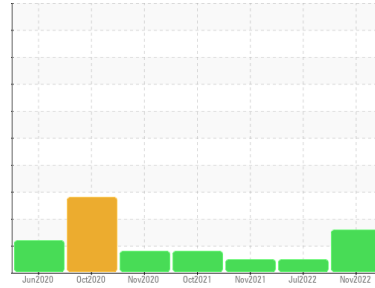




# OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Area  
**CHAUDIERE GS5**  
Machine Id  
**GS5-G4-DS-TGB (2)**

Component  
**Roller Bearing**  
Fluid  
**BIO-SYNXTRA EP GEAR OIL ISO 100 (28 LTR)**

## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

### Wear

Iron ppm levels are noted. Wear particle analysis indicates that the ferrous rubbing particles are marginal. All other component wear rates are normal.

### 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>WC0736154</b>	WC0676715	WC0576123
Sample Date	Client Info		<b>24 Nov 2022</b>	06 Jul 2022	08 Nov 2021
Machine Age	Client Info		<b>75</b>	71	51
Oil Age	Client Info		<b>13</b>	9	1
Oil Changed	Client Info		<b>Not Changed</b>	Not Changd	Changed
Sample Status			<b>ATTENTION</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>2	<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		<b>6</b>	0	0
Iron	ppm ASTM D5185(m)	>20	<b>44</b>	18	16
Chromium	ppm ASTM D5185(m)	>20	<b>0</b>	0	0
Nickel	ppm ASTM D5185(m)	>20	<b>&lt;1</b>	0	<1
Titanium	ppm ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm ASTM D5185(m)		<b>0</b>	0	0
Aluminum	ppm ASTM D5185(m)	>20	<b>0</b>	<1	<1
Lead	ppm ASTM D5185(m)	>20	<b>0</b>	0	0
Copper	ppm ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1
Tin	ppm ASTM D5185(m)	>20	<b>0</b>	0	0
Antimony	ppm ASTM D5185(m)		<b>0</b>	0	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>8</b>	7	9
Barium	ppm ASTM D5185(m)		<b>0</b>	0	0
Molybdenum	ppm ASTM D5185(m)		<b>0</b>	0	0
Manganese	ppm ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Magnesium	ppm ASTM D5185(m)		<b>0</b>	0	0
Calcium	ppm ASTM D5185(m)		<b>0</b>	<1	<1
Phosphorus	ppm ASTM D5185(m)		<b>117</b>	109	115
Zinc	ppm ASTM D5185(m)		<b>5</b>	3	4
Sulfur	ppm ASTM D5185(m)		<b>5818</b>	5797	6363
Lithium	ppm ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

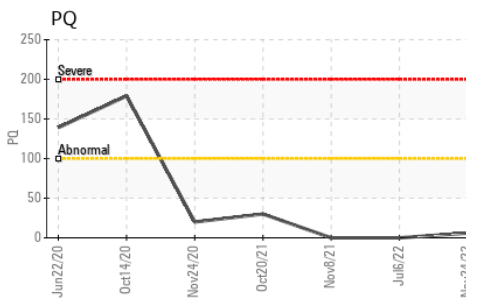
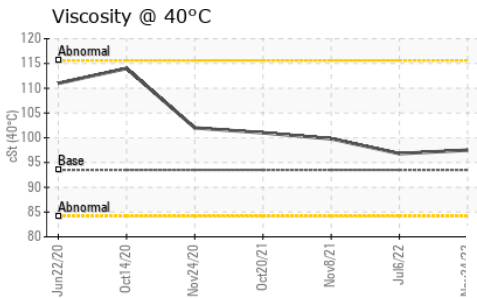
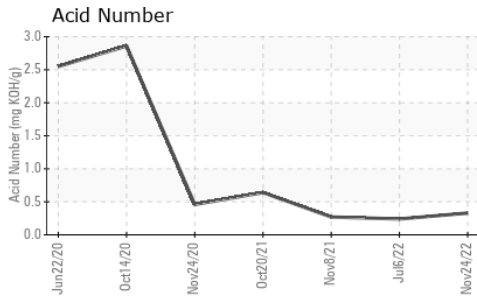
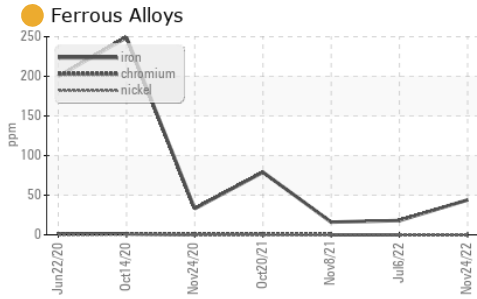
	method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m)	>15	<b>1</b>	<1	<1
Sodium	ppm ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Potassium	ppm ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D974*		<b>0.33</b>	0.24	0.27



