>	0	0
Particles >71µm	ASTM D7647 >3	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c) >19/17/14	<b>16/14/11</b>	17/15/11	19/16/10

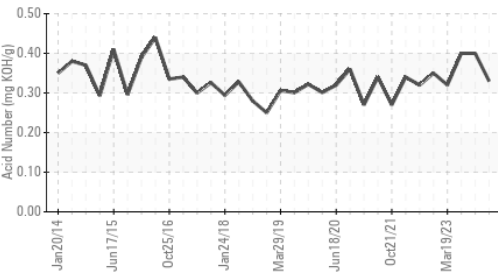


# OIL ANALYSIS REPORT

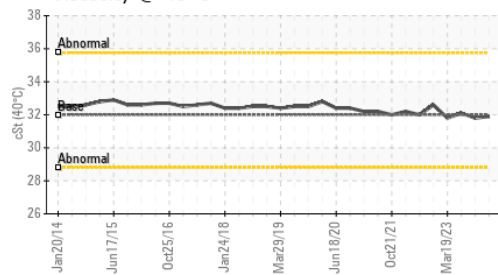
## Particle Trend



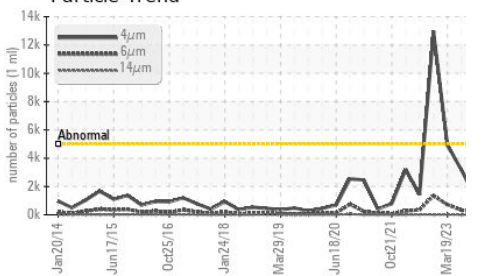
## Acid Number



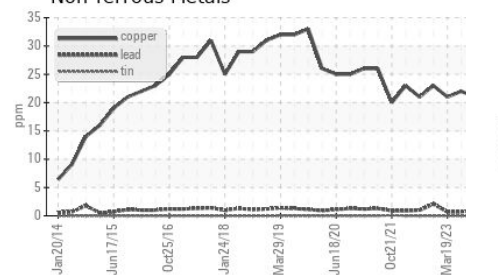
## Viscosity @ 40°C



## Particle Trend



## Non-ferrous Metals



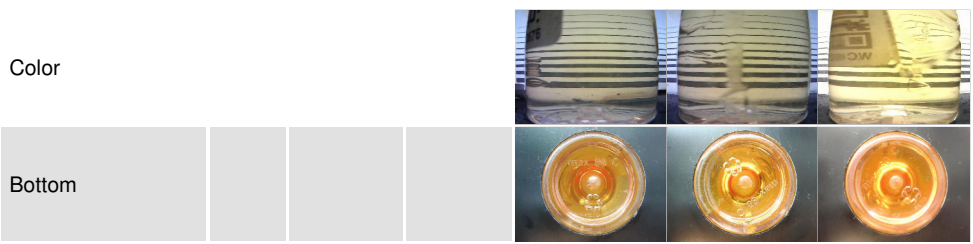
## FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g	ASTM D974*	<b>0.33</b>	0.40	0.40
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

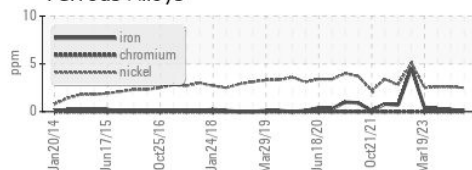
method	limit/base	current	history1	history2
Visc @ 40°C cSt	ASTM D7279(m)	<b>31.9</b>	31.8	32.1

## SAMPLE IMAGES

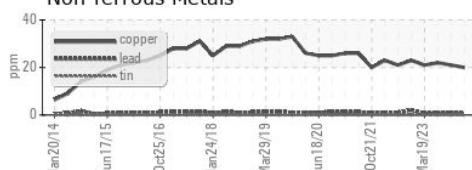


## GRAPHS

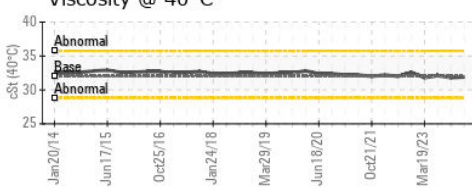
### Ferrous Alloys



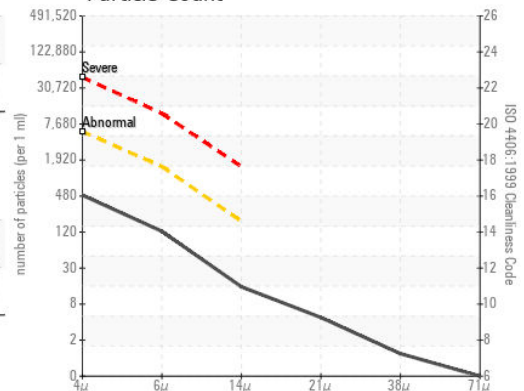
### Non-ferrous Metals



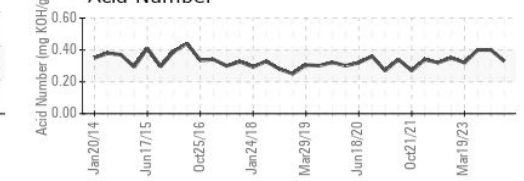
### Viscosity @ 40°C



### Particle Count



### Acid Number



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Long Lake Hydro Inc. (Regional Power)  
**Sample No.** : WC0843676 **Received** : 12 Jan 2024 1104 Railway St.  
**Lab Number** : 02608562 **Diagnosed** : 16 Jan 2024 Stewart, BC  
**Unique Number** : 5709648 **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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