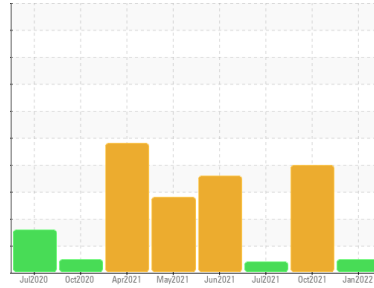




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**CHAUDIERE GS5**  
 Machine Id  
**GS5-G1-BRG1**

Component  
**Bearing**  
 Fluid  
**BIO-SYNXTRA EP GEAR OIL ISO 100 (80 LTR)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal. The direct-reading & analytical ferrographic 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>WC0642264</b>	WC0576133	WC0576113
Sample Date	Client Info			<b>05 Jan 2022</b>	14 Oct 2021	28 Jul 2021
Machine Age	mths	Client Info		<b>31</b>	28	25
Oil Age	mths	Client Info		<b>3</b>	2	1
Oil Changed	Client Info			<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	SEVERE	ABNORMAL

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>0</b>	0	0
Iron	ppm	ASTM D5185(m)	>20	<b>6</b>	<1	18
Chromium	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	0	0
Lead	ppm	ASTM D5185(m)	>20	<b>0</b>	0	<1
Copper	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	0	0
Antimony	ppm	ASTM D5185(m)		<b>&lt;1</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

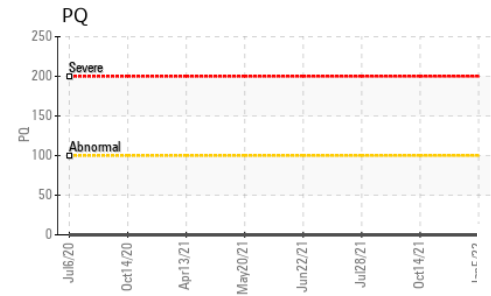
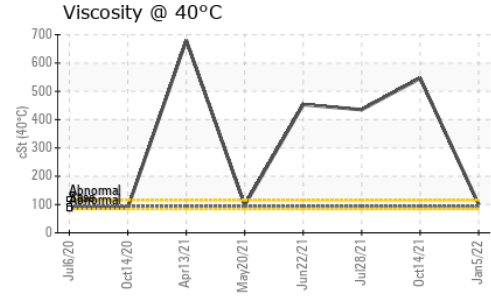
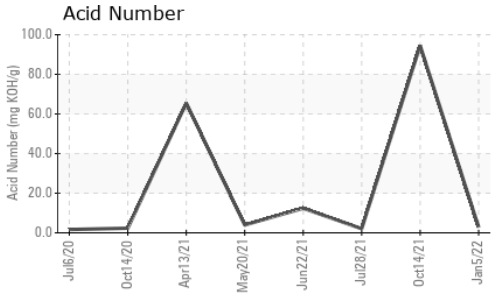
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<b>8</b>	8	14
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Calcium	ppm	ASTM D5185(m)		<b>3</b>	<1	8
Phosphorus	ppm	ASTM D5185(m)		<b>107</b>	▲ 55	102
Zinc	ppm	ASTM D5185(m)		<b>8</b>	1	12
Sulfur	ppm	ASTM D5185(m)		<b>6094</b>	2717	4005
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>	1	3
Sodium	ppm	ASTM D5185(m)		<b>0</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>2.91</b>	● 94.5	2.07



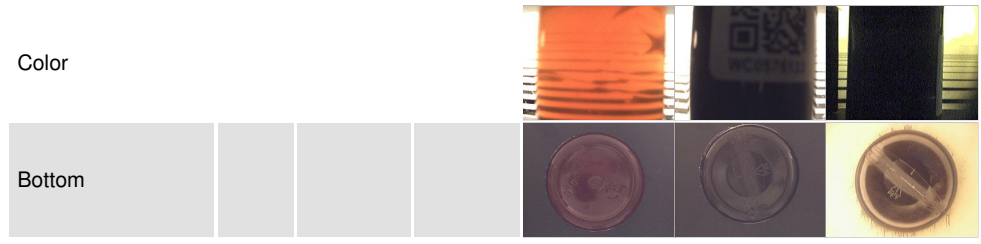
# OIL ANALYSIS REPORT



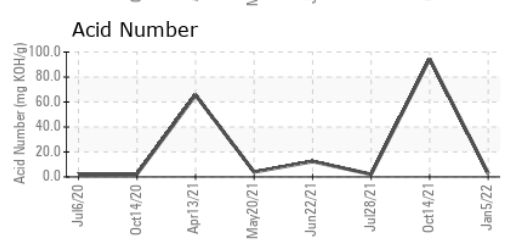
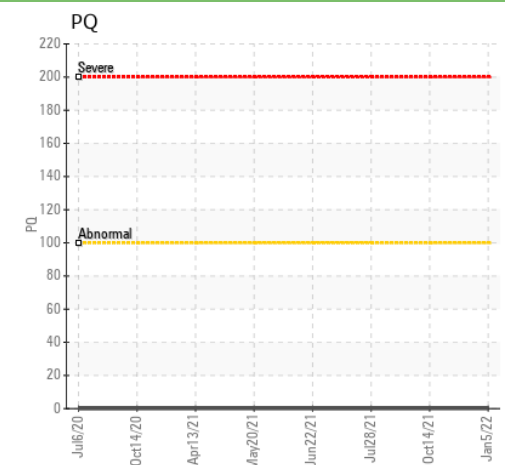
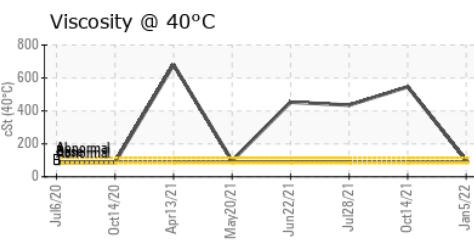
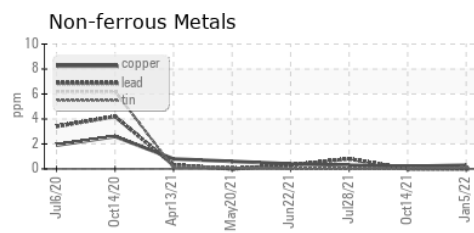
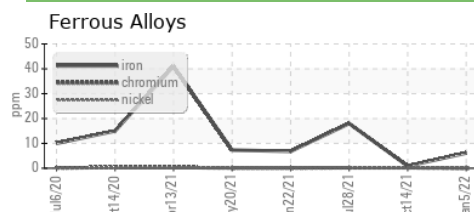
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	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)	93.5	101	▲ 546 ▲ 435

