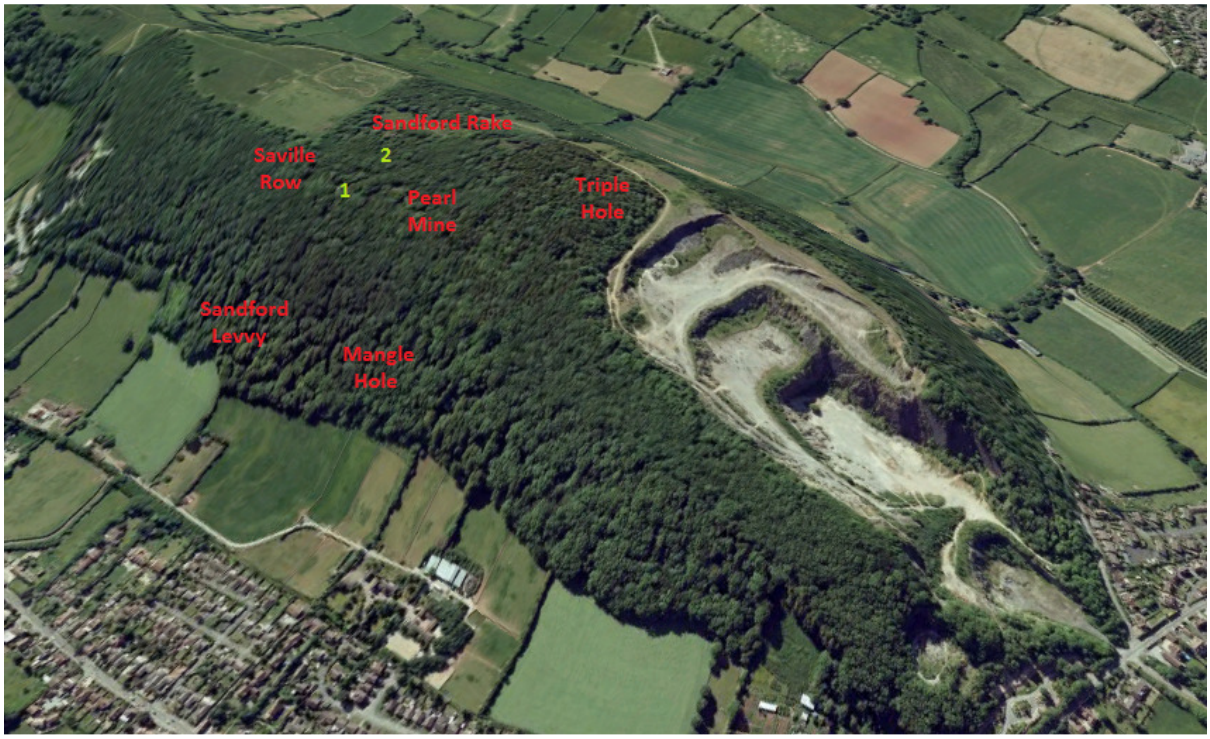
THE SANDFORD GULF
AND OTHER
LOST CAVES OF SANDFORD HILL

By
R. M. Taviner

During the 18th century, miners' working on the western outliers of the Mendip Hills intercepted several small but notable cave systems, including the Banwell caves, Loxton Cavern and Hutton Cavern. Most were subsequently lost, although several have recently been rediscovered by cave explorers, often by following clues provided by the antiquarians who dutifully recorded them. Not all of these caverns have been rediscovered however, including three well documented sites on Sandford Hill. The first, Elephant Cave - which contained the skeleton of a full sized elephant - was recorded in 1770, while the better documented Sandford Bone Fissure was excavated by William Beard, beginning in 1837. Both of these sites are important, but it is the third lost cave, the legendary Sandford Gulf, that most exercises the minds of cavers. It is hoped that this article will help to bring some clarity to proceedings, and through a process of elimination, propose a precise location for the missing Gulf - a very good place to start digging!



Sandford Hill from the North-West

ELEPHANT CAVE

The full details of this mysterious cave were included in a letter dated 30th January 1770, sent by William Jeffries of Wrington to The Rev. Alexander Catcott, clergyman, geologist and author of A Treatise on the Deluge.

*'Where these Bones were found in **almost** the highest part of the Hill on the **north** Side: they lay in an **East and West Direction four fathom deep** in a loose Strata composed mostly of small Fragments of limestone, Sand etc. and closely jammed in every way with Rocks; thence is **a regular descent for about 100 yards** 20 [word illegible] way round which induce one to think there is a Swallet near this Place - I am still inform'd that there are more Bones left behind but the workmen are so very imposing I shall not think of proceeding any further until I have had an opportunity of waiting on you to receive your Approbatoin (which shall be as soon as possible).'*

Catcott subsequently reported these findings in his manuscripts, extracts of which have been widely recorded. The final resting place of the recovered elephant bones has never been discovered, but the Rev. David Williams, in a letter to Patterson, Rector of Shaftsbury, dated February 16th 1829, states '… *the skeleton of a full sized elephant was found in 1770*.' The fact that this was a *full sized* skeleton, strongly suggests that the bones reached their final resting place as the result of the beast falling into an open pit, rather than by subsequent wash in. It is worth noting that Rutter placed the location of the Elephant Cave on the actual *summit* of Sandford Hill (as did Buckland), although this may just be a slight misinterpretation of Catcott's earlier work. It is also interesting that both Jeffries and Williams refer to this cave in connection with Sandford *Hill*, rather than Sandford Wood, which at that time apparently referred to the open summit plateau area, used for communal grazing. Sandford Wood, on the other hand, was a separately defined area occupying the northern slopes. It is not clear if they were aware of this distinction, but it could act as an important pointer. The crucial points to note however are that the letter specifically mentions *almost the highest part of the hill*, on the *north* side, and that the bones lay in an *east-west direction* roughly *24 feet deep*. The bones formed a *skeleton*, which suggests that the beast fell into a natural open pit of reasonable size. The fact that Jeffries account doesn't mention the Gulf – which pre-dates the first reliable record of it by 59 years - suggests that he either didn't know about it, didn't care about it, or probably - and most likely - that it had yet to be discovered.

H.E. Balch (Mendip – Its Swallet Caves and Rock Shelters p.100), tried to find this lost cave, but failed, noting only that - '*At some distance [along the Levvy], a deep natural cavity which almost certainly reaches the surface, has been filled with compact cave earth. This might be worth digging, but I had no time to do so; it may contain important remains'*. This reference apparently relates to the passages encountered to the west at the First Crossroads. Other than this, nothing more is known about this mysterious cave, which seems to have been largely consigned to history.

