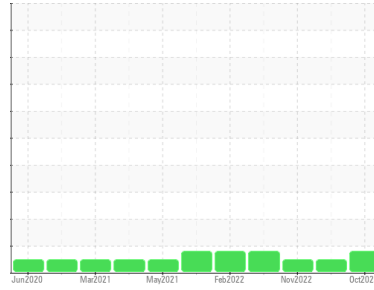




# PROBLEM SUMMARY

Sample Rating Trend



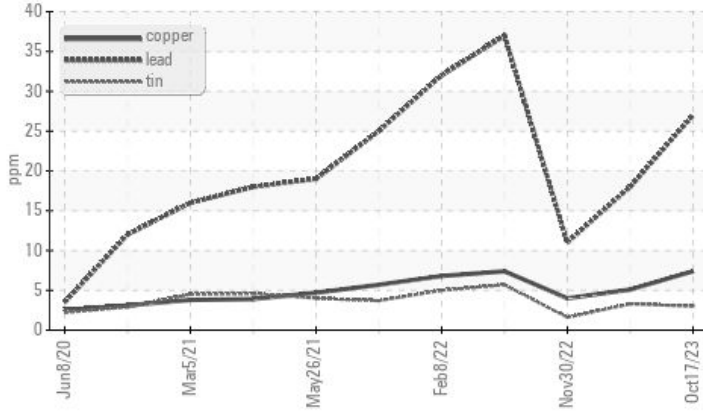
Machine Id  
**GS1-G1-BRG2**

Component  
**Bearing**

Fluid  
**AMERICAN CHEMICAL TECH. ECOSAFE FR-68 (27 LTR)**

## COMPONENT CONDITION SUMMARY

### ▲ Non-ferrous Metals



## RECOMMENDATION

Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

Sample Status				ATTENTION	NORMAL	NORMAL
Lead	ppm	ASTM D5185(m)	>20	▲ 27	18	11

Customer Id: ENE271OTT  
 Sample No.: WC0815902  
 Lab Number: 02591040  
 Test Package: IND 3



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Kevin Marson +1 (289)291-4644 x4644  
[Kevin.Marson@wearcheck.com](mailto:Kevin.Marson@wearcheck.com)

To change component or sample information:  
 Gloria Gonzalez +1 (289)291-4643 x4643  
[gloria.gonzalez@wearcheck.com](mailto:gloria.gonzalez@wearcheck.com)

## RECOMMENDED ACTIONS

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

### 03 Apr 2023 Diag: Kevin Marson

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



### 30 Nov 2022 Diag: Kevin Marson

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



### 17 May 2022 Diag: Kevin Marson

WEAR



Resample at the next service interval to monitor. Lead ppm levels are noted. All other component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

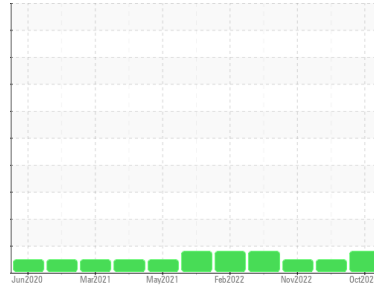
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**



Machine Id  
**GS1-G1-BRG2**

Component  
**Bearing**

Fluid  
**AMERICAN CHEMICAL TECH. ECOSAFE FR-68 (27 LTR)**

## DIAGNOSIS

### ▲ Recommendation

Resample at the next service interval to monitor.

### ▲ Wear

Lead ppm levels are noted. All other component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.

### Contaminants

There is no indication of any contamination in the oil.

### Oil 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>WC0815902</b>	WC0736130	WC0736149
Sample Date	Client Info		<b>17 Oct 2023</b>	03 Apr 2023	30 Nov 2022
Machine Age	mths	Client Info	<b>43</b>	37	33
Oil Age	mths	Client Info	<b>15</b>	9	5
Oil Changed	Client Info		<b>Not Changed</b>	Not Changed	Not Changed
Sample Status			<b>ATTENTION</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		<b>0</b>	0	0
Iron	ppm	ASTM D5185(m) >20	<b>2</b>	2	1
Chromium	ppm	ASTM D5185(m) >20	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185(m)	<b>0</b>	1	1
Silver	ppm	ASTM D5185(m)	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185(m) >20	<b>0</b>	0	0
Lead	ppm	ASTM D5185(m) >20	<b>▲ 27</b>	18	11
Copper	ppm	ASTM D5185(m) >20	<b>7</b>	5	4
Tin	ppm	ASTM D5185(m) >20	<b>3</b>	3	2
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>1</b>	1	1
Magnesium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Calcium	ppm	ASTM D5185(m)	<b>1</b>	0	0
Phosphorus	ppm	ASTM D5185(m)	<b>361</b>	398	398
Zinc	ppm	ASTM D5185(m)	<b>20</b>	14	10
Sulfur	ppm	ASTM D5185(m)	<b>740</b>	787	788
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>0</b>	0	0
Sodium	ppm	ASTM D5185(m)	<b>1</b>	<1	<1
Potassium	ppm	ASTM D5185(m) >20	<b>0</b>	<1	0

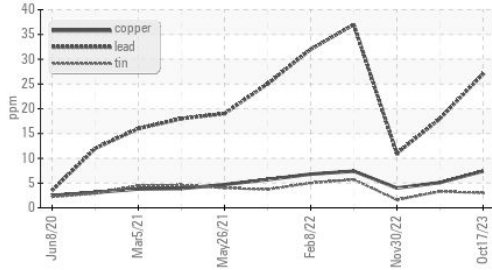
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	<b>1.04</b>	0.90	0.91

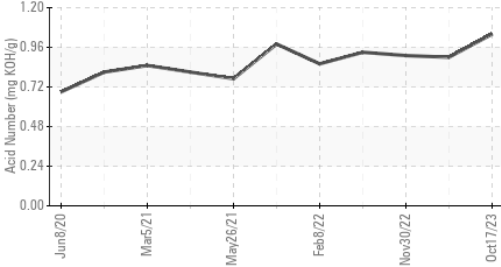


# OIL ANALYSIS REPORT

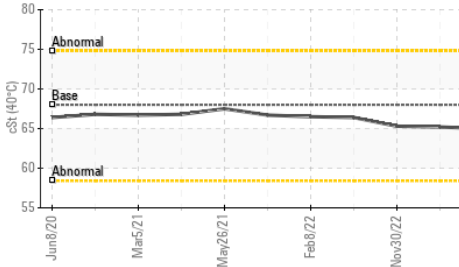
### ▲ Non-ferrous Metals



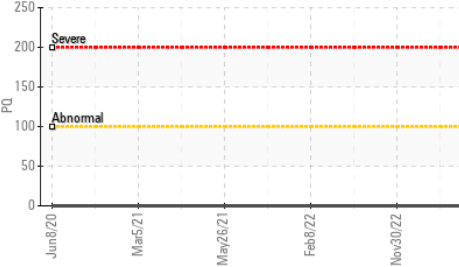
### Acid Number



### Viscosity @ 40°C



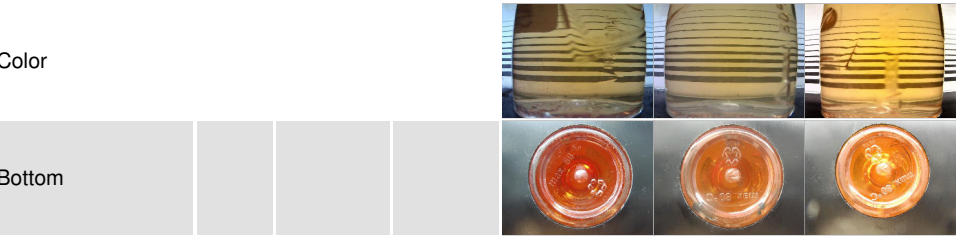
### PQ



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*	>2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

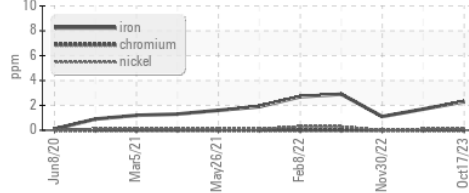
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	68.0	65.0	65.2 65.3

### SAMPLE IMAGES

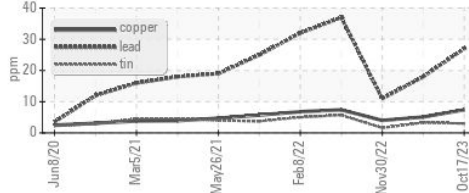


### GRAPHS

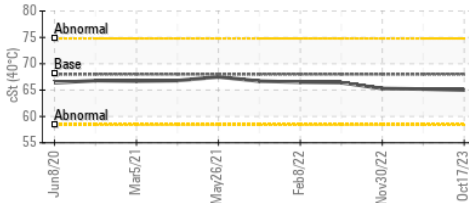
#### Ferrous Alloys



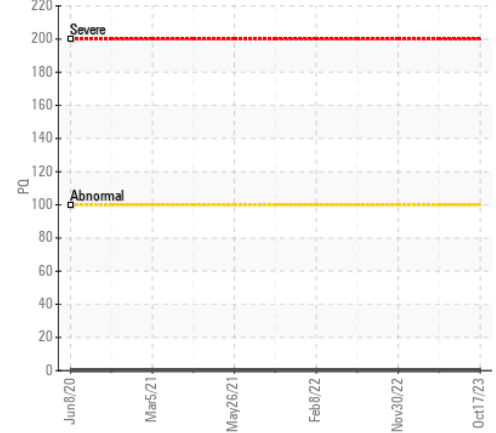
#### ▲ Non-ferrous Metals



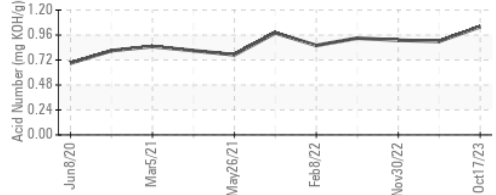
#### Viscosity @ 40°C



#### PQ



#### Acid Number



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **Chaudiere Hydro LP - Energy Ottawa**  
**Sample No.** : WC0815902 **Received** : 23 Oct 2023 4 Booth Street  
**Lab Number** : 02591040 **Diagnosed** : 30 Oct 2023 Ottawa, ON  
**Unique Number** : 5668119 **Diagnostician** : Kevin Marson CA K1R 6K8  
**Test Package** : IND 3

