



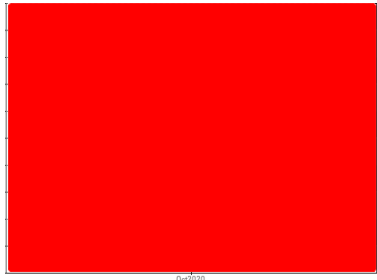
# PROBLEM SUMMARY

Sample Rating Trend

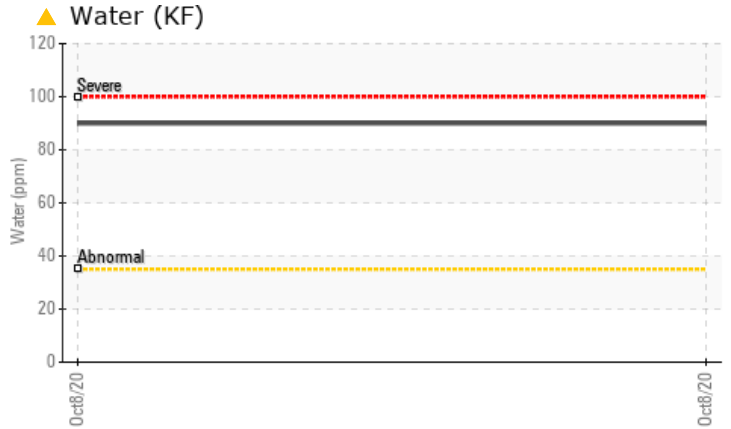
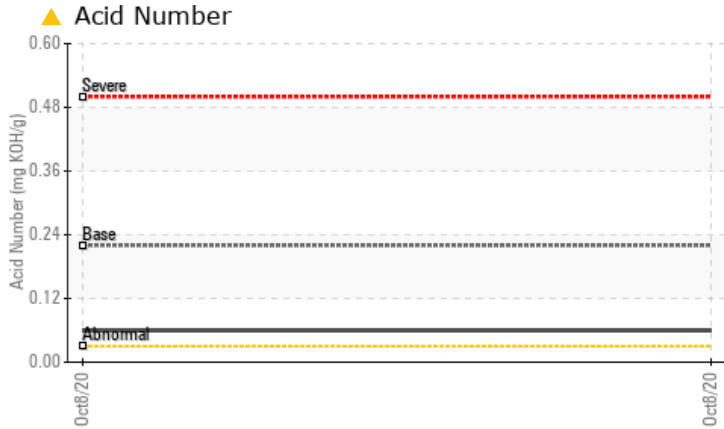
COMBUSTION



Area  
**CHAUDIERE GS5**  
 Machine Id  
**GE PROLEC GS5-T4 (S/N M16E15909)**  
 Component  
**Transformer Oil**  
 Fluid  
**ENVIROTEMP FR3 FLUID (1808 GAL)**



## COMPONENT CONDITION SUMMARY



## RECOMMENDATION

The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Evaluate for stray gassing and fault patterns. Indication of overheated cellulose or insulating fluid. We recommend an early resample to monitor this condition.

## PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	---	---
Water	%	ASTM D6304*	>0.0035	▲ <b>0.009</b>	---	---
ppm Water	ppm	ASTM D6304*	>35	▲ <b>90</b>	---	---
DGA - CO2	ppm	ASTM D3612(e)*		▲ <b>7086</b>	---	---
DGA - Ethane	ppm	ASTM D3612(e)*		▲ <b>1313</b>	---	---
DGA - Total Combustible Gas	ppm	ASTM D3612(e)*		▲ <b>1478</b>	---	---
Acid Number (AN)	mg KOH/g	ASTM D974*	0.22	▲ <b>0.06</b>	---	---
Interfacial Tension	mN/m	ASTM D971(e)*		▲ <b>22.1</b>	---	---

Customer Id: ENE271OTT  
 Sample No.: PP0424146  
 Lab Number: 02388781  
 Test Package: TRF 3



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Bill Quesnel CLS,OMA II,MLA-III,LLA-I +1  
 (289)291-4641 x4641  
[Bill.Quesnel@wearcheck.com](mailto:Bill.Quesnel@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

Action	Status	Date	Done By	Description
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Breathers	---	---	?	The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather.