From this information it is clear that there isn't just one significant lost cave on Sandford Hill, but two, and that the re-discovery (or proper identification) of either could act as a serious pointer to the location of the other. In other words, find the missing Elephant Cave – which we know was located on almost the highest part of the hill, on the north side - and you stand a much better chance of pin-pointing the location of the famous Gulf.

SANDFORD BONE FISSURE

This site was opened by William Beard in January 1838 during his search for bones. It is not known if this was exactly the same site as Elephant Cave, although it seems very likely, especially as Beard regularly used Catcott's accounts as his starting point. Named diggers included Robert Brown, William Cuff, and Charles and John Venn, while John Shepstone was paid a shilling for '*taking care of the cavern at Sandford Hill*'. Presumably the latter was employed in some capacity to guard the bone deposit. Entries for wages continued until the 29th May. Beard's collection, housed in the Museum of Somerset at Taunton Castle, contains one of the finest collections of cranial material in Britain, and some of the bones certainly derived from this site, although Beard is also known to have handed a selection to Thomas Wright of Cheltenham. The site was apparently still open in 1863 when geologist James Parker applied to dig at '*an old mining shaft*'. Again, it is not clear if this is exactly the same site (Beard mentions a cavern, while Parker mentions a mining shaft), or whether any more bones were recovered, but it does imply the presence of at least one vertical feature. The location of this site is now lost to us and there are so many shafts, trenches and other mined features on Sandford Hill that we may never know its exact whereabouts. However it is interesting that Beard named his site Sandford Bone *Fissure*, rather than Sandford Bone *Cave* – a name which implies a rather narrow feature. There are only two such natural surface features on Sandford Hill that match this description – the central opening of Triple Hole, or Mangle Hole. That said, it may mean nothing at all, for the dialling survey of Bleadon Cavern, which dates from roughly the same period, is clearly labelled 'The *Fissure* of Bleadon Cavern'.

SANDFORD GULF

This is the lost cavern that most concerns us. The gist of the story is that at some point prior to 1829 (but probably after 1770), miners' broke into a huge natural shaft into which a man was lowered until he became frightened out of his wits and called to be pulled back up. The entrance to this shaft was said to be narrow and was allegedly sealed with a large boulder.

On 21st May 1819, the Antiquarian John Skinner visited the warrener at Dolebury Hillfort. During a conversation, the warrener gave Skinner '*an account of a prodigious excavation about a mile distant which was discovered while sinking for lead; it was of such extent that, he says, when he threw in a stone as far as he could he could not here it touch the sides.*' Could this be the first recorded reference to Sandford Gulf? Certainly the eastern part of Sandford Hill lies just within the one mile radius, along with the mines of Shipham. However, this is much more likely to be Dolebury Warren Mineshaft (ST 4581 5881), a lead mine, described as 30 fathoms deep, located 650m east of the warrener's watch tower, which Skinner visited in November of that year, presumably acting on the information he received during his earlier visit.

The first truly reliable mention of the Gulf was recorded in a letter penned by Rev. David Williams to John Rutter in 1829.

'I hope before you publish I shall be able to give you some account of an immense cave on Sandford Hill, which has never been explored, near which an elephant was found in 1770. The mouth of it is said by the miners to be 80 fathoms below the plane of the hill and they

have let a man down upwards of 300 feet from its verge without coming to the floor, nor could he see any sides or termination to it - they call it the Gulph.'

In this instance, the 'plane' of the hill is thought to delineate the entire flat summit plateau, as with nearby Banwell Plain.

A second letter, this time from Williams to Patterson, Rector of Shaftsbury, dated February 16th 1829, appears to correct the depth of the shaft to 240 feet, and furnishes some useful details regarding the location of the mysterious Elephant Cave.

'The mouth of the largest which the miners call the Gulph lies they say 80 fathoms, or 480 feet below the plane of the hill. They also affirm that they have let down a man, with a line, 240 feet deep, but that he could see neither top, sides or bottom.' He went on to add ... '*There is another extensive cavern further to the westward in this hill, near which the skeleton of a full sized elephant was found in 1770*.'

E. A. Baker & H. E. Balch, writing in Netherworld of Mendip (1907), recorded …

'In driving an extensive level through a hill, 60 fathoms below the summit the miners came across a gigantic rift. A man was let down on a long rope but was unable to see walls or sides of this tremendous abyss.'

This record, presented as a statement of fact, is the first mention of a 'level' and it is not clear from where they obtained this information. However Balch began his caving career in the late 19th century and there seems a reasonable chance that he encountered locals either with first-hand knowledge of the Gulf's whereabouts, or at the very least those one generation removed, whose family recollections fell within the bounds of 'living memory'. The fact that one local guided them to the site of High Mine indicates that they were perfectly prepared to make use of such contacts.

Another possibly important reference can be found in the Women's Institute History of Sandford, which relates a local legend that states that if a person had been cursed with a spell by a local witch, then to break the spell, the 'victim' had to *cross the bridge over the water in the Gulf*. This may appear fanciful, but 'witches', in the form of local wise women, were certainly operating in the general vicinity during this period, and there are several accounts of their activities dispensing 'quack' remedies to superstitious locals. It is not known if this bridge ever existed, but if true, then the implication is that this 'flooded gulf' must have been readily accessible to ordinary villagers.

By putting all these clues together, we can deduce that at some point before 1829, a *readily accessible level* driven through Sandford Hill at some *considerable depth below the summit plateau* intersected an *immense* cave, which apparently was *never fully explored*. The cave lay to the *east* of another *extensive* cavern - the latter located *near the top* of Sandford Hill, but on the *north* side.

Several potential theories and candidates have been put forwards to pinpoint this lost Gulf and the relative merits (or otherwise) of the various contenders are laid out below. However, given these sizeable clues, any potential candidate must first meet certain criteria to qualify as genuine contender.

THE CRITERIA

- There should be some kind of *level*
- The mouth of the shaft must lie *some distance below the plane – or summit plateau - of the hill* (e.g. 60 or 80 fathoms)
- There must be *an extensive cavern to the west*
- There might be some kind of *bridge* and *access to it should be relatively straightforward*.
- The Gulf cavity must be *very large*
- The lower reaches *must be unexplored*

If not the Gulf, could it be the Elephant Cave?

- Does it lie on the *north* side, *almost near the top* of the hill?
- Is there a *sizeable natural open pit* into which an elephant might have fallen?
- If so, is there an *east-west* facing bone fissure located *24 feet below the surface*?

