



*Highland Archaeology Services Ltd*

Bringing the past and future together

## **Controlled Topsoil Strip**



**Murphy's Croft  
Bonar Bridge, Sutherland**

**September 2007 and July 2008**

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## Controlled Topsoil Strip

### Murphy's Croft Bonar Bridge, Sutherland

September 2007 and July 2008

Report No.	HAS070902
Site Code	HAS/ MCB07
Client	Mr G Smart
Planning Ref	SU-07-063
Date/revision	14/04/2010
Authors	John Wood and Cait McCullagh

## Summary

*A controlled topsoil strip was carried out in September 2007 ahead of construction of a new house at Murphy's Croft, Bonar Bridge, Sutherland, as a condition of Planning Permission. No features or artefacts of archaeological significance were found.*

*A further, similar exercise was conducted on 5<sup>th</sup> July 2008 on the opening of trenches for a bore hole, the installation of geo-thermal heating plant and a soakaway and drainage channel. Again, no features or artefacts of archaeological significance were found.*

*Provision of an electricity supply to this property was the subject of a separate archaeological assessment and walk-over survey undertaken by the company for Scottish and Southern Energy in December 2007 (project HAS/RMO07; report HAS071201)*

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## Acknowledgements

The work in September 2007 was carried out by John Wood who took all the photographs. The follow-up visit in July 2008 was undertaken by Cait McCullagh.

HAS Ltd wish to express thanks to the client Mr Gordon Smart for his help with the fieldwork.

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## Introduction

A desk-based assessment and archaeological controlled topsoil strip were carried out by Highland Archaeology Services at Murphy's Croft, Bonar Bridge, Sutherland in September 2007 on behalf of Mr G Smart to fulfil a planning requirement prior to development of a new house site. The purpose was to identify and record the nature and extent of any archaeological features likely to be affected by the construction of a new house.

In July 2008 a further controlled removal of topsoil was undertaken for services, drains and ground source heat pump trenches.

## Aims and objectives

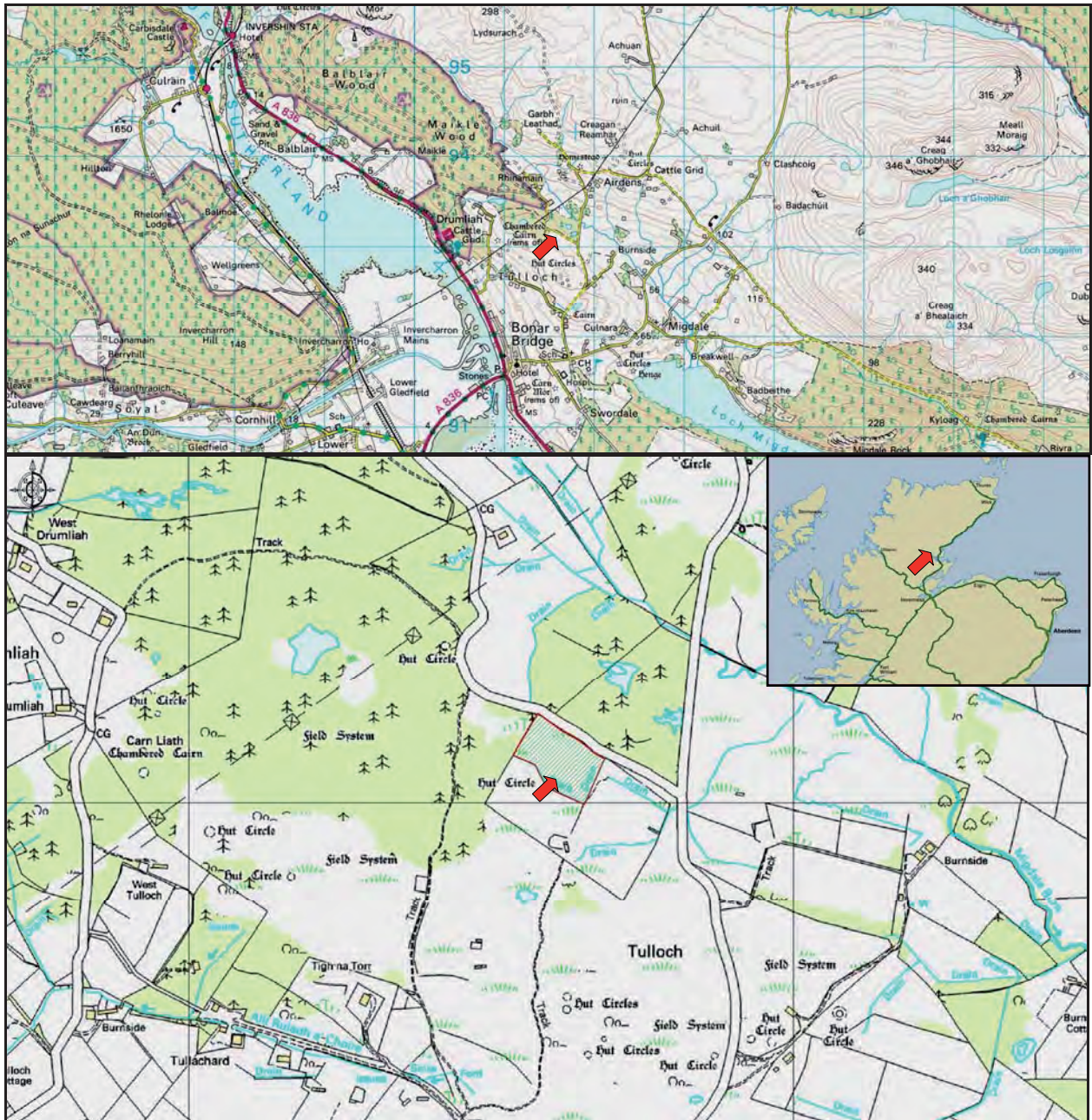
The archaeological investigation was requested in this area because of the potential for archaeological finds and features of interest. The overall aims of the archaeology programme were to:

1. Minimize any possible delay or costs to the development by anticipating any archaeological requirements as far as possible, timetabling and integrating archaeological recording work with the project, and dealing with any issues arising quickly and efficiently.
2. Determine as far as possible the character, extent, condition, date and significance of any archaeologically significant remains; and to preserve these where possible and record where necessary in line with NPPG 5 (SOEND 1994) and PAN 42 (SOEND 1994).
3. Ensure that any artefacts or human remains are dealt with in accordance with legal requirements and current Historic Scotland policy guidance.
4. Meet the requirements of the Highland Council Archaeology Unit brief for this project.



## Location

The site occupies 1.14 hectares and is located at approximately Ordnance Survey National Grid Reference NH 6161 9307, at a height of 91 metres above sea level.



**Figure 1 Site Location**

Mapping reproduced by permission of the Ordnance Survey: Licence 100043217.



## Archaeological background and cultural significance

An archaeological fieldwork was requested for this site because of a potential for finds or features of interest to be discovered during site works. There were no recorded features of archaeological interest within the site itself, but extensive prehistoric and later sites have been noted nearby, including hut circles, cairns and field systems of the Bronze Age and Iron Age periods (c. 4,400 – 1,600 years ago). To the south and west are groups of hut circles and field systems; within 800m to the west is the Neolithic chambered cairn of Carn Liath, while further south, around Migdale, there is a Neolithic henge monument and the location of a major Bronze Age hoard, now in the National Museums of Scotland.

The development site occupies part of a pasture field, which rises gradually overall from the SE to the NW, but includes a number of periglacial deposits as mounds and hummocks. The proposed house site itself occupies the top of one of these natural mounds.

The area to be developed is defined on the north by a fence along the public road, and by fences on the east and west. To the south there is a modern field drainage ditch on the other side of which is a hut circle and several, possibly contemporary, field clearance cairns. These lie at about 80m from the new house site.