## HISTORICAL DIAGNOSIS



# OIL ANALYSIS REPORT

Sample Rating Trend

COMBUSTION

Area  
**CHAUDIERE GS5**  
 Machine Id  
**GE PROLEC GS5-T4 (S/N M16E15909)**  
 Component  
**Transformer Oil**  
 Fluid  
**ENVIROTEMP FR3 FLUID (1808 GAL)**



## DIAGNOSIS

### ▲ Recommendation

The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Evaluate for stray gassing and fault patterns. Indication of overheated cellulose or insulating fluid. We recommend an early resample to monitor this condition.

### ▲ Contamination

There is a moderate concentration of water present in the transformer oil. Ethane exceeds normal limits (232 µL/L). Levels are elevated. Carbon Dioxide exceeds normal limits (5000 µL/L). (Furans) DP: >1003, Age: <1.0, 2FurylAldehyde: < 10, 5-HydroxyMethylFuralde: < 10, 2AcetylFuran: < 10, 5-Methyl-2-Furaldehyde: 40, 2-FurylAlcohol: < 10.

### ▲ Fluid Condition

Interfacial tension results are low. The condition of the transformer oil is acceptable for the time in service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>PP0424146</b>	---	---
Sample Date	Client Info		<b>08 Oct 2020</b>	---	---
Machine Age	hrs	Client Info	<b>0</b>	---	---
Oil Age	hrs	Client Info	<b>0</b>	---	---
Oil Changed	Client Info		<b>N/A</b>	---	---
Sample Status			<b>SEVERE</b>	---	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Water	%	ASTM D6304*	>0.0035	▲ <b>0.009</b>	---
ppm Water	ppm	ASTM D6304*	>35	▲ <b>90</b>	---

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	<b>2166</b>	---	---
Particles >6µm	ASTM D7647	>1300	<b>648</b>	---	---
Particles >14µm	ASTM D7647	>160	<b>65</b>	---	---
Particles >21µm	ASTM D7647	>40	<b>17</b>	---	---
Particles >38µm	ASTM D7647	>10	<b>1</b>	---	---
Particles >71µm	ASTM D7647	>3	<b>0</b>	---	---
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>18/17/13</b>	---	---

## DISSOLVED GAS ANALYSIS (DGA)

	method	limit/base	current	history1	history2
DGA - H2	ppm	ASTM D3612(e)*	<b>58</b>	---	---
DGA - O2	ppm	ASTM D3612(e)*	<b>546</b>	---	---
DGA - N2	ppm	ASTM D3612(e)*	<b>59310</b>	---	---
DGA - CO	ppm	ASTM D3612(e)*	<b>93</b>	---	---
DGA - CO2	ppm	ASTM D3612(e)*	▲ <b>7086</b>	---	---
DGA - Methane	ppm	ASTM D3612(e)*	<b>7</b>	---	---
DGA - Acetylene	ppm	ASTM D3612(e)*	<b>0</b>	---	---
DGA - Ethylene	ppm	ASTM D3612(e)*	<b>7</b>	---	---
DGA - Ethane	ppm	ASTM D3612(e)*	▲ <b>1313</b>	---	---
DGA - Total Gas Content	%	ASTM D3612(e)*	<b>68420</b>	---	---
DGA - Total Combustible Gas	ppm	ASTM D3612(e)*	▲ <b>1478</b>	---	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.22	▲ <b>0.06</b>	---

## VISUAL

	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>NONE</b>	---
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	---
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	---
Silt	scalar	Visual*	NONE	<b>NONE</b>	---
Debris	scalar	Visual*	NONE	<b>NONE</b>	---
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	---
Appearance	scalar	Visual*	NORML	<b>NORML</b>	---
Odor	scalar	Visual*	NORML	<b>NORML</b>	---