HIGH MINE

This was the name given by Stanton to a site located close to the summit trig point. It was shown to him by a local in 1943, which legend held was the site of the famous Gulf. Stanton subsequently conducted a dig at this site, which seems to have petered out after a few weeks. Balch and Baker were also taken to the same spot. Sidcot School later descended other mines in this locality without uncovering anything of great depth and subsequent quarrying never encountered any indication of either the Gulf, or a relatively extensive cavern further west. The 1948 RAF aerial photos show few mined features in this section of the hill and most (Test Mine, Spar Shaft), can be readily identified. This entire region has now been quarried away and it seems likely that High Mine's only real claim to 'Gulf status' was its position relative to the very summit of the hill. To summarise …

Was there a level? – No, it was entirely vertical.
Did it lie some distance below the plane of the hill? – No, it lay right on the summit.
Is, or was, there an extensive cavern further west? – No
Was any kind of bridge encountered? – No
Was it large enough? – No, it was a typical mineshaft. A sizeable natural cavity *was* exposed in the quarry face soon after its destruction. However it was filled with barren reddish clay so couldn't possibly be confused with the description of The Gulf.
Were the lower reaches unexplored? – No
Could it be the Elephant Cave? No, there was no natural open pit, it was located on the actual summit of the hill rather than to the north, and nothing remotely relating to the description of the cave provided by Jeffries was ever revealed when the site was destroyed by quarrying.

Conclusion – High Mine meets none of the required criteria and can safely be ruled out as either Sandford Gulf or Elephant Cave.

TRIPLE HOLE

These large adjoined open rifts, located close to the summit of Sandford Hill, offer plenty of depth potential. They unite in a rubble strewn chamber at 5m depth, below which a single underground pitch leads to a series of locally extensive natural chambers. Intriguingly the entrance lies approximately 80 fathoms (480 feet) from the summit trig point (*now quarried away*), which may offer one possible interpretation of the mysterious 'fathom problem' described below. Furthermore, the entrance complex of Triple Hole *is* indeed partially spanned by a natural bridge. However the Sandford Women's Institute reference clearly suggests that the bridge spanned water – which seems inconceivable given Triple Hole's location on the summit plateau, and the size of the chambers below into which any such water must inevitably drain. In addition there are clear signs of mining (stacked deads, tally marks) even in the deepest parts, which certainly doesn't appear to match the criteria for an 'unexplored' cave such as the Gulf. Nor is there another extensive cavern to the west, for the cave lies very close to the edge of Sandford Quarry and no cave fitting the description of the Elephant Cave has ever been exposed. It's clear from their reports that even the cave's original explorers (Cotham Caving Group), rapidly dismissed its claims (as they did for Mangle Hole).

The open maw of Triple Hole. A veritable elephant trap! – Rob Taviner

On the other hand, Triple Hole does seem to match most of the criteria for the missing Elephant Cave, and the rubble strewn chamber at 5m depth might be considered a very promising place to find disturbed bones. This was certainly the view of Currant, (*The Quaternary Mammal Collections at the Somerset County Museum, Taunton as part of the Somerset Archaeology: Papers to Mark 150 Years of the Somerset Archaeological and Natural History Society)* and the fact that Cotham Caving Group found an 18th century clay pipe among the piles of deads, and a tally of ore scratched onto the wall of the main chamber, clearly indicates that the cave must have been known to the miners of that period. At first glance its position close to the summit would seem to be a slight mismatch for Jeffries quoted location for the Elephant Cave i.e. on ***almost*** *the highest part of the Hill on the* ***north*** *Side.* However, strip away the surrounding dense woodland (which probably dates from the 1860s) and it's clear that it *does* lie on the northern side, albeit only just, and it is an even better match for the location provided by both Rutter and Buckland, who both noted that the bones were found '*on the summit*' of the hill.

Is there a level? – No, it is largely vertical.
Does it lie some distance below the plane of the hill? – No, it lies on the summit plateau. However the fact that it lies approximately 80 horizontal fathoms from the summit trig point should be considered.
Is, or was, there an extensive cavern further west? – No
Is there any kind of bridge and is access to it relatively straightforward? - Yes
Is it large enough? – No. The chambers below are quite roomy, but ultimately not large enough to seriously be confused with the description of the Gulf.
Were the lower reaches unexplored? – No, there are clear signs of mining throughout.

Could it be the Elephant Cave?

Does it lie on the north side, on almost the highest part of the hill? – Yes. It's certainly on the highest part of the hill and also on the north side – albeit only just!
Is there a sizeable natural open pit into which an elephant might have fallen? – Yes
Is there a suitable bone cavity at the required depth? – Yes again.
Does it continue as a regular descent of about 100 yards? – This is not an unreasonable description of Triple Hole.

Conclusion – While there *is* a natural bridge present, Triple Hole appears to meet none of the other required criteria to qualify as a serious contender for Sandford Gulf. However, the location and size of the entrance, coupled with the presence of a suitable bone cavity and 'extensive' natural chambers that must have been known to the 18th century miners, makes it a very strong contender for the missing Elephant Cave, which implies that the Gulf must lie somewhere to the east. Furthermore as one of only two known natural surface fissures on Sandford Hill, the cave must also be a strong contender for Sandford Bone Fissure.