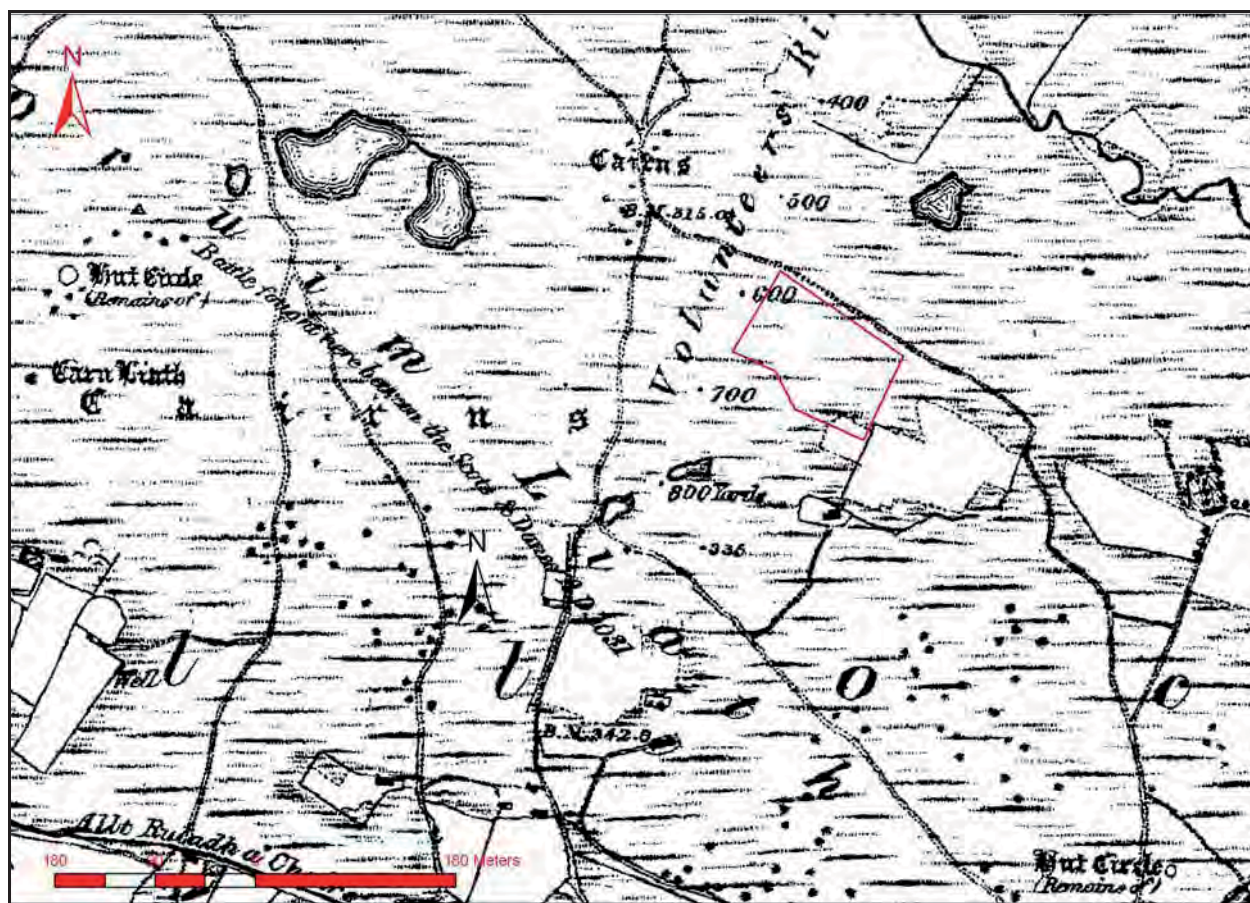


Figure 2 Extract from OS 1st edition 1:10560 map (1879)

The area has changed considerably since the 1879 1<sup>st</sup> edition OS map, when it was shown as open moorland in use as the Volunteers' rifle range. The hut circle nearby is not shown, but the map records the site of a 'battle between Scots and Danes in AD1031'. An area of arable or improved land

is shown extending into the SE corner of the present site. This seems to be unenclosed on the map but it coincides very approximately with a field dyke noted during the fieldwork. This dyke appears to post-date the map and may have been constructed to delimit this area more clearly (see Fig 5 below).



Plate 1 Stone dyke

## Policy background

The planning and policy framework in this case includes the Highland Council's *Structure Plan*<sup>1</sup>, and the Scottish Executive's *National Planning Policy Guidance Notes 5 (NPPG5)*<sup>2</sup> and 18 (NPPG18)<sup>3</sup>, and *Planning Advice Note 42 (PAN42)*<sup>4</sup> (SOEND 1994). The fundamental principles underpinning the above policies are set out in *Passed to the Future: Historic Scotland's Policy for the Sustainable Management of the Historic Environment* (2002)<sup>5</sup> and the *Burra Charter* (Australia ICOMOS 1999).<sup>6</sup>

<sup>1</sup> <http://www.highland.gov.uk/yourenvironment/planning/developmentplans/structureplan/thehighlandstructureplan.htm>

<sup>2</sup> <http://www.scotland.gov.uk/Publications/1998/10/nppg5>

<sup>3</sup> <http://www.scotland.gov.uk/Publications/1999/04/nppg18>

<sup>4</sup> <http://www.scotland.gov.uk/Publications/1994/01/17081/21711>

<sup>5</sup> [www.historic-scotland.gov.uk/pasttofuture.pdf](http://www.historic-scotland.gov.uk/pasttofuture.pdf)

<sup>6</sup> <http://www.icomos.org/australia/burra.html>



## Programme

The work consisted of a desk-based assessment and controlled topsoil strip, designed to meet the requirements of the Highland Council Archaeology Unit. It followed the project design set out in the Written Scheme of Investigation submitted to the Council in September 2007. The Desk-based assessment included checks of all material available online and at the Highland Council's headquarters in Inverness.

The initial fieldwork was carried out on 12 September 2007 in dry weather conditions with sunshine and clouds. A further site visit was carried out in July 2008 to observe excavations for power and water connections, drains and soakaway in due course.

## Results

### *Desk-based assessment*

A large number of prehistoric features have been recorded nearby, including many hut circles – footings of late Bronze Age or Iron Age houses dating from about 3000 to 1,500 years ago. The area was clearly well occupied and farmed in this period. The nearest of these is Highland SMR No NH69SW0151, lying some 80m WSW of the house site. The distance from the new house is believed to be sufficient not to detract significantly from the visual setting of this group.

Past fieldwork here included a walk-over survey and rapid assessment for the Bonar Bridge Water Supply undertaken by Stuart Farrell in 2002<sup>7</sup>, and general vertical aerial photographic survey by the RAF in the late 1940s<sup>8</sup>. Both were checked but did not reveal any archaeological sites or features likely to be directly affected.

### *Controlled Topsoil Strip – September 2007*

A tracked back-acting mechanical excavator fitted with a 1.8m straight-edged ditching bucket cleared topsoil and turf from the house site itself and part of the access road under archaeological supervision. On arrival it was found that an access road line and site for a caravan had been stripped some time previously. These had been left open and were inspected and photographed, but no archaeological features could be seen.

The house site itself occupies the top of a natural glacial mound composed of red sands and angular pebbles. No archaeological features or structures were found in the areas cleared, although in one area a group of larger stones appeared to be a filled-in hollow. The ground conditions were varied in the line of the driveway but all of natural peri-glacial origin. Throughout, the trenches came down onto natural sands, gravels and rocks at 10-20cm depth.

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<sup>7</sup> Farrell, S 2002 Bonar Bridge Water Supply (Highland SMR Report No 716)

<sup>8</sup> RAF AP CPE/UK/0184: 1008



Plate 2 Previously cleared access road line



Plate 3 Clearing the house site - showing ground conditions.

