

S.A. MCGREGOR



GROUND ASSESSMENT & INFILTRATION TEST REPORT

**BRAEMAR LODGE HOTEL
6 GLENSHEE ROAD
BRAEMAR
ABERDEENSHIRE
AB35 5YQ**

Client:

Braigh Mharr Ltd

Consulting Engineers:

HGA
Inverness

Contract No.:

3362/23

Report Issued:

09 May 2023

S. A. McGregor
info@samcgregor.co.uk

CONTENTS

Introduction

Site Location & Brief Description

Site Work

Walkover Survey

Trial Pits

Infiltration Testing

Ground Assessment

Published Geology

Encountered Ground Conditions

Ground Water Observations

Discussion

Sub-Soils

SuDS & Surface Waters

Drainage Recommendations

Surface Water Disposal

SIA Summary

Proposed Drainage Layout

Drainage Maintenance & Servicing

Sewage Treatment Systems

Soakaways

Regulations

Foundation Recommendations

Safe Bearing Capacity

Settlement

De-Watering

APPENDIX A

Site Plans	Fig. 1 General & Site Location Plans Fig. 2. Test Location Plan
Trial Pits	TP1 – TP3
Drainage	Fig. 3 Proposed Drainage Layout Fig. 4 Indicative Soakaway Installation Sketches
Certificates	Surface Water Disposal

GROUND ASSESSMENT & INFILTRATION TEST REPORT

**BRAEMAR LODGE HOTEL
6 GLENSHEE ROAD
BRAEMAR
ABERDEENSHIRE
AB35 5YQ**

INTRODUCTION

At the request of HGA on behalf of Braigh Mharr Ltd, a site visit was made to land at Braemar Lodge Hotel (not demolished after fire damage), Braemar, Aberdeenshire.

It is proposed to design remedial works for surface water run-off on the site.

The purpose of the visit was to carry out a site investigation to determine the nature of the materials underlying the site and to undertake the following: -

- to carry out infiltration testing for the design of a surface water disposal system

SITE LOCATION & BRIEF DESCRIPTION

The proposed development site is on land at Braemar Lodge Hotel in the village of Braemar in Aberdeenshire, see Fig. 1. General & Site Location Plans in Appendix A.

The site is currently overlain by compacted grey hardcore and is generally level falling slightly towards the east and south.

The site services may have been disconnected after the fire but some may still be connected.

There are no known wells used for the supply of potable water within 50m of the site.

There are no surface water courses within 10m of the site.

SITE WORK

Trial Pits

On the 18th April 2023, a tracked excavator with a 0.70m bucket excavated trial pits to order to assess the underlying ground conditions and to carry out infiltration testing in the areas suitable for a surface water sub-surface soakaway.

The locations of the trial pits were indicated by the Engineer on site and are indicated on the site plan, see Fig. 2. Test Location Plan in Appendix A.

Infiltration Testing

Infiltration testing was carried out in trial pit TP1 – TP3 in full accordance with BRE Digest 365, the test results are tabulated below: -

Trial Pit No.	Pit Dimensions (W x L)m	Test Zone (mbegl)	In-Fill	Soil Infiltration Rate, f(m/s)
TP1	1.00 x 2.00	1.60 – 1.80	Open	1.67×10^{-4}
TP2	0.80 x 1.80	1.80 – 2.00		2.77×10^{-4}
TP3	1.00 x 1.90	1.80 – 2.00		9.08×10^{-5}

GROUND ASSESSMENT

Published Geology

The British Geological Survey 1:50,000 Superficial and Solid maps indicate that there are no superficial deposits recorded for the site. The site is underlain by Tom Anton Mica Schist Formation – Pelite. Metamorphic bedrock formed between 1000 and 341 million years ago between the Tonian and Ediacaran Periods.

Encountered Ground Conditions

Made Ground and Topsoil: The area is overlain by 120-900mm of made ground consisting of grey gravel hardcore, building rubble and re-worked sandy gravelly material. Topsoil was encountered beneath the made ground in TP2 and TP3 500-750mm in thickness to around 1.30m below ground level.

Natural Sub-Soils: The sub-soils have an upper mantle of medium dense grey (some orange mottling) slightly silty gravelly fine sand becoming dense grey sandy angular gravels and cobbles completely to highly weathered rock below 1.80m and proved to the maximum depth of 2.00m.

Bedrock: Completely to highly weathered bedrock was encountered below approximately 1.60m.

Groundwater Observations

Groundwater was not encountered during the investigation or observed during the monitoring period. No visual (no seepages or discoloration) indication of the seasonally high or fluctuating ground water table was seen in the strata above the encountered depths of 2.00m.