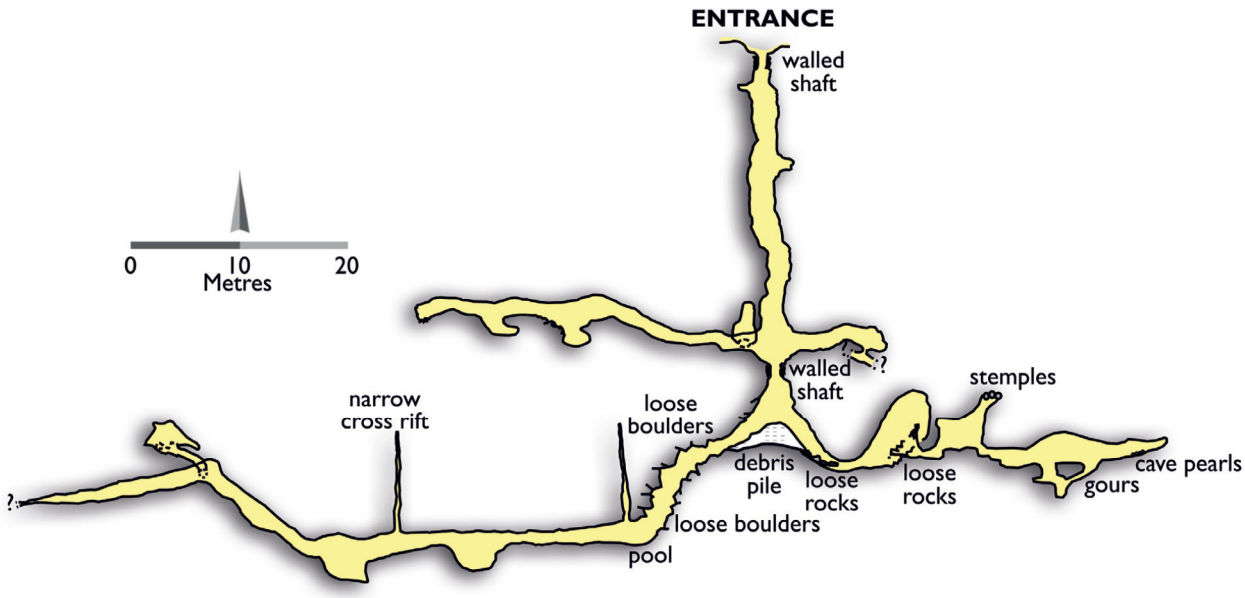
PEARL MINE

This mine was first explored by SSSS in 1949 and consists of a 23m shaft leading to almost 200m of broadly horizontal passage aligned along a W-E axis. It is yet another site that at least one local claimed to be '*240 feet deep*', and its far reaches lie almost directly over passages in the First Crossroads of Sandford Levvy, with which it once undoubtedly connected. While again it doesn't seem to fit the description of the Gulf, its location near the summit on the north side of the hill *does* fit the location for the lost Elephant Cave and bones were undoubtedly present, as indicated in an ACG Logbook report dated 16.03.1968, which states that members visited the mine to retrieve some skulls from the entrance shaft only to find that persons unknown had beaten them to it. However, these were probably modern remains and it is believed that the ACG were acting on behalf of Dr R. F. Everton, an avid collector of animal bones during this period. The elephant bones were found at a depth of four fathoms (24 feet), in an east-west direction, after which there was a regular descent for about 100 yards. Recent excavations by MCG have indeed revealed an east-west aligned cavity at the required depth. However this cavity can only be reached by an artificially enlarged shaft, probably excavated during the 18th century, which does not sit well with the assertion that the unfortunate beast reached its end by falling into an open pit.

The entrance shaft of Pearl Mine – John Tucker via MCRA

Is there a level? – No. It is entered by a near vertical shaft.
Does it lie some distance below the plane of the hill? – No, it lies close to the summit plateau, although the passages below reach a respectable depth.
Is, or was, there an extensive cavern further west? – Not really. Triple Hole lies south-west and Mangle Hole north-west.
Is there any kind of easily accessible bridge? - No

Is it large enough? – No. Stanton recorded that the natural passages had been artificially widened.
Were the lower reaches unexplored? – Apparently not.
Does it lie on the north side, on almost the highest part of the hill? – Yes. Geographically, it *could* be the Elephant Cave.
Is there a sizeable natural open pit into which an elephant might have fallen? – No
Is there a suitable bone cavity at the required depth? – There is a cavity, but as it can only be reached by an 18th century mineshaft, it seems impossible that it once contained the remains of a full-sized elephant.



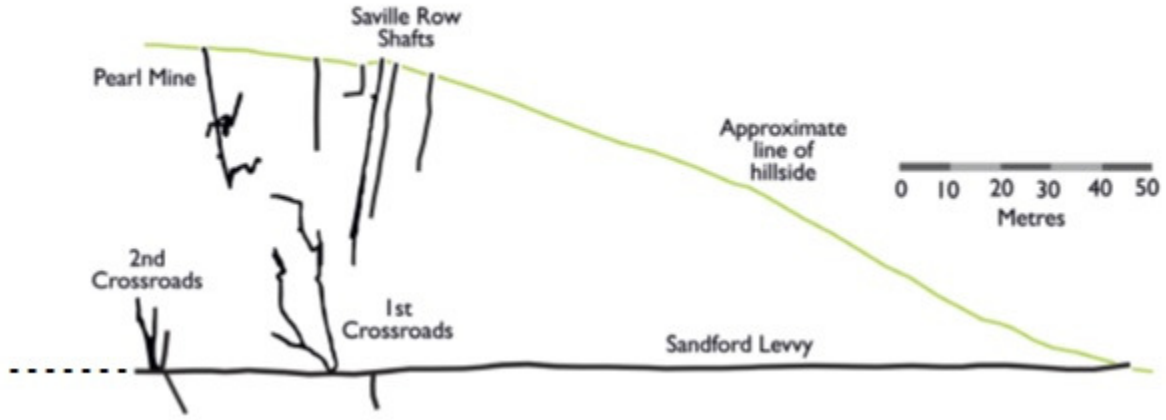
Pearl Mine – Elevation

Pearl Mine meets none of the required criteria to qualify as a serious contender for Sandford Gulf and although the location *does* appear to match the geographical requirements ascribed to the Elephant Cave, the description of a 'regular descent of about 100 yards', coupled with the apparent impossibility of an elephant falling into the pit, makes it a very unlikely contender. The conclusion is that Pearl Mine cannot be the Elephant Cave either.

18th CENTURY SHAFTS NEAR THE SUMMIT PLATEAU

Anyone with any knowledge of Sandford Hill will be aware that a great number of shafts were sunk on, or close to, the summit plateau during the 18th century. Could one of these have intersected the Gulf? Certainly it appears possible that a shaft 240 feet (73m) deep could exist here. The height of the hill is 128m A.O.D. but due to the level of the local water table the maximum depth potential above water reduces to 121m. The caves and mines situated on the summit of the hill - and those along the mineral vein which runs east-west along the north side of the hill just below the summit level - range in altitude between 105 and 128m A.O.D, which clearly offers more than enough scope for a shaft potentially 73m deep. Sandford Hill is broadly comprised of three different limestones, which dissect the hill into three roughly even chunks. These are Black Rock Limestone to the south, Burrington Oolite across the