### ***Rapid Survey of Hut Circle***

The opportunity was taken in September 2007 to make a rapid DGPS survey of the nearby hut circle and field clearance cairns (see below). For all site mapping, a Magellan Promark 3 unit was used in mobile mapping mode, with satellite-based differential correction provided by EGNOS. This



typically provides sub-metre horizontal accuracy. The results were then corrected against the Ordnance Survey Mastermap data.



Plate 4 View to site with hut circle in foreground (September 2007).



Figure 3 Hut circle and other archaeological features

*Note that the full extent of the branching ditches was not obtained.*

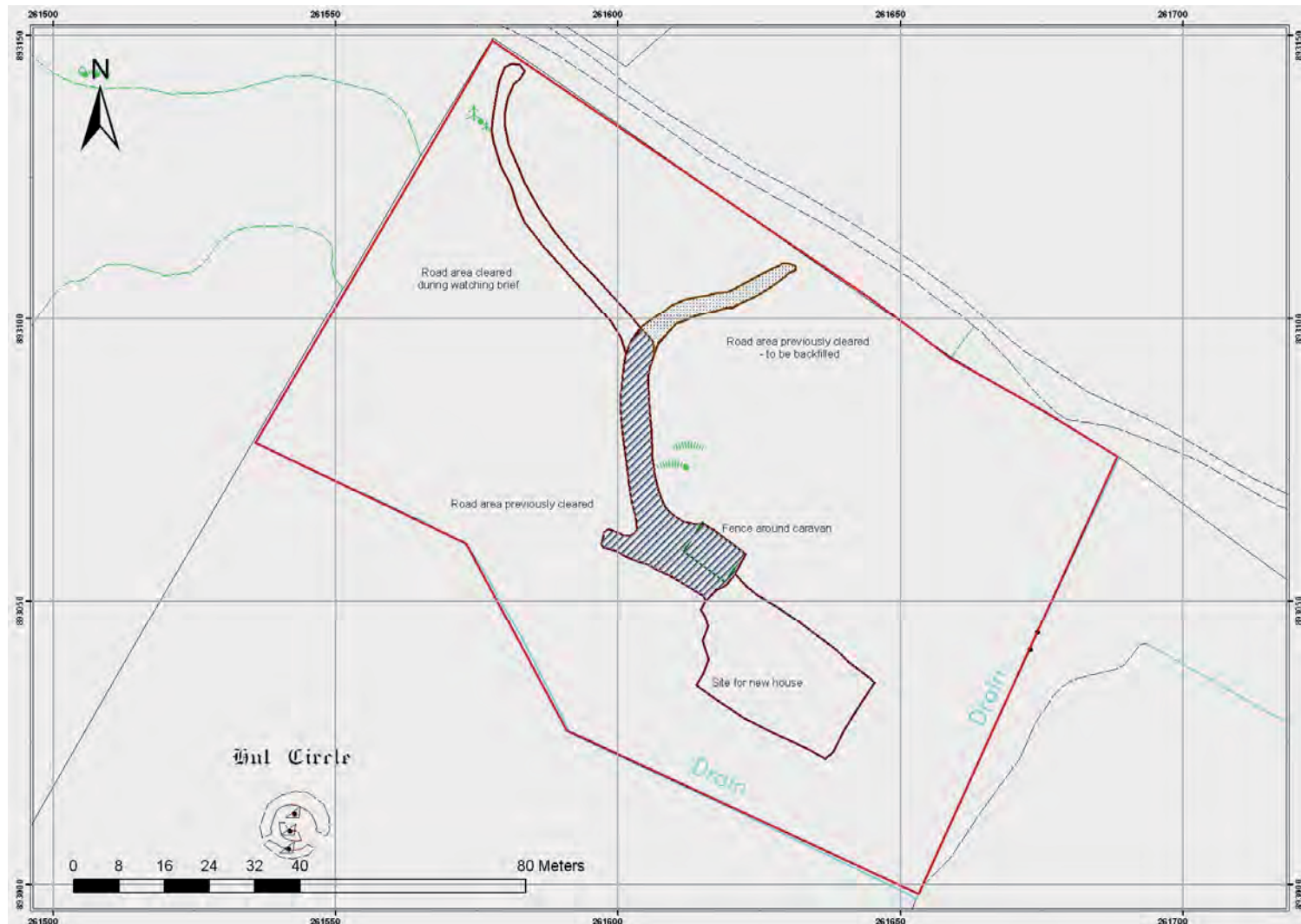


Figure 4 Site plan, showing area investigated in 2007



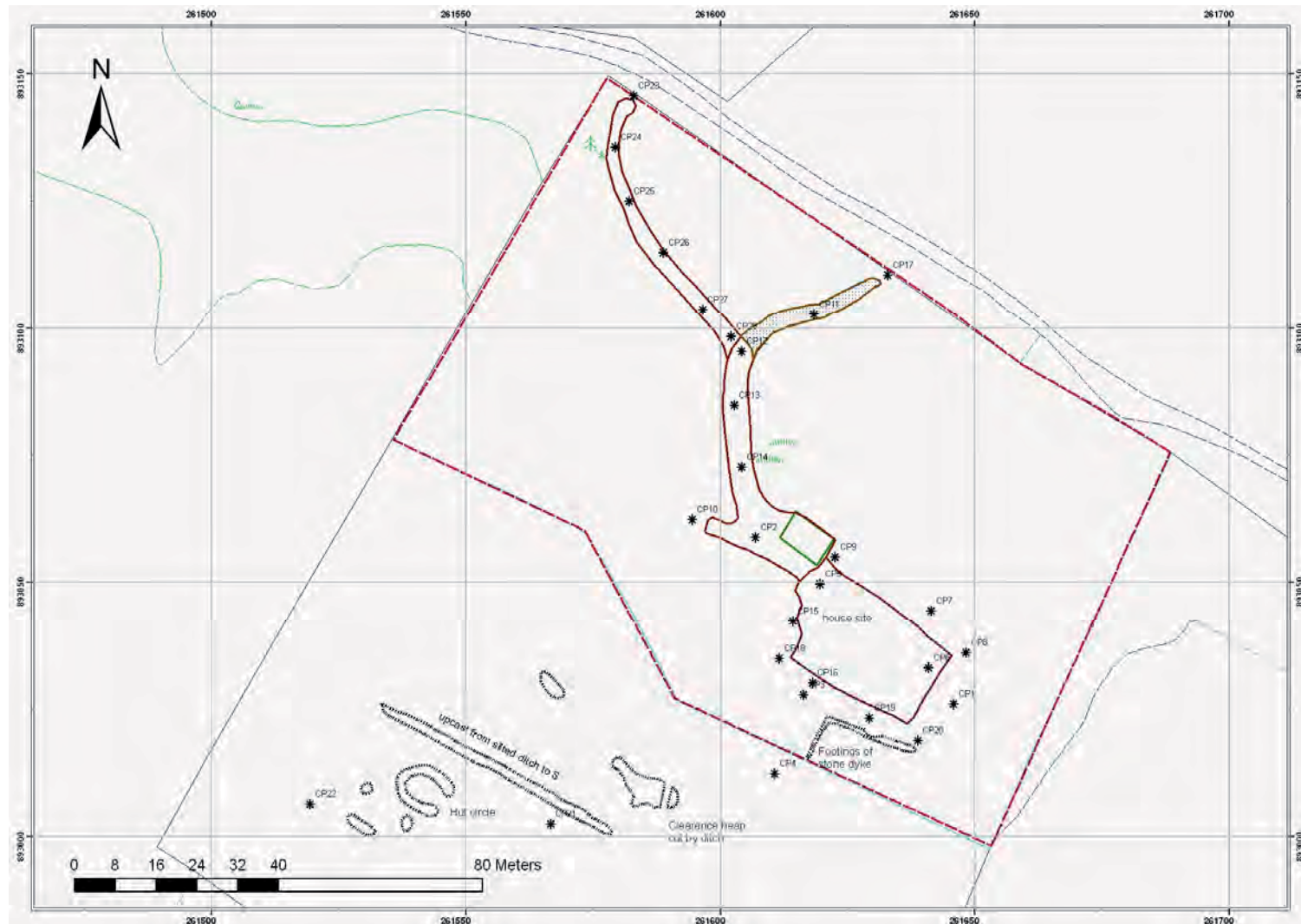


Figure 5 Camera points – September 2007

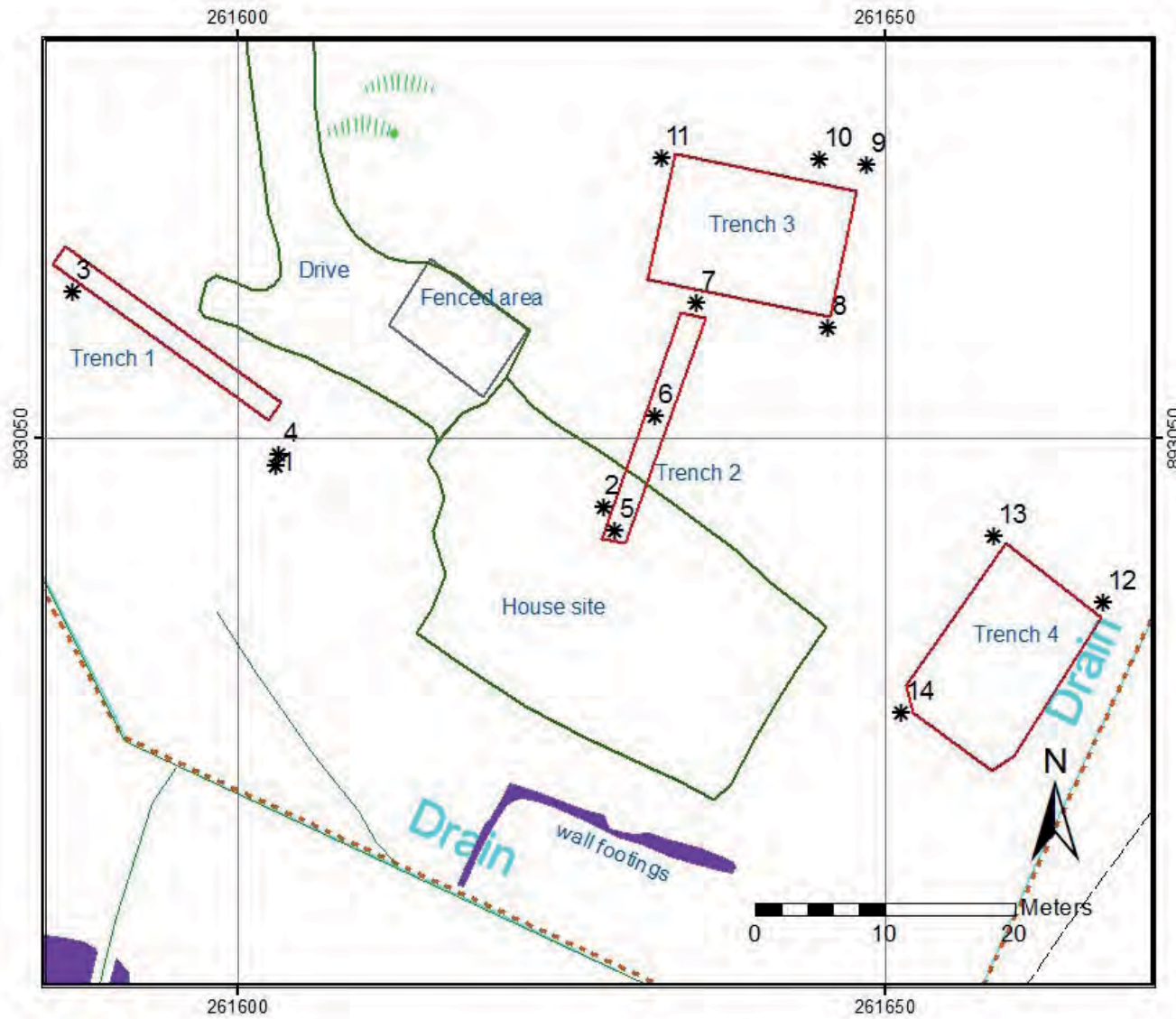


Figure 6 Location of trenches and camera points – July 2008

### ***Controlled Topsoil Strip – July 2008***



**Plate 5 Trench 1 under excavation, July 2008**

A tracked back-acting mechanical excavator fitted with a 1.8m straight-edged ditching bucket cleared turf and topsoil from four trenches under archaeological supervision (see Fig 6 above). The dimensions and descriptions of the subsoils of each trench are given in Table 1 below.

Trench 1, the proposed site for a bore hole, is aligned NNW – SSE and occupies part of a natural glacial mound composed of red / yellow sands and angular pebbles, upon which the house site, investigated in September 2007, stands.

The ground conditions in Trench 2, running NNE - S, part of the cutting for a geo-thermal heating complex, were somewhat similar to those for Trench 1, being of natural peri-glacial origin. A notable rock outcrop was visible mid-way along the trench line here.

Although there were some variations the ground conditions for Trenches 3 and 4 – cut for the geo-thermal heating complex and a drainage channel and soakaway area, respectively - both came down rapidly onto peri-glacial till. No archaeological features or structures were found in the areas cleared. Throughout, the trenches came down onto natural sands, gravels and rocks at 10-25cm depth.

For all site mapping, a Magellan Promark 3 unit was used in mobile mapping mode, with satellite-based differential correction provided by EGNOS. This typically provides sub-metre horizontal accuracy. The results were then corrected against the Ordnance Survey Mastermap data.





Plate 6 Trenches 2 (left) and 3



Plate 7 Trench 4

**Table 1: Trenches and results – July 2008**

<b>Trench</b>	<b>Location</b>	<b>Dimensions</b>	<b>Description</b>
1	NH6160393047	Length = 20.6m Width = 1.8cm Depth = 0.45m (approx)	In section, silty brown loam comes down to 25cm maximum, giving way to loose, bright yellow and red sands with angular pebble, occasional cobble and boulder inclusions and deracinating Old Red Sandstone and black granite spreads.
2	NH6163193051	Length = 18.5m Width = 1.8m Depth = 0.45m (approx)	In section, as Trench 1, with one notable sedimentary rock outcropping evident approximately mid-trench.
3	NH6164693058	Length = 14.5m Width = 10m Depth = 0.45m (approx)	In section, the southern extent of the trench is as Trenches 1 and 2, although the stratigraphy here is shallower, topsoil coming down onto sands with pebble and cobble inclusions and deracinating ORS and granite spreads at 10cm, the sands giving way, in turn very rapidly to ORS bedrock. In the northern extent of the trench the substratum of sands are wet and compacted with more intense lenses of deracinating granite.
4	NH6165393025	Length = 15.3m Width = 10m Depth = 0.45m (approx)	In section, as Trench 1, though here the subsoil is more clearly silty sand in an undifferentiated, loose mix with angular pebbles and occasional cobbles. Boulder inclusions occur frequently. There is a notable sedimentary rock boulder at the northern extent of the trench.

## Discussion and conclusions

No features of archaeological interest were identified within the areas observed. However the extent of dykes, field clearance cairns, and other features nearby – notably the hut circle, surveyed in September 2007, serves to demonstrate that this is a landscape of historic and archaeological interest which may yet produce further evidence of past uses.

## Appendix 1: Photographs:

### September 2007

For camera locations see Fig 5 above.

No	Location	Direction	Subject	Taken by	Date
DSCF1191	CP1	W	House site under excavation	JW	12/09/2007
DSCF1192	CP1	NW	House site under excavation	JW	12/09/2007
DSCF1193	CP1	WSW	House site under excavation	JW	12/09/2007
DSCF1194	CP2	NW	Roadline previously cleared	JW	12/09/2007
DSCF1195	CP2	E	Roadline previously cleared	JW	12/09/2007
DSCF1196	CP3	S	Stone dyke	JW	12/09/2007
DSCF1197	CP4	NE	Stone dyke	JW	12/09/2007
DSCF1198	CP5	E	House site under excavation	JW	12/09/2007
DSCF1199	CP1	N	House site under excavation	JW	12/09/2007
DSCF1200	CP1	NW	House site under excavation	JW	12/09/2007
DSCF1201	CP6	WNW	House site under excavation	JW	12/09/2007
DSCF1202	CP7	SSW	House site under excavation	JW	12/09/2007
DSCF1203	CP7	SE	House site under excavation	JW	12/09/2007
DSCF1204	CP7	SW	House site under excavation	JW	12/09/2007
DSCF1205	CP8	W	House site under excavation	JW	12/09/2007
DSCF1206	CP8	WSW	House site under excavation	JW	12/09/2007
DSCF1207	CP8	S	House site under excavation	JW	12/09/2007
DSCF1208	CP1	N	House site under excavation	JW	12/09/2007
DSCF1209	CP1	NW	House site under excavation	JW	12/09/2007
DSCF1210	CP1	W	House site under excavation	JW	12/09/2007
DSCF1211	CP9	ESE	House site under excavation	JW	12/09/2007
DSCF1212	CP9	SSE	House site under excavation	JW	12/09/2007
DSCF1213	CP9	SSW	House site under excavation	JW	12/09/2007
DSCF1214	CP9	SW	House site under excavation	JW	12/09/2007
DSCF1215	CP9	SW	House site under excavation	JW	12/09/2007
DSCF1216	CP9	SSE	House site under excavation	JW	12/09/2007
DSCF1217	CP9	SE	House site under excavation	JW	12/09/2007
DSCF1218	CP5	WNW	House site under excavation	JW	12/09/2007
DSCF1219	CP10	E	Roadline previously cleared	JW	12/09/2007
DSCF1220	CP11	ENE	Roadline previously cleared	JW	12/09/2007
DSCF1221	CP11	SW	Roadline previously cleared	JW	12/09/2007
DSCF1222	CP12	ENE	Roadline previously cleared	JW	12/09/2007
DSCF1223	CP12	S	Roadline previously cleared	JW	12/09/2007



No	Location	Direction	Subject	Taken by	Date
DSCF1224	CP13	N	Roadline previously cleared	JW	12/09/2007
DSCF1225	CP13	S	Roadline previously cleared	JW	12/09/2007
DSCF1226	CP14	N	Roadline previously cleared	JW	12/09/2007
DSCF1227	CP14	SSE	Roadline previously cleared	JW	12/09/2007
DSCF1228	CP2	E	Roadline previously cleared	JW	12/09/2007
DSCF1229	CP2	N	Roadline previously cleared	JW	12/09/2007
DSCF1230	CP9	SE	House site under excavation	JW	12/09/2007
DSCF1231	CP9	S	House site under excavation	JW	12/09/2007
DSCF1232	CP9	S	House site under excavation	JW	12/09/2007
DSCF1233	CP15	ESE	House site under excavation	JW	12/09/2007
DSCF1234	CP16	SW	Panorama	JW	12/09/2007
DSCF1235	CP16	S	Panorama	JW	12/09/2007
DSCF1236	CP16	SSE	Panorama	JW	12/09/2007
DSCF1237	CP16	SE	Panorama	JW	12/09/2007
DSCF1238	CP16	ESE	Panorama	JW	12/09/2007
DSCF1239	CP16	E	Panorama	JW	12/09/2007
DSCF1240	CP16	WNW	Panorama	JW	12/09/2007
DSCF1241	CP17	WSW	House site under excavation	JW	12/09/2007
DSCF1242	CP9	ESE	House site under excavation	JW	12/09/2007
DSCF1243	CP9	SE	House site under excavation	JW	12/09/2007
DSCF1244	CP9	SSE	House site under excavation	JW	12/09/2007
DSCF1245	CP9	S	House site under excavation	JW	12/09/2007
DSCF1246	CP18	NNE	House site under excavation	JW	12/09/2007
DSCF1247	CP18	NE	House site under excavation	JW	12/09/2007
DSCF1248	CP18	ENE	House site under excavation	JW	12/09/2007
DSCF1249	CP18	E	House site under excavation	JW	12/09/2007
DSCF1250	CP19	NNW	Panorama	JW	12/09/2007
DSCF1251	CP19	N	Panorama	JW	12/09/2007
DSCF1252	CP19	NE	Panorama	JW	12/09/2007
DSCF1253	CP19	E	Panorama	JW	12/09/2007
DSCF1254	CP19	ESE	Panorama	JW	12/09/2007
DSCF1255	CP19	SSE	Panorama	JW	12/09/2007
DSCF1256	CP19	SSW	Panorama	JW	12/09/2007
DSCF1257	CP19	SSW	Zoom to hut circle	JW	12/09/2007
DSCF1258	CP20	WNW	House site under excavation	JW	12/09/2007
DSCF1259	CP20	NW	House site under excavation	JW	12/09/2007
DSCF1260	CP20	NNE	House site under excavation	JW	12/09/2007
DSCF1261	CP8	SSW	House site under excavation	JW	12/09/2007
DSCF1262	CP8	SW	House site under excavation	JW	12/09/2007
DSCF1263	CP8	W	House site under excavation	JW	12/09/2007
DSCF1264	CP12	NNW	Clearing new driveway	JW	12/09/2007
DSCF1265	CP21	W	Hut circle	JW	12/09/2007