DISCUSSION

Sub-Soils

The sandy gravelly (weathered rock) nature of the lower underlying strata and the test results confirmed the well-draining properties of the sub-soils and their suitability for the installation of a suitably designed SuDS for the site.

APPENDIX A

Site Plans	Fig. 1. General & Site Location Plans Fig. 2. Test Location Plan
Trial Pits & Photographs	TP1 – TP3

Fig. 1. General & Site Location Plans

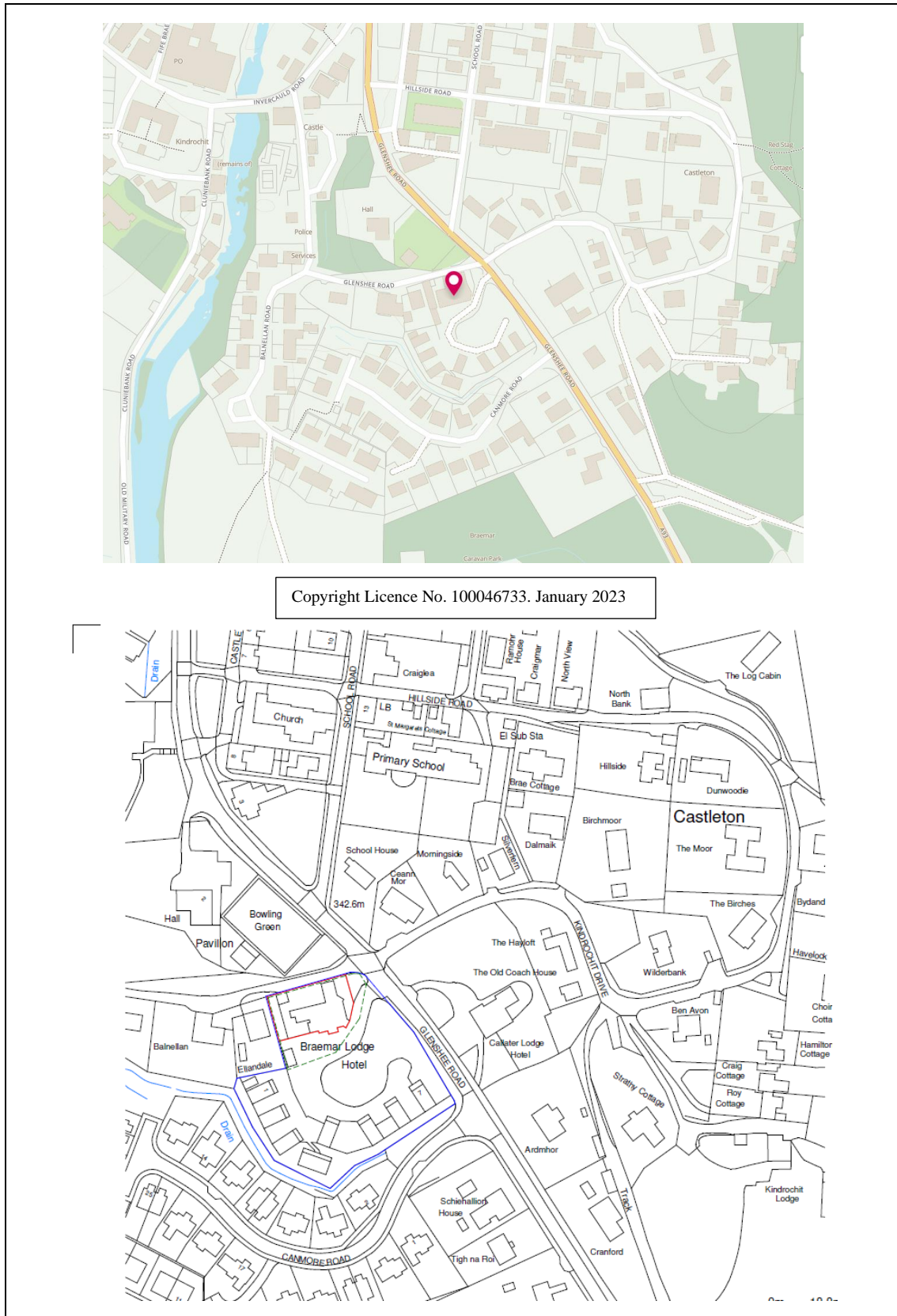
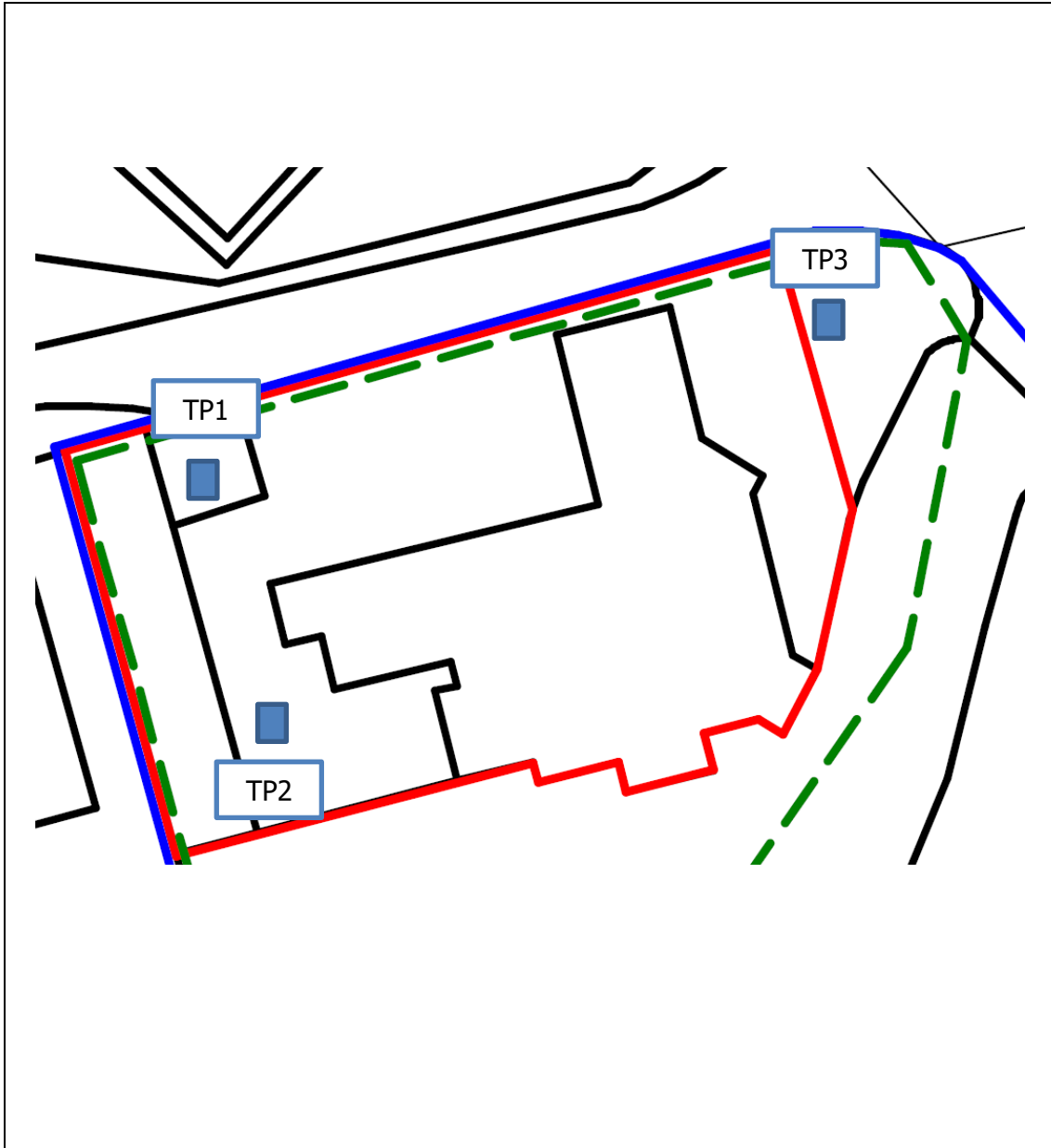