summit plateau, and Clifton Down Limestone to the north. Dolomitic Conglomerate is also present and the zones of weakness between the differing formations, are all potentially susceptible to cave formation. On the surface plateau, the shafts towards the western end of the hill have now largely been quarried away, but nothing remotely resembling a great gulf was ever encountered. The shafts to the east include several that cavers explored to a depth of 15m, several of which probably ran much deeper. Sadly, these have now all been infilled and lie permanently buried below open pasture. As a result, only a handful remain open, or partially visible. Skeleton Rift proved easily the deepest, reaching the respectable depth of 35m, but no large open cavities were encountered by those who visited the site before it was sealed. There has been speculation that shafts sunk in the floor of the last remaining open area of rake (200m east of Triple Hole) might once have connected to a deep open shaft, or possibly even linked with the Great Rift at the Second Crossroads of Sandford Levvy. There are certainly shot holes in the roof in this area, but these were almost certainly drilled upwards from below. After all, why on earth would anyone seek to drive a long and expensive adit into an area that the miners' had already exploited? The open rake does however lie due east of Triple Hole – the strongest contender by far for the lost Elephant Cave – so it is not impossible that one of the other shafts, such as Summit Plantation Mine or Classic Shaft, intersected a similar, but larger variant of the Great Rift elsewhere along the vein. Numerous mineshafts were also sunk along the same mineral vein as Pearl Mine (both east and west) and the size of some of the spoil heaps suggests that a significant amount of underground activity once took place here. Several - such as the Saville Row shafts - remain open, and there are good descriptions of others that have since collapsed or been filled in. These shafts lie close to the boundary between the Burrington Oolite and the Clifton Down formation, which also coincides with a steep drop off from the summit plateau to the north side of the hill, so it's possible that sagging along the edge may have helped to widen the gap between the two limestone formations, encouraging slip rifts to form underground, or allowing surface water to funnel in at discrete points along the contact and create deep vertical chasms such as the Gulf. Indeed, considering the length of this contact it seems entirely possible that there may be room for more than one! Given that it seems geologically possible for a giant chasm to exist in this locality, we must also examine this line of shafts to see if any meet the required criteria.



Elevation showing the relationship between Sandford Levvy,
Pearl Mine and other nearby shafts

Is there a level? – No. They are all vertical shafts, although some were probably connected by horizontal tunnels driven underground.
Do they lie some distance below the plane of the hill? – No. They all lie close to the summit plateau.
Is there an extensive cavern further west? – Yes, both Triple Hole and Pearl Mine could be described as locally extensive.
Is there any kind of bridge? - No
Are any large enough? – No. Some shafts are impressively deep but nothing remotely resembling a great gulf has ever been reported.
Were the lower reaches unexplored? – Not that we know of.
Do they lie on the north side, on *almost* the highest part of the hill? – Yes
Is there a sizeable natural open pit into which an elephant might have fallen? – No

Conclusion – None of the known shafts, either on the summit plateau, or to the east of Pearl Mine, appear to meet the required criteria to qualify as a serious contender for Sandford Gulf. Furthermore the absence of a natural open pit large enough to contain a full-sized elephant would also seem to rule them all out with regard to the Elephant Cave.

MANGLE HOLE

Discovered by two London cavers in 1970, this was the preferred solution of, among others, the late Dave Irwin (Belfry Bulletin No 426, October 1984). It contains by some distance the largest natural cavities so far discovered beneath Sandford Hill, while the absence of any obvious signs of mining underground *could* be construed as confirmation of the miners failure to complete the exploration. On the other hand, the same absence could just as easily suggest that the miners never discovered the cave in the first place, although this seems highly unlikely given the number of small mineshafts which surround it. That said, it doesn't appear on any of the early cavers' surveys of the hill, some of which were quite thorough. The lower reaches are known to flood regularly which could easily remove all traces of former visitors, so the most likely explanation is that the 18th century miners did indeed explore it, but simply left when they found little inside to interest them. There is certainly some evidence that the cave was at least partially open before 1970, because the remains of an old mangle were discovered in the entrance rift, along with the skeletons of small mammals inside the Main Chamber. Perhaps the biggest point in its favour is Irwin's contention that it offered the closest fit for the description of lying '*80 fathoms below the plane of the hill'*. While at first glance this seems an absurd suggestion (the summit of the hill after all is only 420 feet A.O.D, while 80 fathoms equates to 480 feet!), Irwin argued that 18th century methods of calculating depth differed markedly from those used today and were instead a measure of the slope distance, or in layman's terms, the actual distance walked, which in this particular case is apparently almost 480 feet from the plane of the hill. Although ingenious, there is one obvious problem with this suggestion - namely, where precisely along the plane of the hill do you start measuring from? Furthermore, there is no obvious candidate for an extensive cave further west (Pearl Mine lies further east, while Triple Hole is almost due south) and in any case, would Mangle Hole really have posed much of a problem to the miners? They were a notoriously hardy breed, and the idea that any self-respecting miner would confuse the cave with a great gulf, seems to me to be preposterous. Accessed via a narrow rift, it is certainly far less intimidating a prospect than many of the much deeper mineshafts they excavated on or near the surface plateau and while the Main Chamber would appear as a large black space to anyone armed with just a tallow candle, it's still only a drop

of about 10m to reach the chamber floor. This hardly seems to match the description of a gigantic, bottomless gulf. Even entering directly via some as yet undiscovered (and apparently non-existent) hole in the roof, would add only a very little drama or depth to the eventual outcome and close examination of the site against other known clues would appear to rule it out.

The narrow entrance rift and Main Chamber of Mangle Hole, Steve Sharp

Is there a level? – No. It is entered by a steeply descending shaft.
Does it lie some distance below the plane of the hill? – Yes, but not 60-80 fathoms!
Is, or was, there an extensive cavern further west? – No
Is there any kind of bridge? - No
Is it large enough? – Not really
Were the lower reaches explored by miners? – Apparently not, but regular flooding over more than two centuries could easily have remove all traces.
Does it lie on the north side, on *almost* the highest part of the hill? Could it be the Elephant Cave? – No, it appears too low down the hill to qualify.
Is there a sizeable natural open pit into which an elephant might have fallen? – No
Is there a suitable bone cavity at the required depth? - No

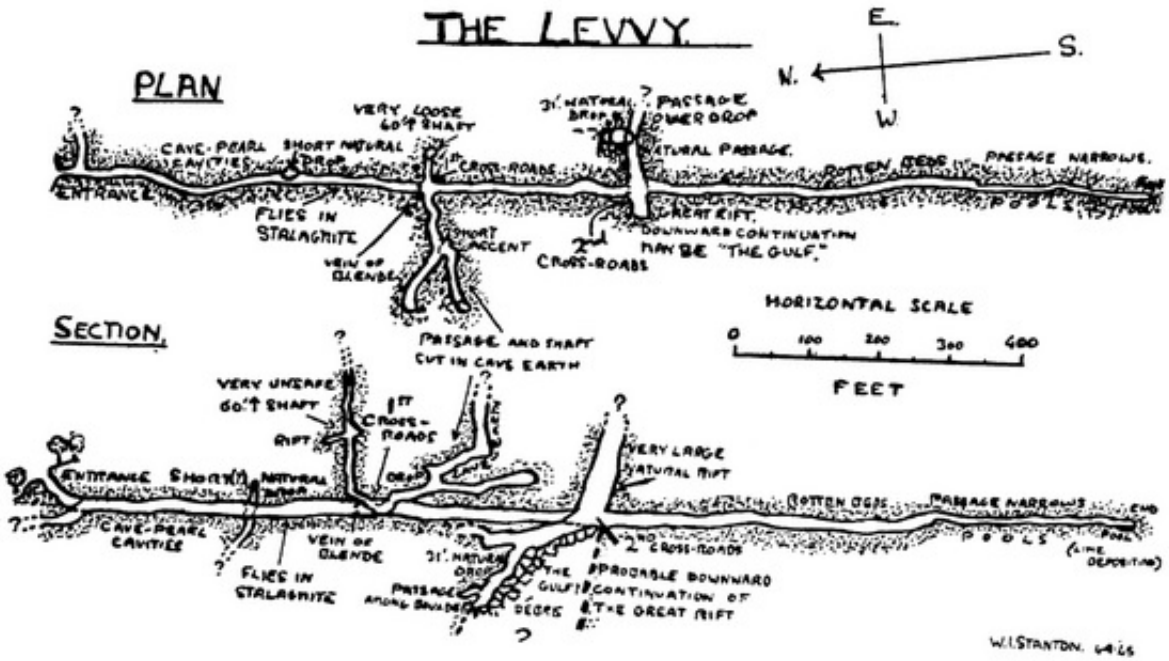
Conclusion – Mangle Hole fails to meet too many of the required criteria to qualify as a genuine contender for Sandford Gulf. Nor does it make a convincing case to be the Elephant Cave, for despite being an extensive natural cavern located on the north side of the hill - the narrowness of the entrance, coupled with the lack of bone cavity at four fathoms depth, would appear to rule it out. However as one of only two natural surface fissures on Sandford Hill, Mangle Hole must be considered as a possible contender for Beard's Sandford Bone Fissure, even if Triple Hole remains a stronger candidate.

SANDFORD LEVVY

This was Willie Stanton's pet theory, no doubt influenced in part by the entry which appeared in Netherworld of Mendip (E. A. Baker & H. E. Balch 1907).

'In driving an extensive level through a hill, 60 fathoms below the summit the miners came across a gigantic rift. A man was let down on a long rope but was unable to see walls or sides of this tremendous abyss.'

Although Baker and Balch don't appear to have made the obvious connection, Willie (and others) argued that this could only refer to the Great Rift at the Second Crossroads in Sandford Levvy, the theory being that the rift continued down well below the current floor level and was subsequently in-filled with the rubble extracted from adit beyond. The adit certainly continues for quite some distance, so the miners' could easily have generated sufficient rubble to fill a pretty substantial void. Furthermore, there *is* at least one extensive cavern to the west (Pearl Mine, Mangle Hole and Triple Hole are all potential contenders), which appears to be a pre-requisite, given what we know about the mysterious Elephant Cave. While at first glance both Pearl Mine and Triple Hole might be better described as lying south-west of the Levvy entrance, this may be misleading, because the definition of 'west' could just as easily apply to the west of the position of the *Gulf* (i.e. the Second Crossroads), rather than from the actual entrance. Triple Hole, incidentally, which is by some distance the best contender for the elusive Elephant Cave, lies almost due west of the Second Crossroads.



Sketch survey of Sandford Levvy by W. I. Stanton
Showing the postulated position of The Gulf

The Second Crossroads of Sandford Levvy, Mark Lumley
Dave King possibly standing on debris filling The Gulf

This all sounds extremely convincing, if it weren't for two distinct problems. Firstly the floor of the adit lies at an altitude of approximately 55m A.O.D, effectively 73m below the summit of the hill. This is seemingly well above the depth levels supplied by Williams (80 fathoms, 480 feet or 146m below the plane of the hill) and The Netherworld of Mendip (60 fathoms, 360 feet or 110m). However, given the height of the hill, coupled with the known height of the local water table, neither of these quoted altitudes appears in the least bit credible and considerable doubt must also be cast on Williams assertion that the shaft was 240 feet deep, especially when he had described it as 300 feet deep just a few weeks earlier. The proclivity of superstitious miners to exaggerate their discoveries should also be taken into account. In actual fact the altitude of Sandford Levvy generates a maximum depth potential down to the local water table (7m A.O.D) of roughly 48m, or 157 feet, which is a respectable figure certainly, but still some way short of the required target of 240 feet. It's the second problem however that seems the most intractable, for the oft-quoted date of 1830 suggests that Captain Webster didn't begin work on the Levvy until a full year *after* Williams wrote to Rutter about the Gulf. However, Rev Skinner (as quoted by Gough, in his Mines of Mendip p.173), only mentions this year in relation to *Dolebury* Levvy, merely adding that a tunnel being driven through Sandford Hill had been more successful and that the miners had already come to a 'good vein of lead ore'. The official Sandford Hill mining lease actually dates to 1829, which is surely too close to the first mention of the Gulf to be a coincidence, especially as it was common practice for prospectors to wait until they'd discovered a significant deposit before applying for the official go-ahead. Close scrutiny indicates that the first significant good vein of lead ore doesn't occur until the First Crossroads, far enough inside the mine to suggest that work on the adit started well before 1830 (1826 has been suggested, although this was probably a guess based on comparisons with similar ventures of the period). Furthermore, if

something as dramatic and substantial as the Gulf had been discovered prior to this date, then it seems very strange that it fails to earn a mention in other caving related literature of the time, and even stranger that it doesn't seem to have come to the attention of either Williams or Beard, both of whom were working the west Mendip caves in the years leading up to this date, e.g. Banwell (1824), Uphill (1826) and, Hutton (1828). Williams' obvious excitement - as made clear by his letters of 1829 - strongly suggests that this was a recent discovery. As far as we know, the only mine operating during this period was Sandford Levvy, the shafts above having ceased working some years earlier. The Levvy was almost certainly driven in a last ditch enterprise to get at possible deep lead deposits located further into the hill. In the absence of any detailed records, I would propose that the 1st Crossroads was possibly reached in early-to-mid 1828 (Webster then applies for the lease), and the 2nd Crossroads / Gulf, a few weeks later, possibly in late 1828. Williams hears about it shortly afterwards (in early 1829) and records it in his letters. Unfortunately the shaft is filled in before he has a chance to visit and the exact location is lost to us. It has also been suggested that earlier miners might have originally discovered the Great Rift (or Gulf) from above, possibly entering from a steeply dipping shaft sunk somewhere in the floor of the last remaining open area of rake situated 200m east of Triple Hole (Sandford Rake). There are certainly shot holes in the roof of the Second Crossroads - which lead towards a small series of passages located above the pitch – and if true, then it's just possible that Webster knew of its exact whereabouts, and purposefully aimed for it, presumably with an eye to using it for cheap spoil disposal. However this theory seems very unlikely, for it's very difficult to see why Webster would feel the need to drive such a long and expensive adit into this area, especially if he knew that the blende had already been exploited!