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.** : WC0642264  
**Lab Number** : 02470805  
**Unique Number** : 5347723  
**Test Package** : IND 3 ( Additional Tests: TAN Man )  
**Received** : 08 Feb 2022  
**Tested** : 10 Feb 2022  
**Diagnosed** : 10 Feb 2022 - Kevin Marson

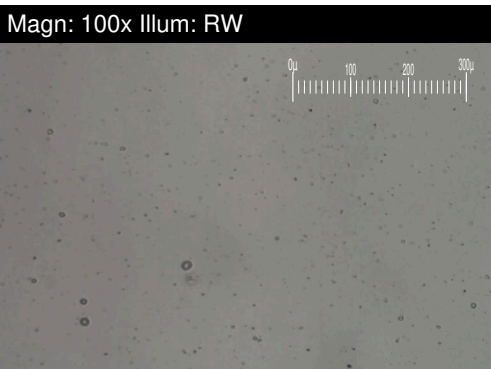
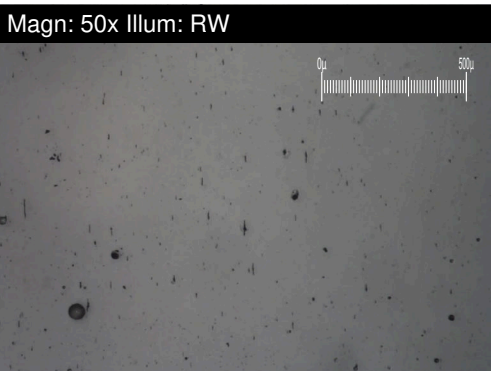
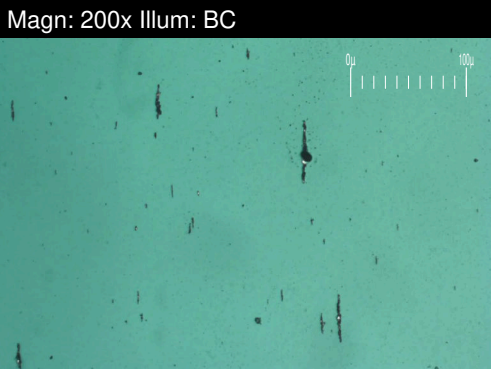
**Chaudiere Hydro LP - Energy Ottawa**  
 4 Booth Street  
 Ottawa, ON  
 CA K1R 6K8  
 Contact: Cheryl Gharib  
 info@portagepower.com

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.



# FERROGRAPHY REPORT

Area  
**CHAUDIERE GS5**  
 Machine Id  
**GS5-G1-BRG1**  
 Component  
**Bearing**  
 Fluid  
**BIO-SYNXTRA EP GEAR OIL ISO 100 (80 LTR)**

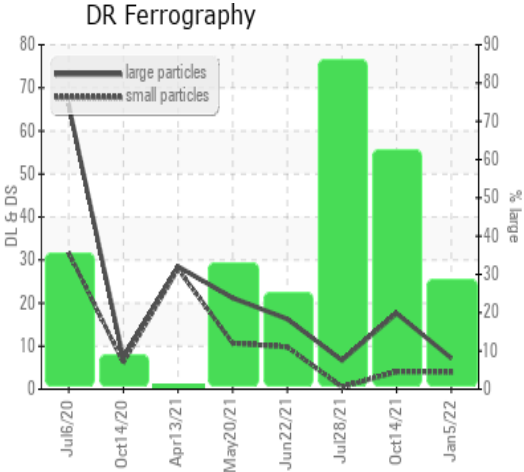


DR-FERROGRAPHY		method	limit/base	current	history1	history2
Large Particles		DR-Ferr*		<b>7.2</b>	17.6	6.7
Small Particles		DR-Ferr*		<b>4.0</b>	4.1	0.5
Total Particles		DR-Ferr*	>---	<b>11.2</b>	21.7	7.2
Large Particles Percentage	%	DR-Ferr*		<b>28.6</b>	62.2	86.1
Severity Index		DR-Ferr*		<b>23</b>	238	41.5

FERROGRAPHY		method	limit/base	current	history1	history2
Ferrous Rubbing	Scale 0-10	ASTM D7684*		1	1	1
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		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*		1	1	1
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*		2	1	3

## WEAR

All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system.



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