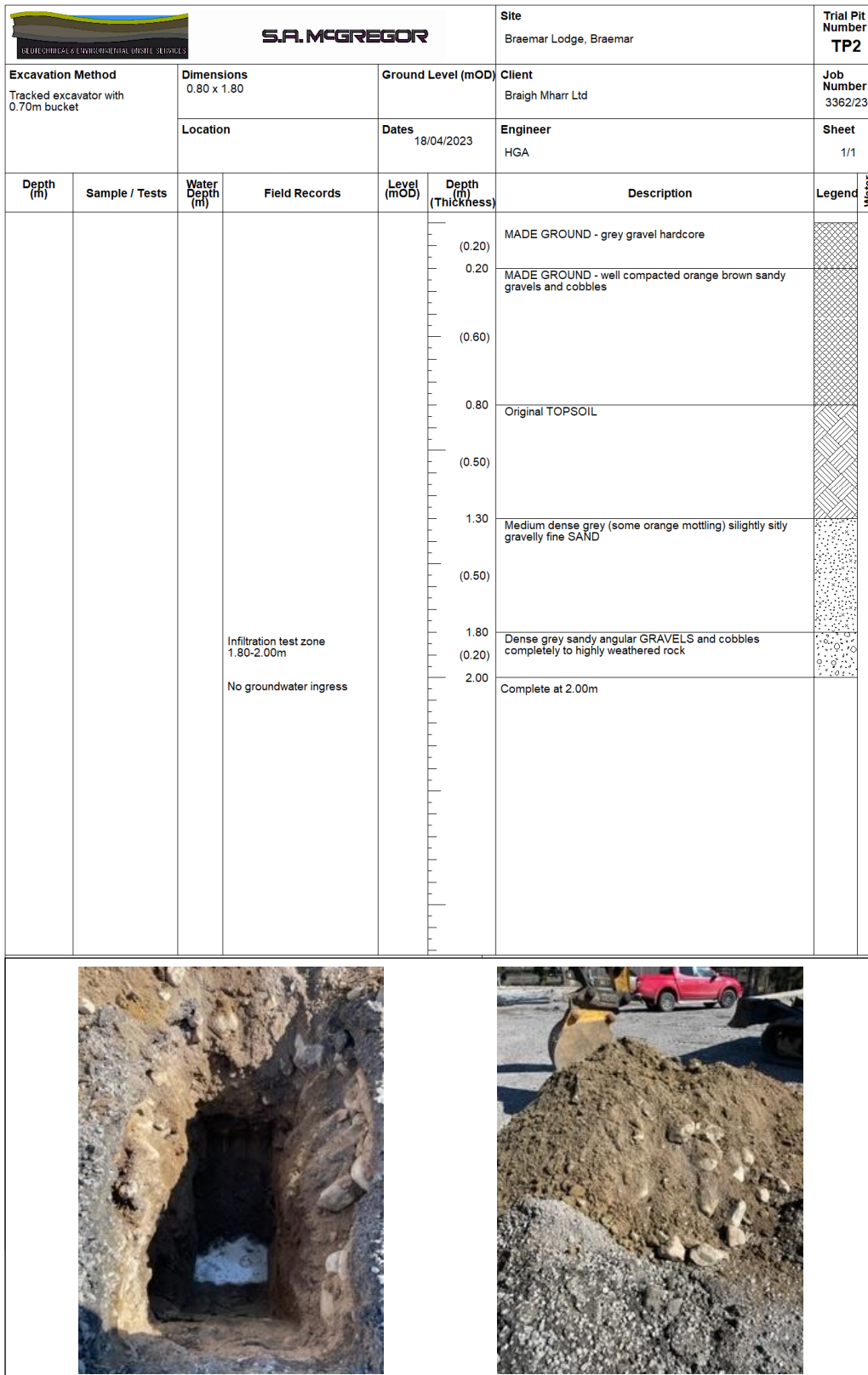
Fig. 2. Test Location Plan



Extract from drawing supplied by HGA

Excavation Method		Dimensions		Ground Level (mOD)		Site		Trial Pit Number	
Tracked excavator with 0.70m bucket		1.00 x 2.00				Braemar Lodge, Braemar		TP1	
		Location		Dates		Client		Job Number	
				18/04/2023		Braigh Mharr Ltd		3362/23	
						Engineer		Sheet	
						HGA		1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
					(0.12)	MADE GROUND - grey gravel hardcore			
					0.12	MADE GROUND - building rubble			
					(0.38)				
					0.50	MADE GROUND - reworked sandy gravelly material ...lead pipes at 0.50m			
					(0.40)				
					0.90	Medium dense grey and orange silty fine SAND			
					(0.70)				
			Infiltration test zone 1.60-1.80m		1.60	Weak grey highly weathered well fractured ROCK (seen as angular gravels and cobbles)			
			No groundwater ingress		(0.20)				
					1.80	Complete at 1.80m			

	
---	--



Excavation Method		Dimensions		Ground Level (mOD)		Client		Trial Pit Number	
Tracked excavator with 0.70m bucket		0.80 x 1.80				Braemar Lodge, Braemar		TP3	
		Location		Dates		Engineer		Job Number	
				18/04/2023		HGA		3362/23	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
					0.25	MADE GROUND - grey gravel hardcore			
					0.25	Original TOPSOIL			
					0.75				
					1.00	Medium dense dark grey and orange silty fine SAND			
					0.60	...becoming gravelly below 1.40m			
					1.60	Dense grey sandy angular GRAVELS and cobbles completely to highly weathered rock			
					0.40				
					2.00	Complete at 2.00m			
			Infiltration test zone 1.80-2.00m No groundwater ingress						