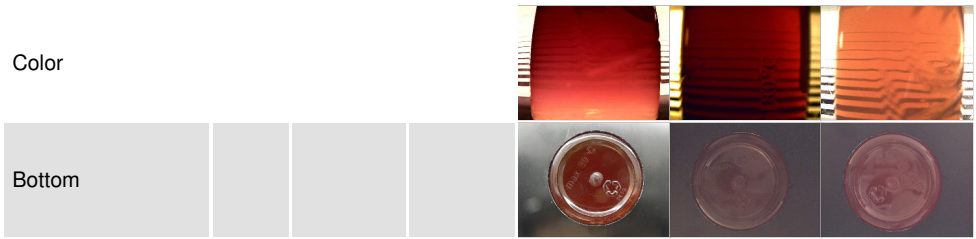
# OIL ANALYSIS REPORT



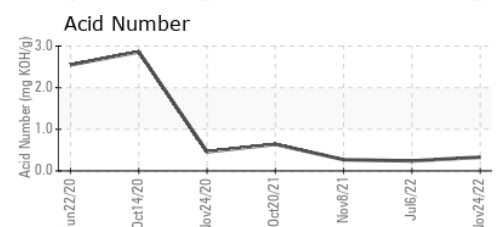
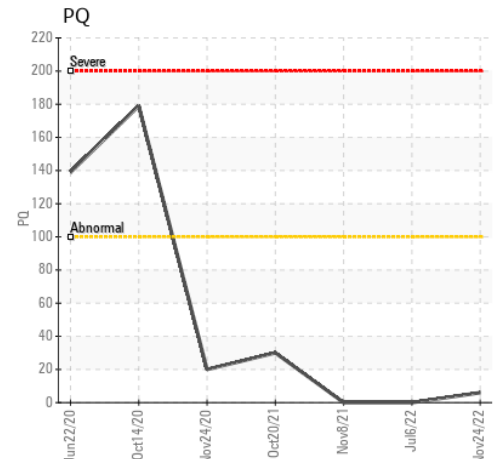
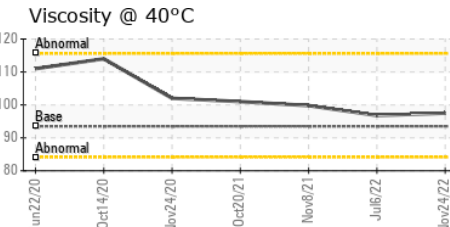
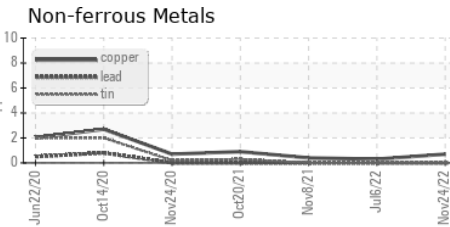
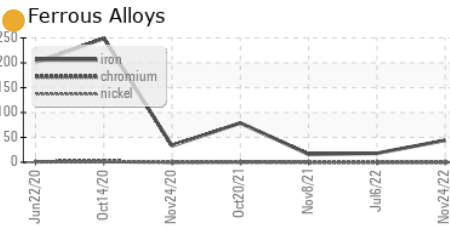
PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	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)	93.5	97.5	96.8

SAMPLE IMAGES	method	limit/base	current	history1	history2
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## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0736154 **Received** : 05 Dec 2022  
**Lab Number** : 02526795 **Tested** : 06 Dec 2022  
**Unique Number** : 5499793 **Diagnosed** : 08 Dec 2022 - Kevin Marson  
**Test Package** : IND 3 ( Additional Tests: TAN Man )

**Portage Power - Energy Ottawa**  
 4 Booth Street  
 Ottawa, ON  
 CA K1R 6K8  
 Contact: Cheryl Gharib  
 info@portagepower.com

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.

