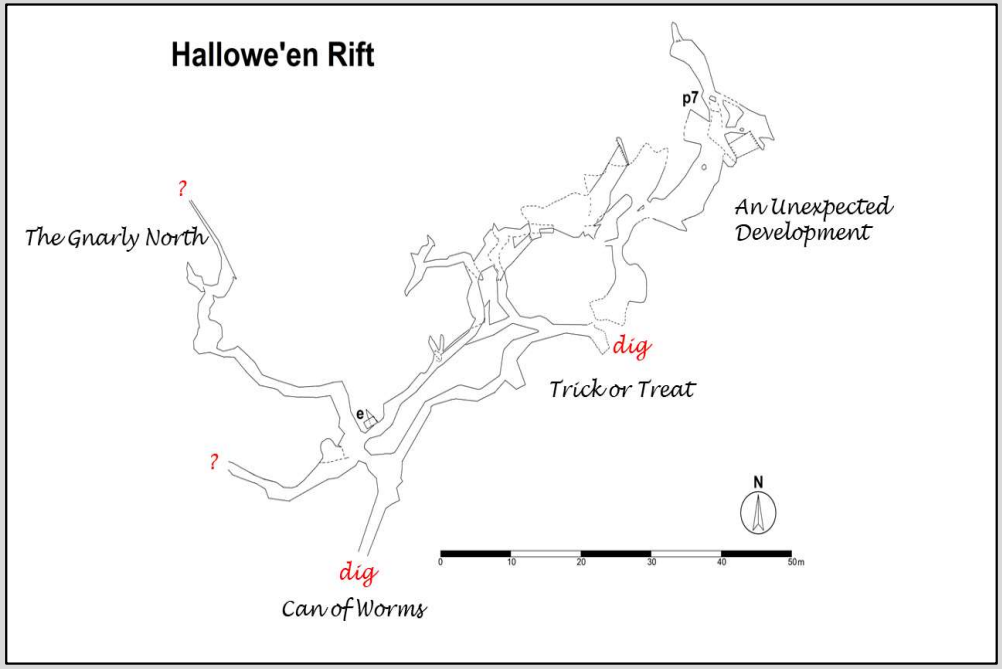
Hallowe’en Rift: Still giving after all these years!



A potted history of excavation is presented….

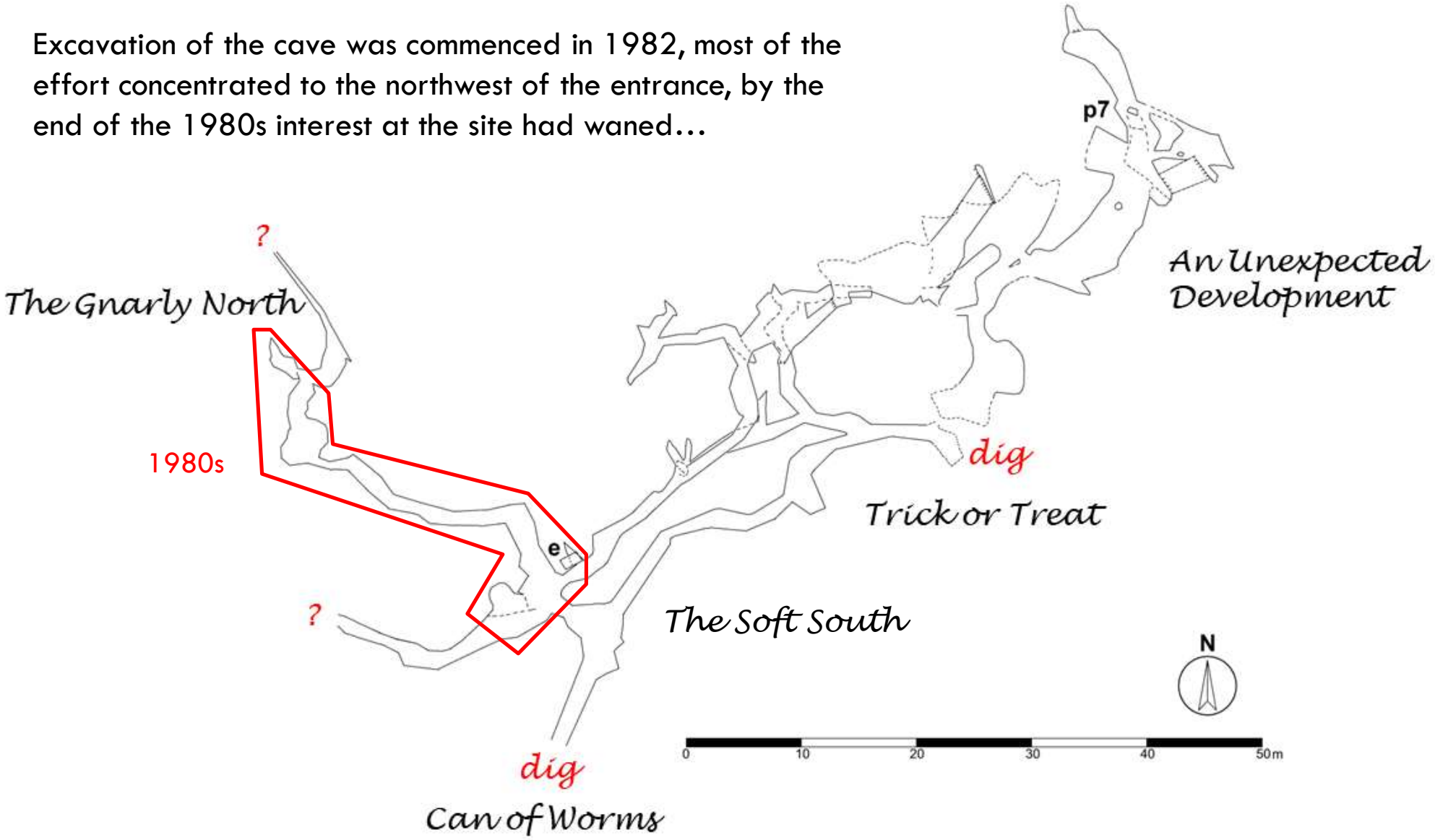
Survey by D. Price, R. Taviner, V. Simmonds 2024