As for Women's Institute History of Sandford, which asserts that victims had to *cross the bridge over the water in the Gulf*, the following sequence of events seems plausible. Initially, miners' driving the Levvy intercept a giant rift at the spot now known as the Second Crossroads. A miner is lowered partway down the then open shaft, but takes fright and is hauled back up before he can reach the bottom. The story is passed on to Williams who dutifully records it. The shaft is then blocked partway down (probably by placing a large boulder over a narrowing) and a temporary 'bridge' is installed across the remaining open rift to allow work on the adit to recommence. Spoil taken from the far side is gradually dumped down the shaft, which soon fills with mud, rock and water (hence the bridge over the water). This probably all happened quite quickly which may explain why Williams was never able to visit the site despite showing considerable interest in doing so. Eventually the shaft became completely filled, resulting in the Second Crossroads as we see it today.

Given this hypotheses, we must once again compare Sandford Levvy against the known clues.

Is there a level? – Yes.
Does it lie some distance below the plane of the hill? – Yes. It is the lowest of the contenders, if not quite 60-80 fathoms!
Is there an extensive cavern further west? – Yes (Pearl Mine, Mangle Hole and Triple Hole are potential candidates)
Is, or was there, any kind of bridge? – Possibly. It is very easy to imagine the Second Crossroads being spanned by a bridge before the downward continuation of the Great Rift was levelled with rubble extracted from the adit beyond.
Would this bridge have been easily accessible to ordinary villagers? – Yes.
Was the infilled shaft large enough? – Unknown.

Were the lower reaches fully explored? – Unknown.
Does it lie on the north side, on *almost* the highest part of the hill i.e. could it be the site of the Elephant Cave? – No. It is too low down and clearly doesn't match the description.

Conclusion – The Second Crossroads of Sandford Levvy matches many of the required criteria and based on current knowledge, is comfortably the best candidate for the lost Sandford Gulf.

THE FATHOM PROBLEM

The letter from Rev. David Williams to John Rutter in 1829 clearly states '*The mouth of it is said by the miners to be 80 fathoms below the plane of the hill.'* This was later confirmed in a second letter, this time from Williams to Patterson, Rector of Shaftsbury, dated February 16th 1829, but with a slight amendment, which included the helpful conversion to 480 feet. *'The mouth of the largest which the miners call the Gulph lies they say 80 fathoms, or 480 feet below the plane of the hill.'*

Williams presumably multiplied the number of fathoms (80) by the accepted number of feet per fathom (6), to arrive at his figure of 480 feet. Considering that the height of Sandford Hill is only 420 ft A.O.D, this figure was clearly impossible and several attempts have been made since to explain away the discrepancy. Perhaps the most inventive was the late Dave Irwin's theory that depth was once calculated as the actual walking distance between two points, rather than the difference in altitude, a solution that led him to propose Mangle Hole as the most likely candidate. It was a clever theory, notwithstanding some obvious problems i.e. differences in human gaits, or the actual starting point on the plane of the hill, to name but two. However, using this method, then Triple Hole should also be considered, especially if one interprets the 'plane of the hill' as the actual summit, rather than the broader summit plateau. The entrance is actually located approximately 80 horizontal fathoms from the destroyed trig point. However this is probably pure coincidence and in any case there are other good reasons for ruling out either candidate.

There have been suggestions that a different method for measuring a 'fathom' was in use on western Mendip, rather than the traditional 6 feet. This is certainly the measurement that Williams used in his second letter – converting 80 fathoms to 480 feet – but there is also another definition which can apparently apply to mining terms, where a fathom is expressed in *cubic* feet (volume) rather than ordinary feet (depth). Forestry workers too use a similar definition and it is easy to imagine miners being paid by the volume (kibble loads) of material extracted. Cubic feet (volume) is defined as length x width x height and using this method, the very simple example of a mineshaft 3 ft long x 2 ft wide, requires just one foot of depth (3 x 2 x 1) to generate a miners' fathom. This is a dramatically lower figure than the six feet of depth that might have previously been expected, and one which has the potential to alter the true altitude of the Gulf dramatically. Armed with this formula, then provided that you know both the dimensions of the shaft, and the number of fathoms, then you should be able to calculate the approximate true depth of the shaft. The average dimensions for a mineshaft on Sandford Hill, is roughly 3ft x 3ft, and by coupling this with our quoted figure of 80 fathoms, the following results are obtained.

1 mining fathom = 6 cubic feet, therefore 80 fathoms = 480 cubic feet.
Length (3 ft) x Width (3 ft) x Height (*n* ft) = 480 (cubic feet).
9 x *n* = 480
480 / 9 = 53 feet.

Using this formula, a shaft with larger dimensions will give you a lower depth figure, while a round shaft of 3ft diameter would give you a slightly higher figure. This can be calculated by replacing length and width with the area of the shaft using the formula A= πr2, (where A is area and r is radius - the distance from the centre of the circle. The result is a fraction over 7, therefore the depth of a round shaft would be 480 / 7 = 69 feet.

On this basis, the statement '*80 fathoms below the plane of the hill',* translates readily as 69 feet below the inclined plane of the hill, or, in other words, simply 69 feet below the surface. Adding this figure to the quoted depth of the shaft (240 feet), plus a bit more to cater for the fact that the lowered miner couldn't see the bottom (let's use 20 feet, although it was probably more), plus the known height of the local water table above sea level (23 feet), gives a total depth figure of 69 + 240 + 20 + 23 = 352 feet, which translates to a surface altitude of 107m A.O.D. Interestingly, if we take the line '*In driving an extensive level through a hill, 60 fathoms below the summit'* quoted in Netherworld of Mendip and apply our formula for a 3ft round shaft, we arrive at a very similar result.

1 mining fathom = 6 cubic feet, therefore 60 fathoms = 360 cubic feet.
Area = 7 feet approx.
360 / 7 = 51 feet.
420 feet (summit of Sandford Hill) – 51 feet = 369 feet or 112m A.O.D.

This figure is very close to the altitude of the deep mineshafts aligned along the mineral vein in the vicinity of Pearl Mine and who's to say that the level was started at the surface? Could the level have been driven underground instead, from the foot of a mineshaft perhaps? It's an attractive theory but it has to be said that there is absolutely no corroborating evidence to support it.