T: F: x:

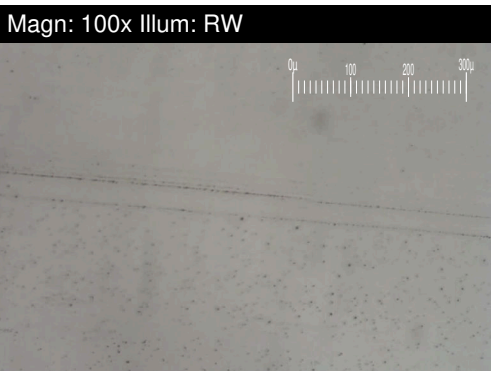
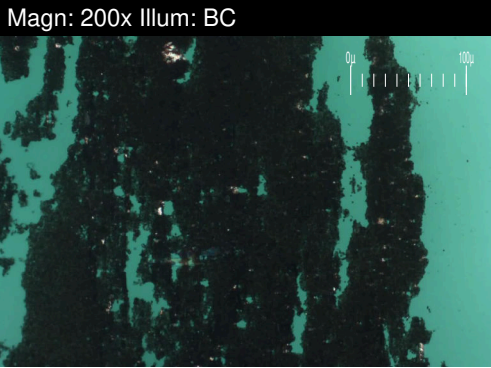


# FERROGRAPHY REPORT

Area  
**CHAUDIERE GS5**  
 Machine Id  
**GS5-G4-DS-TGB (2)**

Component  
**Roller Bearing**

Fluid  
**BIO-SYNXTRA EP GEAR OIL ISO 100 (28 LTR)**

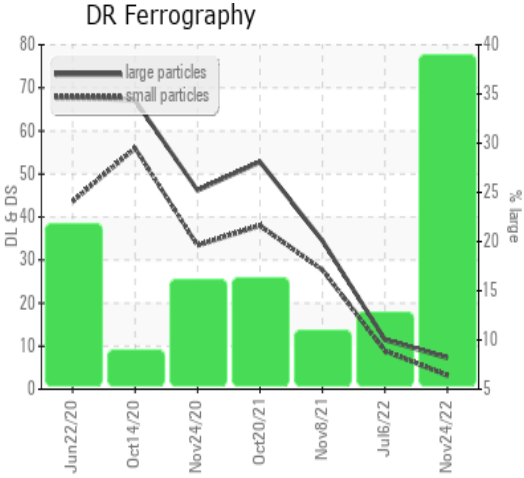


DR-FERROGRAPHY		method	limit/base	current	history1	history2
Large Particles		DR-Ferr*		<b>7.3</b>	11.5	34.5
Small Particles		DR-Ferr*		<b>3.2</b>	8.9	27.7
Total Particles		DR-Ferr*	>---	<b>10.5</b>	20.4	62.2
Large Particles Percentage	%	DR-Ferr*		<b>39</b>	12.7	10.9
Severity Index		DR-Ferr*		<b>30</b>	30	235

FERROGRAPHY		method	limit/base	current	history1	history2
Ferrous Rubbing	Scale 0-10	ASTM D7684*		<span style="color: orange;">▲</span> <span style="background-color: yellow;">■</span> <b>4</b>	<span style="background-color: lightgreen;">■</span> 2	<span style="background-color: lightgreen;">■</span> 3
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		<span style="background-color: lightgreen;">■</span> <b>2</b>	<span style="background-color: lightgreen;">■</span> 1	<span style="background-color: lightgreen;">■</span> 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*		<span style="background-color: lightgreen;">■</span> <b>1</b>	<span style="background-color: lightgreen;">■</span> 2	<span style="background-color: lightgreen;">■</span> 2
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*		<span style="background-color: lightgreen;">■</span> <b>1</b>	<span style="background-color: lightgreen;">■</span> 1	<span style="background-color: lightgreen;">■</span> 1
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*		<span style="background-color: lightgreen;">■</span> <b>2</b>	<span style="background-color: lightgreen;">■</span> 1	<span style="background-color: lightgreen;">■</span> 2

### WEAR

Iron ppm levels are noted. Wear particle analysis indicates that the ferrous rubbing particles are marginal. All other component wear rates are normal.



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