No	Location	Direction	Subject	Taken by	Date
DSCF1266	CP21	ENE	Towards site	JW	12/09/2007
DSCF1267	CP22	ENE	Hut circle and site	JW	12/09/2007
DSCF1268	CP23	S	Clearing new driveway	JW	12/09/2007
DSCF1269	CP24	N	Clearing new driveway	JW	12/09/2007
DSCF1270	CP24	SSE	Clearing new driveway	JW	12/09/2007
DSCF1271	CP25	N	Clearing new driveway	JW	12/09/2007
DSCF1272	CP25	SE	Clearing new driveway	JW	12/09/2007
DSCF1273	CP26	SE	Clearing new driveway	JW	12/09/2007
DSCF1274	CP26	NW	Clearing new driveway	JW	12/09/2007
DSCF1275	CP27	NW	Clearing new driveway	JW	12/09/2007
DSCF1276	CP27	SE	Clearing new driveway	JW	12/09/2007
DSCF1277	CP28	E	Clearing new driveway	JW	12/09/2007
DSCF1278	CP28	W	Clearing new driveway	JW	12/09/2007

## July 2008

For camera locations see Fig 6 above.

Photo Number	Location	Direction	Trench	Taken by	Date	Comments
IMGP9478	1	NNW	1	CJMcC	05/07/2008	Pre-excavation view of Trench 1 area.
IMGP9479	1	NNW	1	CJMcC	05/07/2008	As Above
IMGP9480	2	NNE	2 & 3	CJMcC	05/07/2008	Pre-excavation view of the area of Trenches 2 & 3.
IMGP9481	2	NNE	2 & 3	CJMcC	05/07/2008	As Above
IMGP9482	3	SSE	1	CJMcC	05/07/2008	Work in progress view, clean back of Trench 1.
IMGP9483	3	SSE	1	CJMcC	05/07/2008	As Above
IMGP9484	3	ESE	1	CJMcC	05/07/2008	As Above
IMGP9485	3	SE	1	CJMcC	05/07/2008	As Above
IMGP9486	4	NW	1	CJMcC	05/07/2008	Post-excavation view of Trench 1.
IMGP9487	4	NW	1	CJMcC	05/07/2008	As Above
IMGP9488	5	NNE	2	CJMcC	05/07/2008	Work in progress view, clean back of Trench 2.
IMGP9489	5	NNE	2	CJMcC	05/07/2008	As Above
IMGP9490	5	NNE	2	CJMcC	05/07/2008	As Above

Photo Number	Location	Direction	Trench	Taken by	Date	Comments
IMGP9491	6	W	2	CJMcC	05/07/2008	Close-up view of rock outcrop, cleaned back, mid-Trench 2.
IMGP9492	6	W	2	CJMcC	05/07/2008	As Above
IMGP9493	7	S	2	CJMcC	05/07/2008	Post-excavation view of Trench 2.
IMGP9494	7	S	2	CJMcC	05/07/2008	As Above
IMGP9495	7	S	2	CJMcC	05/07/2008	As Above
IMGP9496	8	NNW	3	CJMcC	05/07/2008	Work in progress view, clean back of Trench 3.
IMGP9497	8	NNW	3	CJMcC	05/07/2008	As Above
IMGP9498	9	SW	3	CJMcC	05/07/2008	As Above
IMGP9499	9	SW	3	CJMcC	05/07/2008	As Above
IMGP9500	10	SSW	3	CJMcC	05/07/2008	As Above
IMGP9501	10	SSW	3	CJMcC	05/07/2008	As Above
IMGP9502	10	SSW	3	CJMcC	05/07/2008	As Above
IMGP9503	11	SSE	3	CJMcC	05/07/2008	Post-excavation view of Trench 3.
IMGP9504	11	SSE	3	CJMcC	05/07/2008	As Above
IMGP9505	11	SSE	3	CJMcC	05/07/2008	As Above
IMGP9506	11	SSE	3	CJMcC	05/07/2008	As Above
IMGP9507	12	WSW	4	CJMcC	05/07/2008	Work in progress view, clean back of Trench 4.
IMGP9508	12	WSW	4	CJMcC	05/07/2008	As Above
IMGP9509	12	WSW	4	CJMcC	05/07/2008	As Above
IMGP9510	12	W	4	CJMcC	05/07/2008	As Above
IMGP9511	13	S	4	CJMcC	05/07/2008	As Above
IMGP9512	13	S	4	CJMcC	05/07/2008	As Above
IMGP9513	13	S	4	CJMcC	05/07/2008	Work in progress view, clean back of Trench 4, showing the removal of a large boulder from the trench area.
IMGP9514	13	S	4	CJMcC	05/07/2008	As Above
IMGP9515	14	NNE	4	CJMcC	05/07/2008	Post-excavation view of Trench 4.
IMGP9516	14	NNE	4	CJMcC	05/07/2008	As Above
IMGP9517	14	NNE	4	CJMcC	05/07/2008	As Above