Introduction

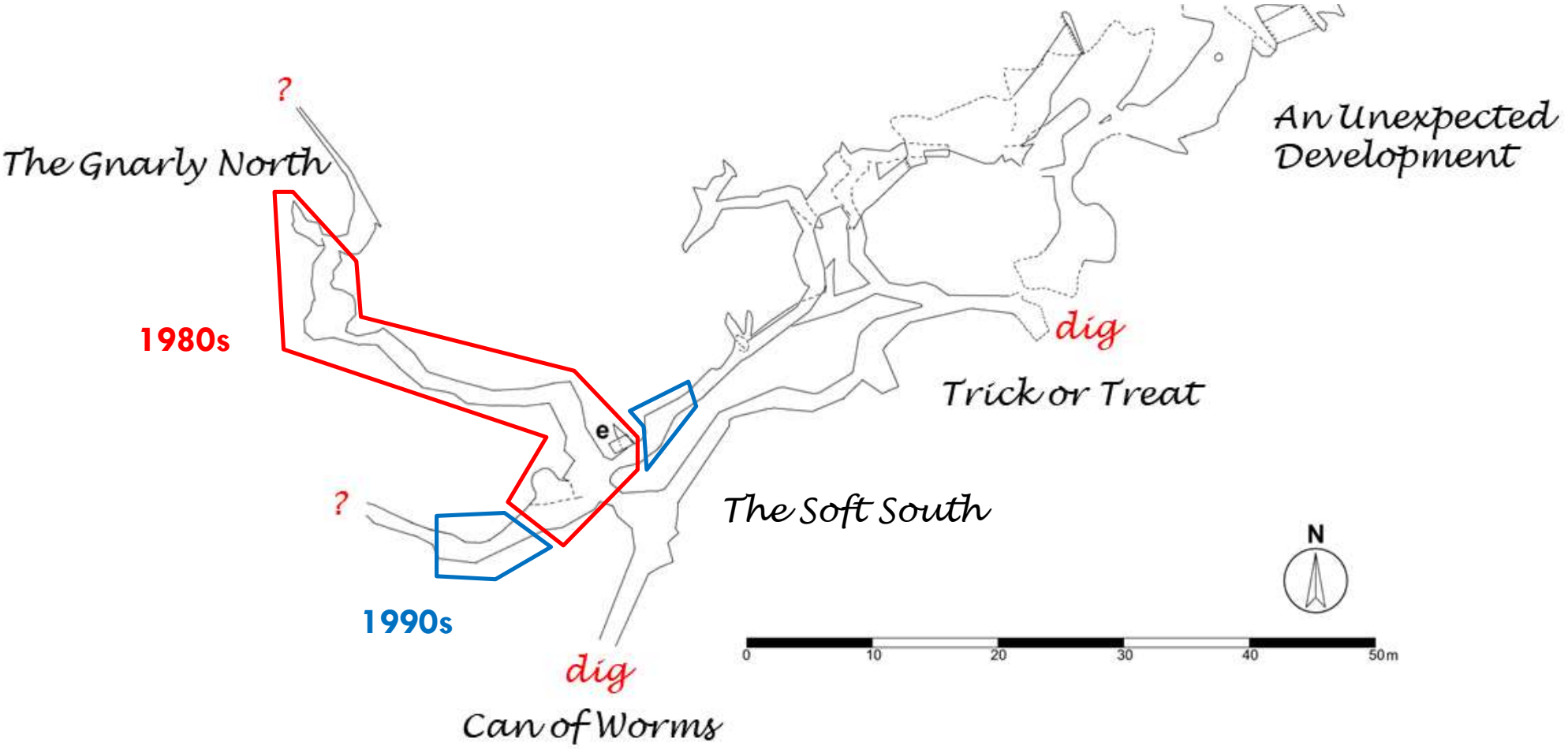
Hallowe'en Rift, NGR ST 5354 4811, altitude 148m aOD, has a current surveyed length, over 300m and a vertical range, about 20m. The cave is found on a wooded hillside northeast of Wookey Hole Cave.

The cave consists mostly of low bedding, partially filled with sandy silt with cobbles and boulders of dolomitic conglomerate and frequent fragmented calcite speleothems. The low bedding occasionally has intersected several rifts. Most of the low bedding passages have been excavated.

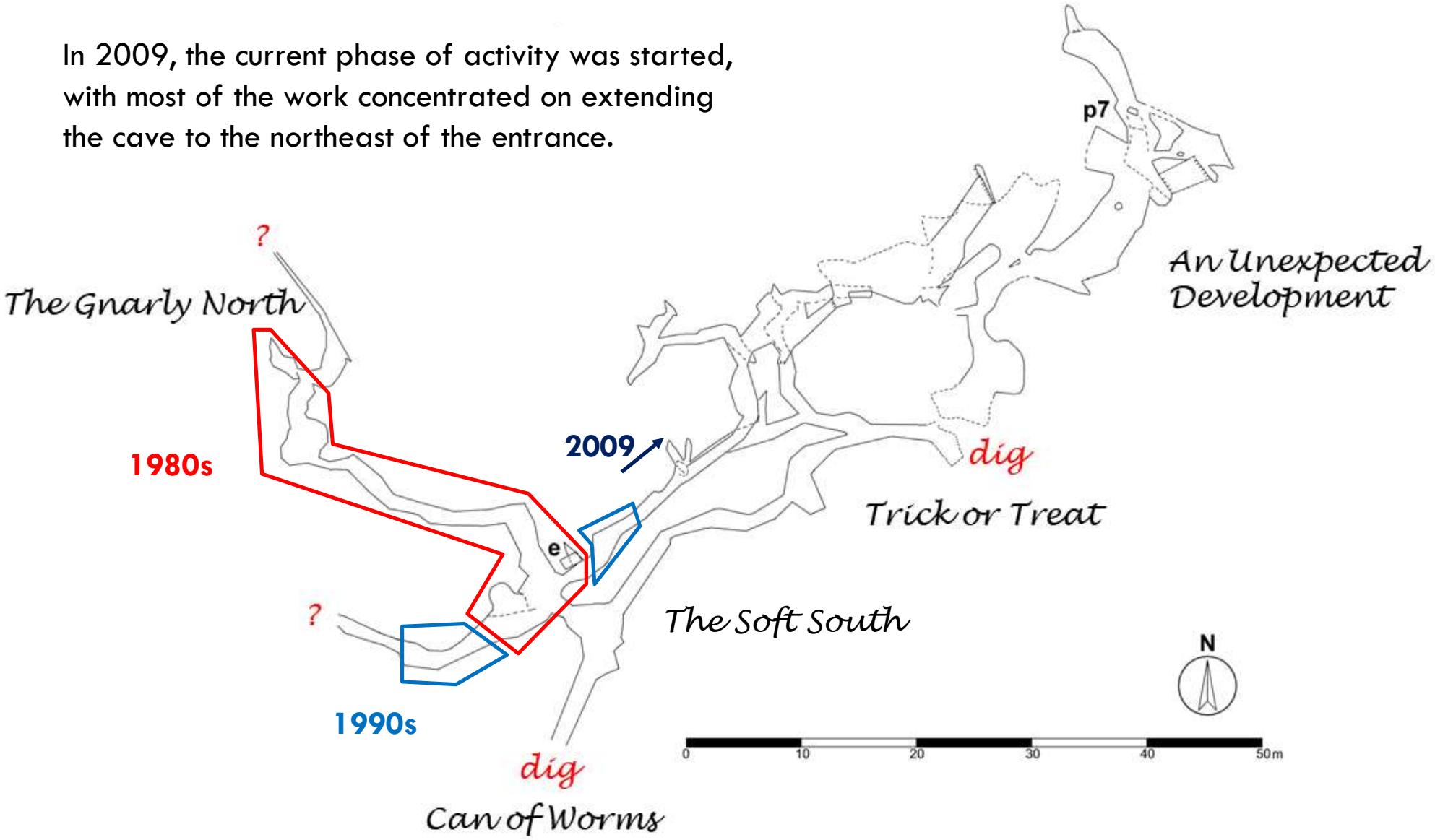
Excavation of the cave was commenced in 1982, most of the effort concentrated to the northwest of the entrance, by the end of the 1980s interest at the site had waned…



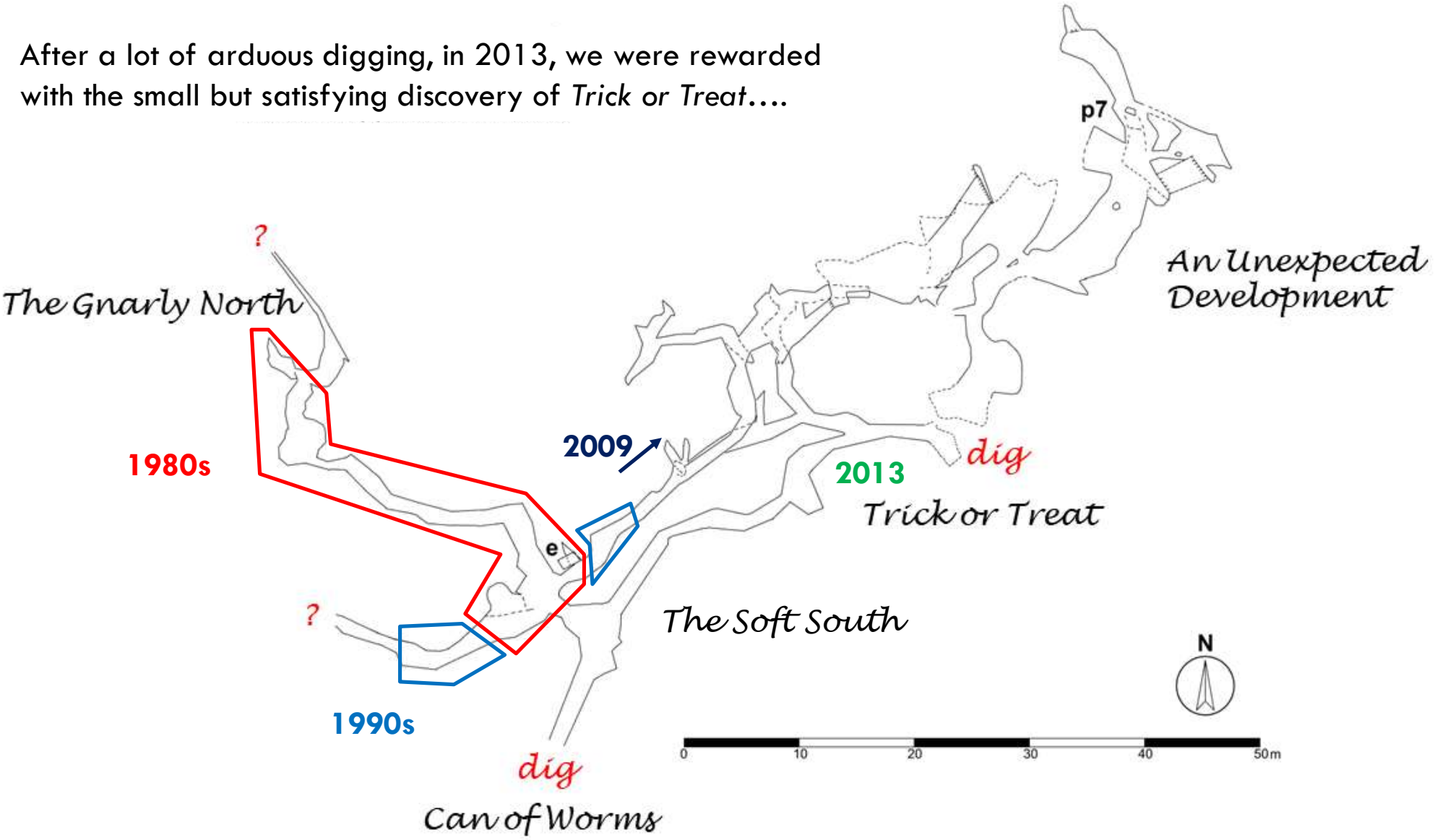
Then, in the early 1990s activity in the cave re-commenced, albeit briefly, much of the attention focused on revisiting Quiet John Watson's old dig to the southwest of the entrance. It was during this phase that digging to the northeast side of the entrance was started. However, once again, interest waned as diggers moved onto pursue other projects. There were some further sporadic attempts at digging through the later 1990s but nothing of note was achieved.



In 2009, the current phase of activity was started, with most of the work concentrated on extending the cave to the northeast of the entrance.

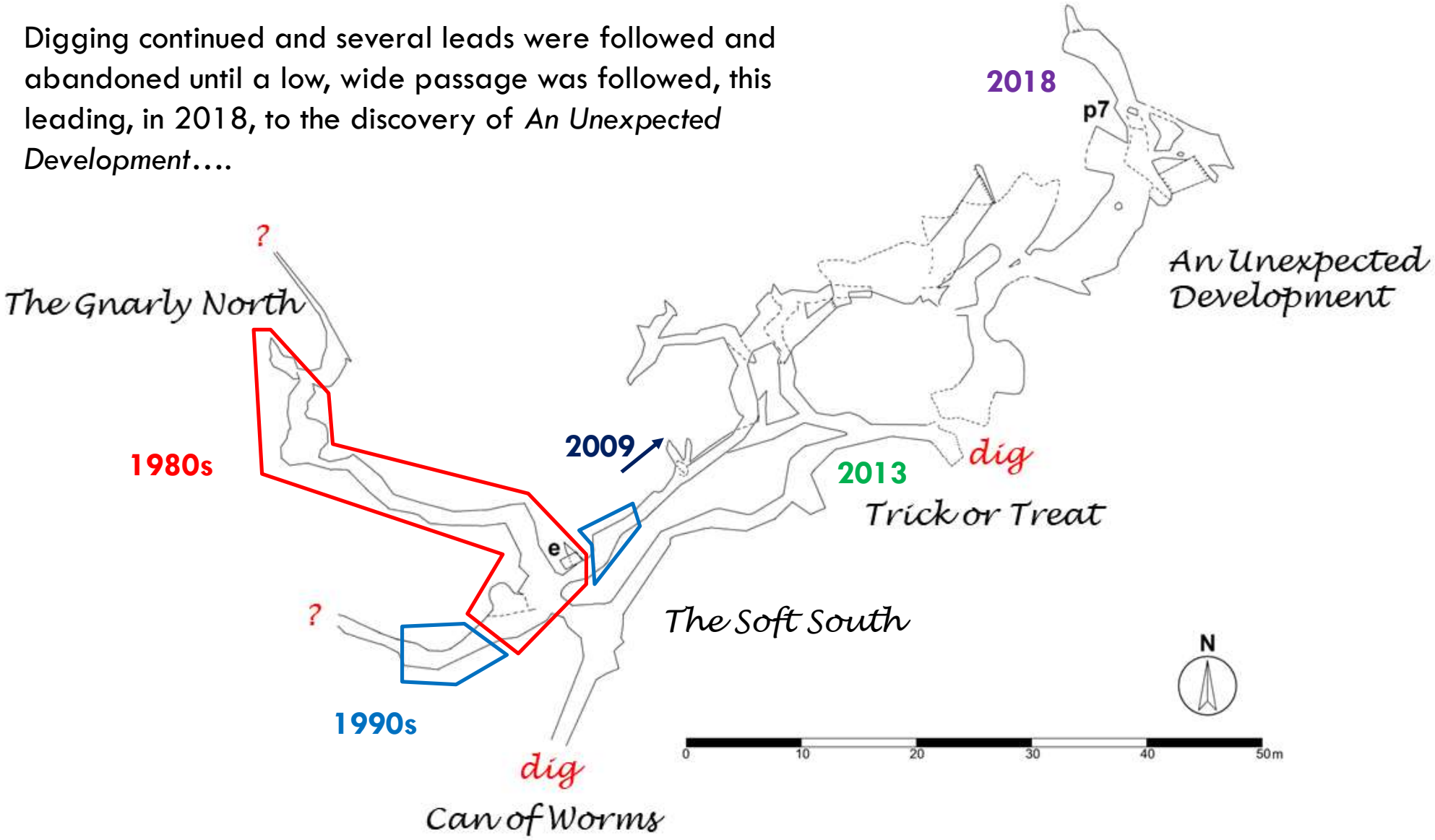


After a lot of arduous digging, in 2013, we were rewarded with the small but satisfying discovery of *Trick or Treat*….



There were several decent formations. The new section of cave was named - ‘Trick or Treat’ - well it was that time of the year!

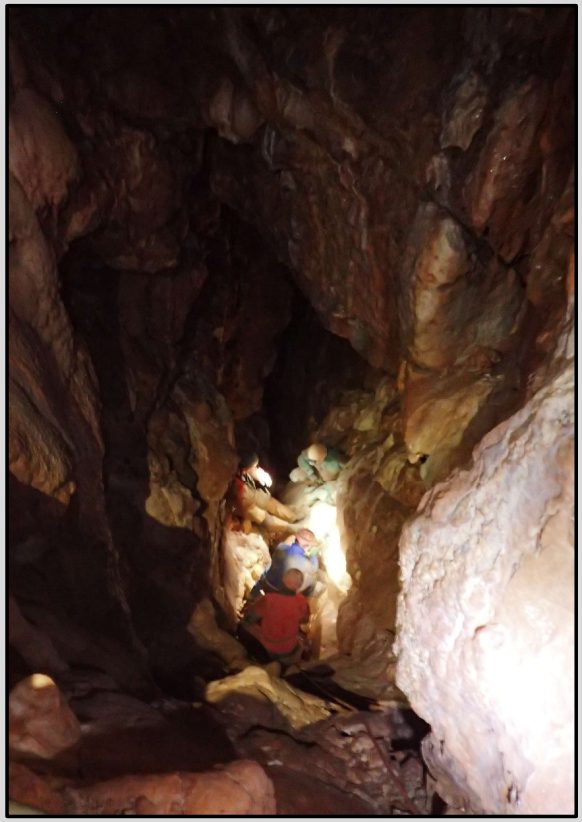
Digging continued and several leads were followed and abandoned until a low, wide passage was followed, this leading, in 2018, to the discovery of *An Unexpected Development*….



The Rift, An Unexpected Development

First descent 8th August 2018

Photographs by Roz Simmonds



This breakthrough contained some impressive passage and fine formations…

The sloping floor at the bottom of the rift is comprised of shattered calcite speleothems and some conglomerate.

…and some anomalous features with some head scratching done…

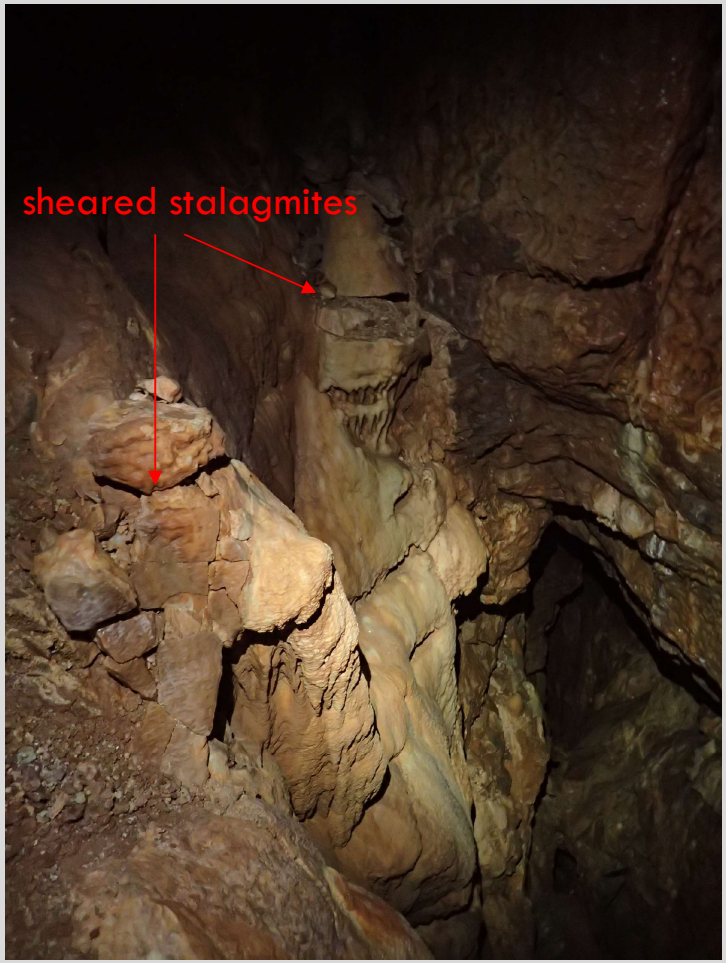
There are sheared speleothems and piles of fractured flowstone throughout An Unexpected Development.

…some research was required.

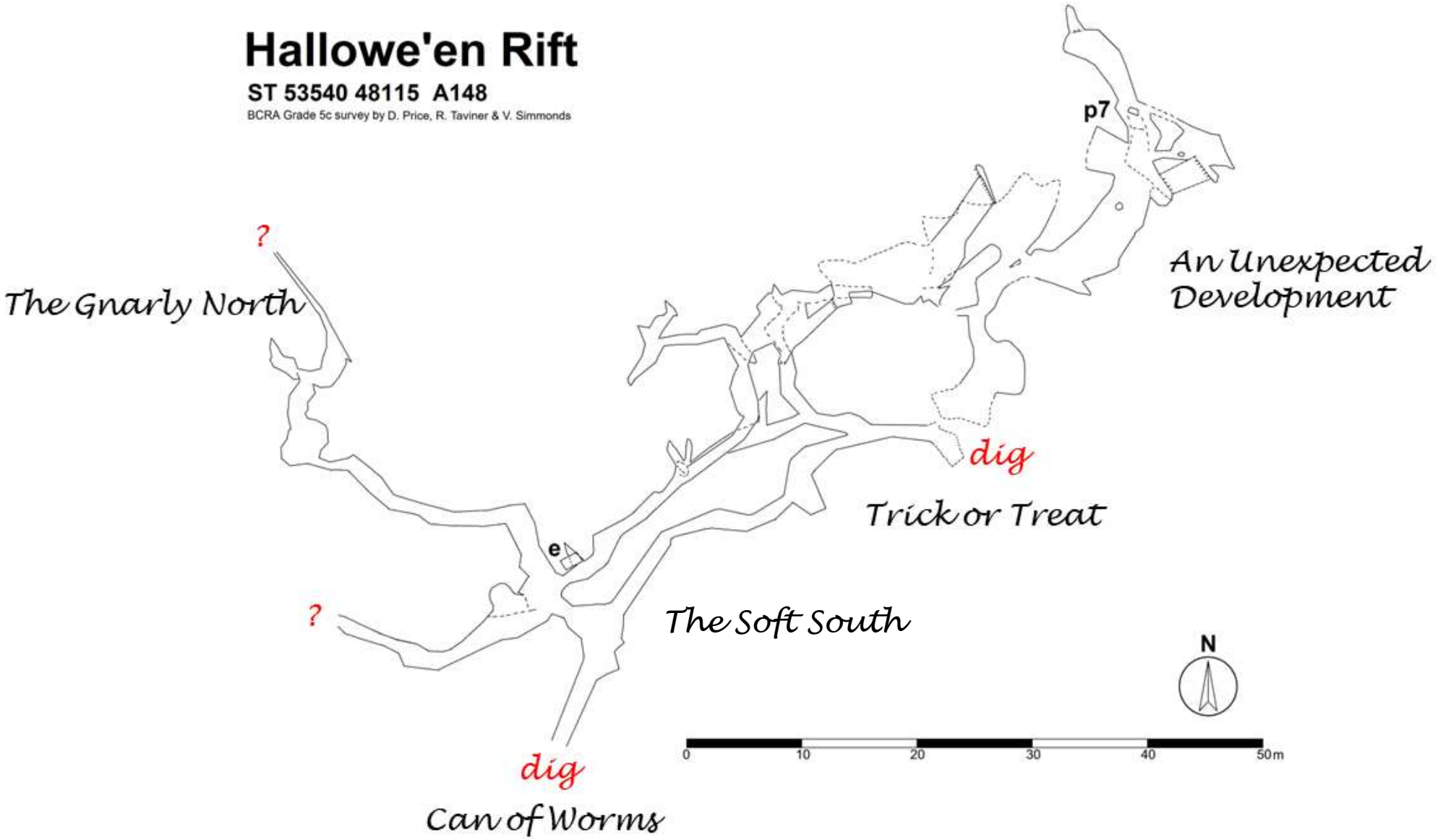
This damage interpreted as evidence for Pleistocene frost and ice damage

Kempe (2004) describes wide range of phenomena as evidence for ice related damage, including:

- Missing ceiling formations of older generations
- Sheared-off stalactites and curtains, deposited on top of floor speleothems
- Broken and deposited stalagmites
- Sheared-off stalagmites which have shifted from their base but still stand upright
- Cracked conical stalagmites
- Tilted and leaning stalagmites
- Moraine-like piles of floor flowstone
- Precariously placed ceiling deposits



Due to the importance and fragility of the features in An Unexpected Development digging attention was shifted to the northwest trending *Gnarly North* and, later a return to Quiet John's dig southwest of the entrance. Later, during the Covid-years, the area now known as the *Soft South* was developed. The sediment filling a 3m deep pot was removed and, from the bottom of the pot, a walking-sized passage leads northeast was excavated. Currently (2024) the digging efforts are concentrated beyond *Trick or Treat*, and occasionally from the top of pot, the southwest trending *Can of Worms*.


Hallowe'en Rift
ST 53540 48115 A148
BCRA Grade 5c survey by D. Price, R. Taviner & V. Simmonds
p7
An Unexpected Development
?
The Gnarly North
dig
Trick or Treat
e
?
The Soft South
N
0
10
20
30
40
50m
dig
Can of Worms

Some interesting sediments and deposits have been observed throughout the cave…

RHYTHMITES

Rhythmites are finely laminated sediments in which two or three different lithologies are regularly repeated, they are common features of glacial lakes.

Permafrost conditions on Mendip during glacial periods throughout the Pleistocene Epoch might have reached depths of ~80–100m, resulting in the blocking of Hallowe'en Rift (and other caves) by ice plugs. During warmer interglacials and interstadials, thawing might occur to a lesser depth, perhaps ~50m. Effectively the cave would still be 'plugged' by deeper ice, causing meltwater outflow and 'ponding.' The ponded meltwater 'topped up' with the ingress of surface-derived water, probably reflecting seasonal changes. The rise and fall of water creating currents within the flooded cave allowing for agitation of particles and the precipitation of minerals coating particulates in the same process that creates ooids.

Coarse sand- and granule-size ferro-manganese spherules have been recovered from a sediment sample (006/CoW) taken in *Can of Worms*. Several of the spherules contain a central, angular, mineral grain around which the layers have formed, in a manner analogous to the growth of 'pearls in oysters' or the formation of ooids.

Faunal remains have been recovered, a Steppe bison *Bison priscus* phalanx was found 2011 in a side passage off *Toil and Trouble*, and more recently in 2024 a faunal assemblage that includes Brown bear *Ursus arctos* was found beyond *Trick or Treat*

Faunal remains

So far, 76 specimens have been identified and catalogued. Most of the faunal remains are of Brown bear, *Ursus arctos*, including an adult (?small) and a juvenile. There are many foot bones – tarsal bones, metatarsals and metapodials, phalanges, but also vertebra and several teeth. Other species identified also include bison, horse, and possibly deer. The excavation and recovery of further remains is ongoing.

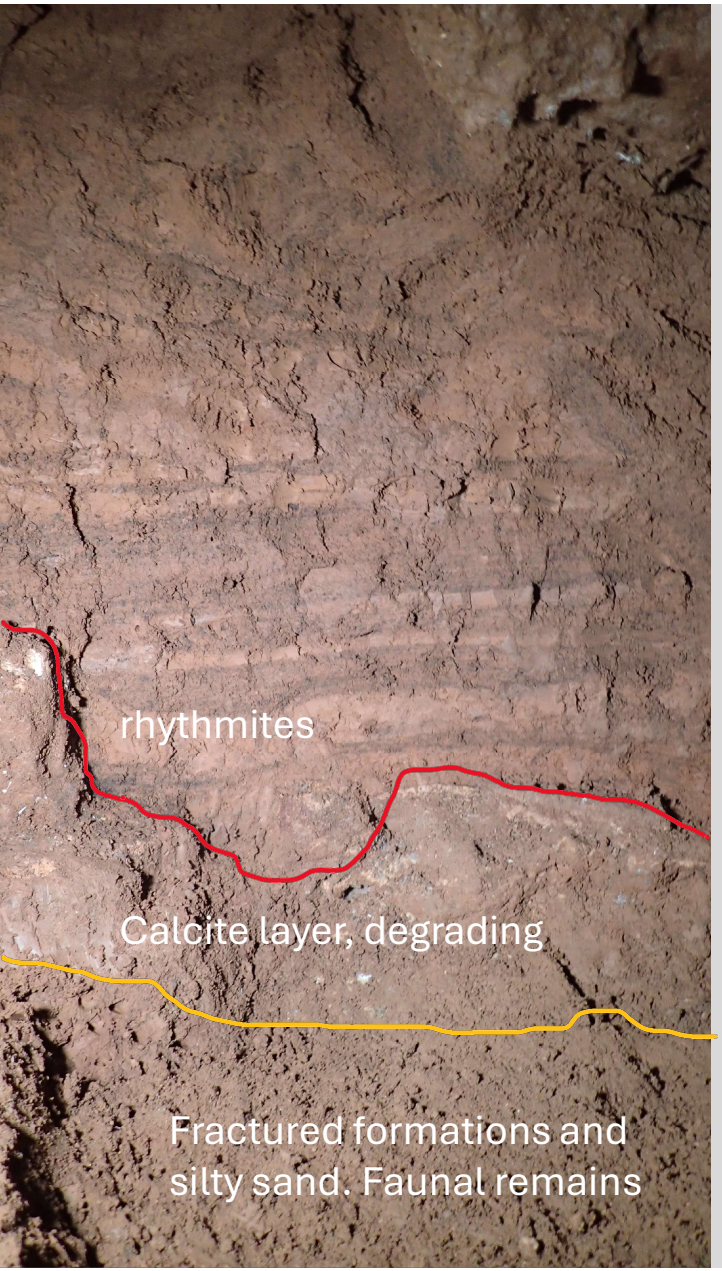
Images (clockwise): All are *Ursus arctos*, vertebra, unfused epiphysis (juvenile), canine (adult), podials – proximal end (top), distal end (bottom), and several phalanges.

Deninger's bear Ursus deningeri known from early Middle Pleistocene deposits was replaced by the Cave bear Ursus speleaus after the Anglian glaciation, c.480-423 ka. The brown bear Ursus arctos appears in Britain during MIS 9, c.339-303 ka, when it replaces U. spelaeus. Brown bear is relatively common in cave assemblages throughout the British Middle and Late Pleistocene during both warm and cold stages, and today, the brown bear occupies a wide variety of habitats from tundra to temperate forests. Its presence in Britain in association with herbivores of cold open landscapes (woolly mammoth, woolly rhinoceros, and horse), as well as with those of temperate conditions, shows it to have been adaptable to a range of environments. Brown bears have evolved a generalist omnivore strategy foraging for plants, tubers, berries, scavenging carrion, and preying on small mammals, and weak, older ungulates, and their calves. Temperature and snow conditions are reported to be the most important factors determining the composition of brown bear diet (Scott and Buckingham, 2021).