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: Cheryl Gharib  
 info@portagepower.com  
 T:  
 F: x:



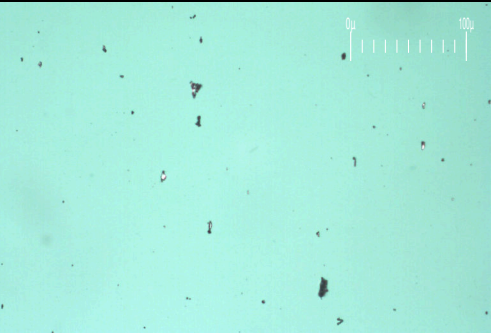
# FERROGRAPHY REPORT

Machine Id  
**GS1-G1-BRG2**

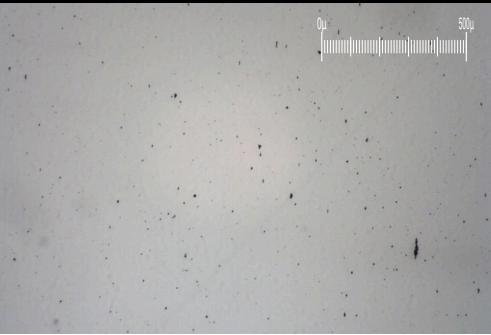
Component  
**Bearing**

Fluid  
**AMERICAN CHEMICAL TECH. ECOSAFE FR-68 (27 LTR)**

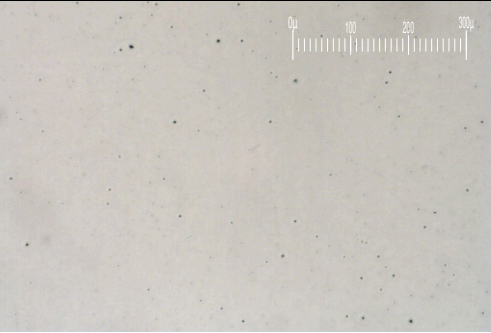
Magn: 200x Illum: BC



Magn: 50x Illum: RW



Magn: 100x Illum: RW

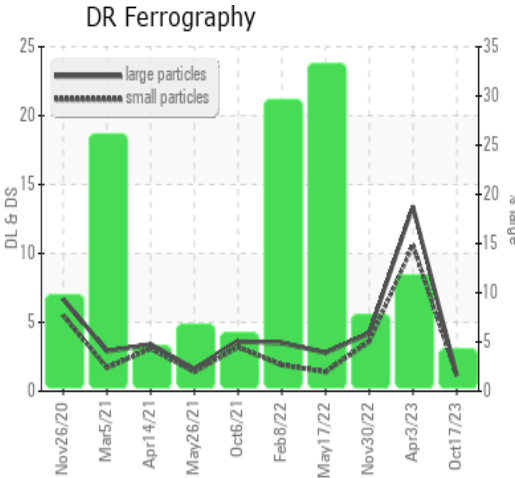


DR-FERROGRAPHY		method	limit/base	current	history1	history2
Large Particles		DR-Ferr*		<b>1.2</b>	13.4	4.2
Small Particles		DR-Ferr*		<b>1.1</b>	10.6	3.6
Total Particles		DR-Ferr*	>---	<b>2.3</b>	24	7.8
Large Particles Percentage	%	DR-Ferr*		<b>4.3</b>	11.7	7.7
Severity Index		DR-Ferr*		<b>0</b>	38	3

FERROGRAPHY		method	limit/base	current	history1	history2
Ferrous Rubbing	Scale 0-10	ASTM D7684*		<b>1</b>	2	2
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		<b>1</b>	1	1
Ferrous Break-in	Scale 0-10	ASTM D7684*				
Ferrous Spheres	Scale 0-10	ASTM D7684*				
Ferrous Black Oxides	Scale 0-10	ASTM D7684*				
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*				
Ferrous Other	Scale 0-10	ASTM D7684*				
Nonferrous Rubbing	Scale 0-10	ASTM D7684*				
Nonferrous Sliding	Scale 0-10	ASTM D7684*				
Nonferrous Cutting	Scale 0-10	ASTM D7684*				
Nonferrous Rolling	Scale 0-10	ASTM D7684*				
Nonferrous Other	Scale 0-10	ASTM D7684*				
Carbonaceous Material	Scale 0-10	ASTM D7684*				
Lubricant Degradation	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*		<b>1</b>	1	1
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*		<b>1</b>	1	2

### WEAR

Lead ppm levels are noted. All other component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.



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