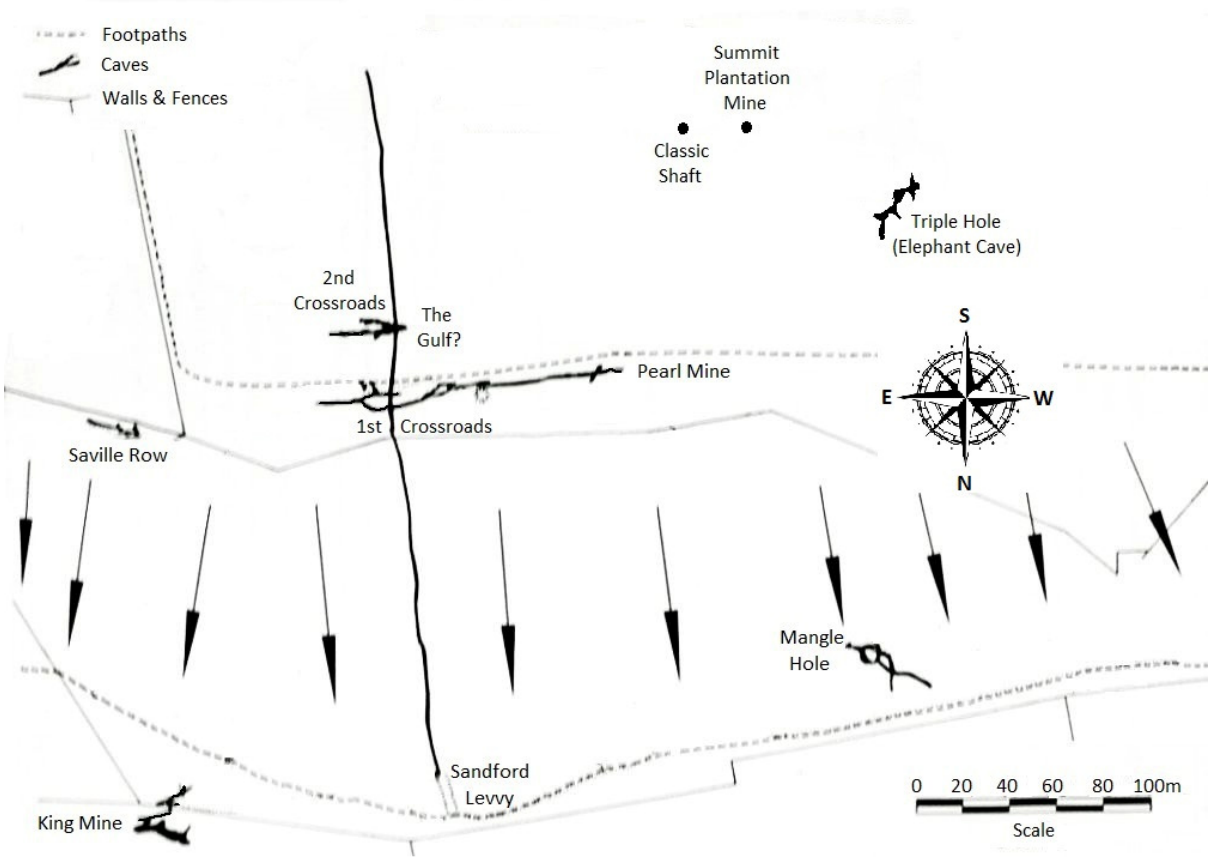
CONCLUSION

I once proposed that the Gulf may not have been a chasm at all, but simply a reference to a particularly large 'gulph', a historical term for a body of ore. It's possible, but like the cubic fathom theory, carries no supporting evidence.

Other commentators have even questioned the Gulf's existence. It's fair to say that not all cavers are completely convinced, while even the believers consider the '*240 feet deep*' claim to be a wildly exaggeration. Jeffries himself, writing in 1770, mentions that the '*workmen are so very imposing',* suggesting that he received a hostile reception. Such sentiments have been expressed elsewhere and it is easy to imagine suspicious miners, protective of their lot, spinning him a cock and bull story about a terrifying void to try and put him off the scent. However, like the equally mysterious '*Cave as big as Axbridge Square*', the legend of the Gulf refuses to go away and I for one am prepared to give the historical accounts a fair hearing. The '*Cave as big as Axbridge Square*' incidentally, was rediscovered in 2011 and named Axbridge Hill Cavern.

Notwithstanding Skinner's 1819 conversation with the Dolebury warrener (which was probably the deep mineshaft noted by Knight on the eastern end of Dolebury hill), to my mind the bulk of the evidence clearly points towards the Second Crossroads in Sandford Levvy as being the best contender for the location of the missing Gulf. Not only does it fulfil many of the required criteria, it is currently the *only* known site on the hill that does so. Originally postulated as a theory by Balch and Baker in The Netherworld of Mendip (1907), the suggestion - which may have been influenced in part by local knowledge - was subsequently championed by several Sidcot schoolboys, especially Stanton. There *is* at least one extensive cavern further to the west, and there *is* a level which would have been easily accessible to ordinary villagers keen to 'cross the bridge' to free themselves of a witches curse. That there is a downward continuation of the Great Rift intercepted at the Second Crossroads seems beyond doubt, and this chasm would almost certainly have required bridging to allow tunnelling beyond to continue. Finally, the altitude at this point lies well below the plane of the hill (albeit not the quoted 60 or 80 fathoms).

The identification of Elephant Cave appears even easier, for Triple Hole is really the only natural feature on the hill that appears capable of swallowing the skeleton of a full-sized elephant. Inside, there *is* a bone cavity at the required depth and there *is* an extensive natural cave which matches Jeffries description and would have been known to miners in 1770. To cap it all the cave lies almost due west of the Second Crossroads in Sandford Levvy, the stand out candidate for the missing Gulf.



Plan of Sandford Hill showing the location of the main sites mentioned in the text
(Based on a Sketch Map of Sandford Hill by Ed Waters)

When I began this process I was fully convinced that I would be able to disprove the Sandford Levvy theory postulated by Stanton. Irwin also questioned it, and based on an ingenious method for solving the fathom problem, proposed Mangle Hole as a better alternative. I, on the other hand, personally harboured a conviction that Mangle Hole was actually a better contender for the missing Elephant Cave, and thought that the Gulf might lie much closer to the summit of the hill, possibly among the mineshafts surrounding Pearl Mine. However, having examined all the available evidence, and working on the old Sherlock Holmes principle that 'when you have eliminated the impossible, whatever remains, *however improbable*, must be the truth?' I am now wholly satisfied that Triple Hole is the Elephant Cave, and that Stanton was correct all along and that the infilled downward continuation of the Great Rift at the Second Crossroads in Sandford Levvy is indeed the location of the famous Sandford Gulf. There is, of course, only one way to find out for sure … although it might take a while!

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