- *Number of identified specimens (Ursus arctos) so far recovered from Hallowe'en Rift, beyond Trick or Treat up to 17/11/2024. The excavation and recovery of faunal remains is ongoing.*

Element	Number	Element	Number
Epiphysis (unfused)	3	**Vertebrae**	3
Phalanges	26	**Astragalus**	1
Podials	20	**Calcaneus**	1
Tarsus	3	**Humerus**	1
Carpus	1	**Scaphoid**	1
Teeth	6		
	Total NISP	66	

Brown bear (Ursus arctos) is recorded as part of the mammal fauna assigned to the Joint Mitnor Cave mammal assemblage-zone (MAZ), Marine Isotope Stage (MIS) 5e, c.128-116 ka, a faunal assemblage consistent with this MAZ was recovered from the nearby Milton Hill Quarry. Banwell Bone Cave MAZ, initially believed to correlate closely with the Early Devensian, c.71-59 ka, and formerly assigned to MIS 4, it has now reassigned to MIS 5a, c. 83-71 ka. However, the Banwell Bone Cave MAZ Ursus arctos remains represent a larger form of the species. Brown bear has also been recorded from the Lower Cave Earth deposits at Pin Hole, Creswell Crags, Derbyshire, and listed as part of the Pin Hole MAZ, Middle Devensian, MIS 3, c.59-24 ka. The Pin Hole MAZ also includes steppe bison (Bison priscus) and wild horse (Equus ferus). Mendip sites with faunal assemblages attributable to the Pin Hole MAZ include sites near to Hallowe'en Rift at Hyaena Den and Rhinoceros Hole at Wookey Hole, and further afield at Picken's Hole near Compton Bishop, and Uphill Quarry in North Somerset (Jacobi and Currant, 2011). Brown bear also occurs in deposits attributable to the Gough's Cave MAZ, MIS 2, c. 12.9-9.9 ka (Currant and Jacobi, 2001) in Cheddar, Somerset.

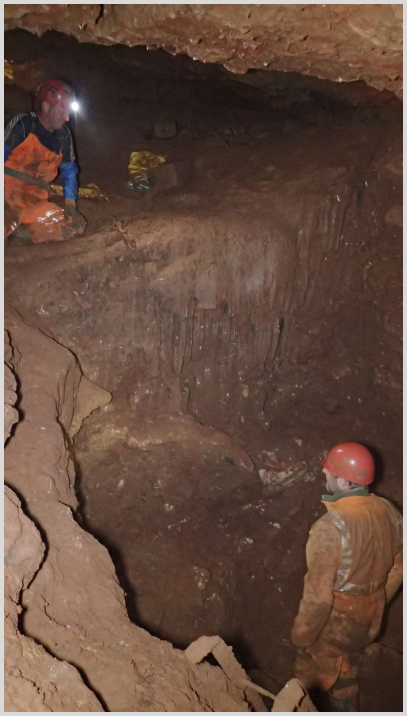


Faunal remains. Clockwise from top left: group containing distal and proximal podials, phalange, and tarsus fragments; lumbar vertebra; phalanx (all *Ursus arctos*); *Bison priscus* phalanx; fragment of diaphysis, ?Horse *Equus* sp. (*horse fragment photographed by Jon Riley*). At present conditions are not idea for recovery, and so a by-pass around the faunal remains is being pursued

Acknowledgements: With regard the faunal assemblage, special thanks to Professor Danielle Schreve, University of Bristol for providing ongoing advice and help with identification.

Our thanks are also extended to the tenant farmers, the Lunnon family, for allowing access to the cave from their farm and to Wookey Hole Caves, the landowners for permission to dig at Hallowe'en Rift.

Without the commitment, determination, and camaraderie of a dedicated group of diggers, including (in alphabetical order) Paul Brock, Nick Hawkes, Graham Johnson, Mike Moxon, Jonathon Riley, and Robin Taviner, the discoveries made in Hallowe'en Rift would not have happened.

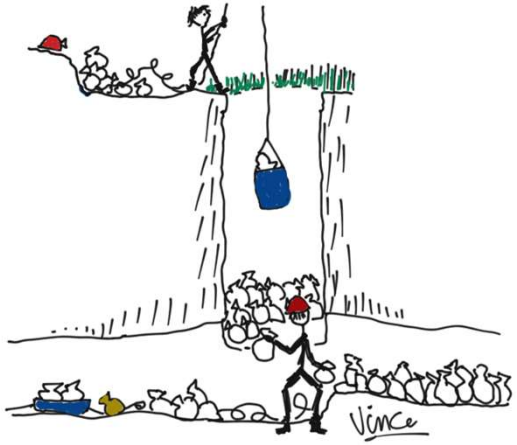


Digging doodles by Vince. The joy of digging in Hallowe'en Rift, Mendip.

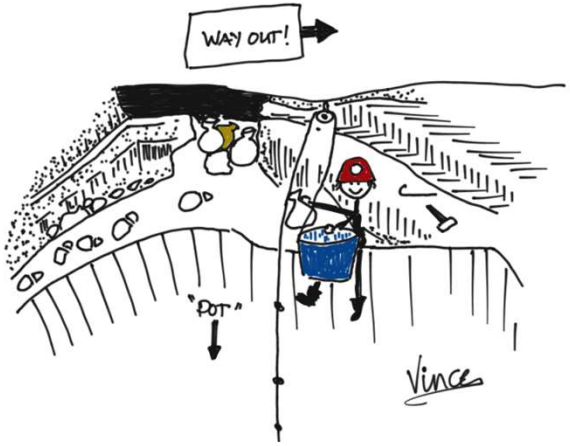
'Digging in the deep Soft South'

'Lugging the bags along to the pot'

'It's all gone t'Pot'



'Light at the end of the tunnel'



'Life on the ledge'

Created September 2023