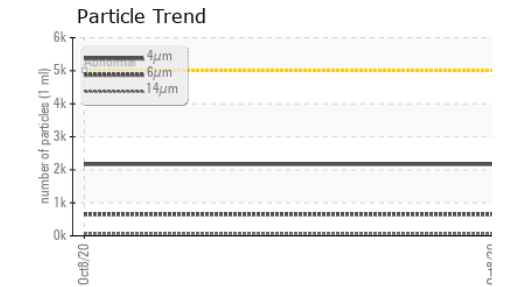
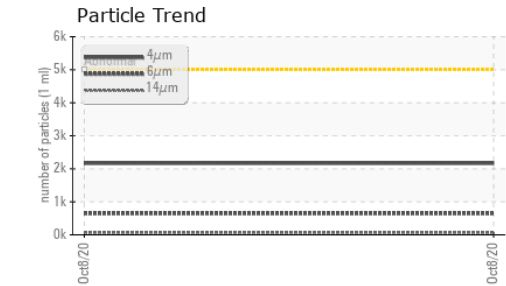
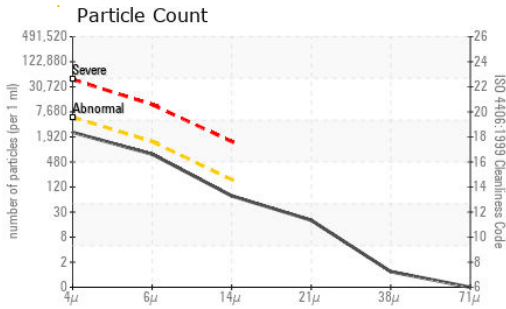
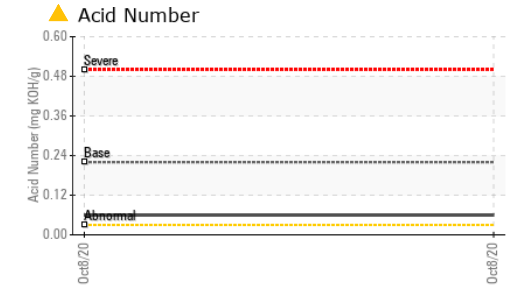
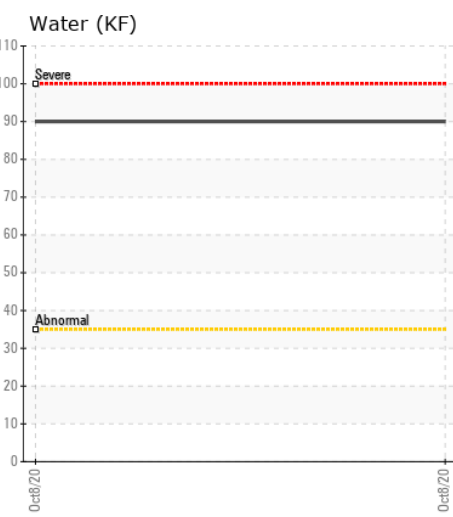
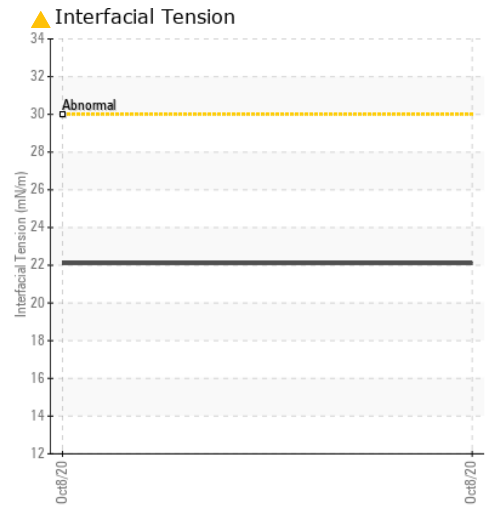
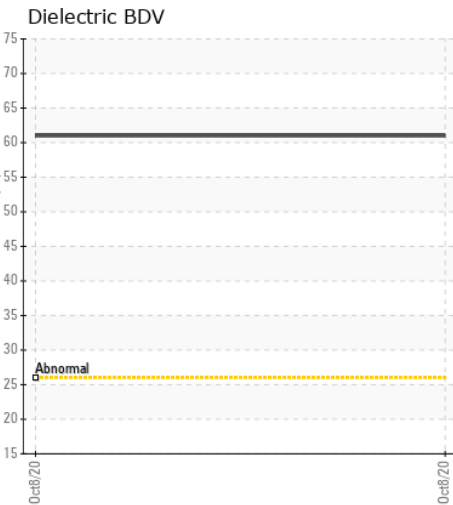


# OIL ANALYSIS REPORT

FLUID PROPERTIES	method	limit/base	current	history1	history2
Specific Gravity	ASTM D4052(e)	0.92	<b>0.920</b>	---	---
Dielectric Breakdown	kV ASTM D3612(e)*		<b>61</b>	---	---
Interfacial Tension	mN/m ASTM D971(e)*		<b>▲ 22.1</b>	---	---
ASTM Color	scalar ASTM D1500(e)		<b>&lt;0.5</b>	---	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				no image	no image
Bottom				no image	no image

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PP0424146 **Received** : 20 Nov 2020  
**Lab Number** : **02388781** **Tested** : 09 Dec 2020  
**Unique Number** : 5136238 **Diagnosed** : 09 Dec 2020 - Bill Quesnel  
**Test Package** : TRF 3 ( Additional Tests: PrtCount )

**Portage Power - Energy Ottawa**  
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 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: