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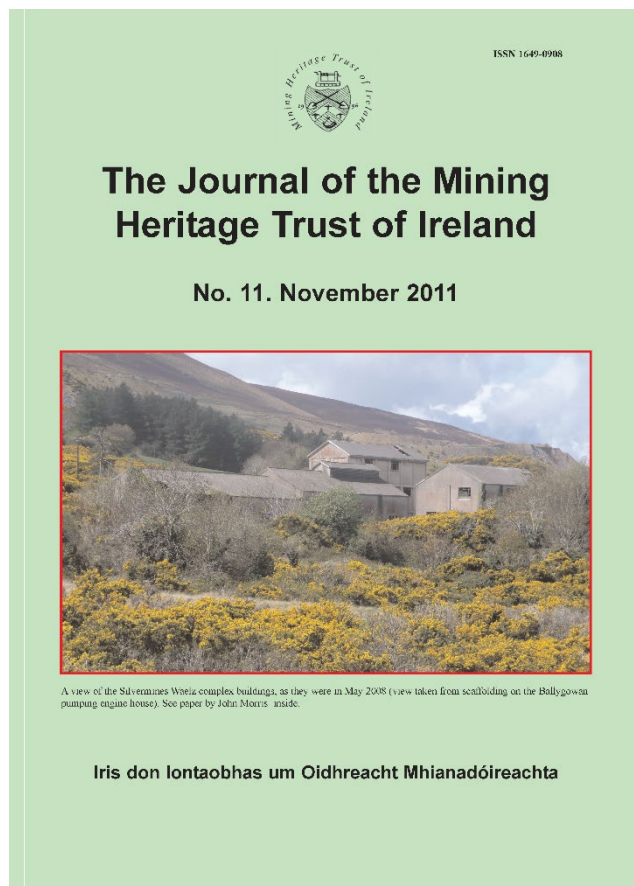
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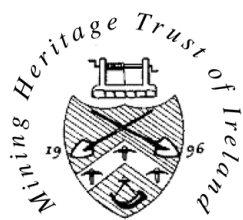
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# UNEARTHING THE PAST: THE REDISCOVERY OF BLUNDELL'S MINE(S), EDENDERRY, COUNTY OFFALY

by Martin F. Critchley and Sharron P. Schwartz

**Abstract:** On 28 September 2011, a hole just over a metre in diameter and over four metres deep suddenly appeared on a pedestrian pathway near the top of a small hill (known as Blundell's Hill) at Blundell Park between Blundell Wood and the Cabin at Churchview Heights, Edenderry, County Offaly (OI 2011). County Offaly, formerly known as King's County, is not readily associated with metalliferous mining, but early nineteenth century texts refer to an obscure 'silver mine' not wrought for several decades. No one was sure precisely where this mine was located, although documentary evidence suggested it was in the vicinity of the Castropetre Church of Ireland on the small hill that presumably gave Edenderry its name (Eadán Doire, translated from Irish as 'the hill-brow of the oak wood'). Due to the void's proximity to this church suggesting that it might have been connected to former mining activity, we were contacted by Offaly County Council to inspect it and to ascertain the extent of any workings leading from it (Critchley and Schwartz 2011). A combination of on-site investigation and subsequent documentary research has unearthed a fascinating and forgotten part of Edenderry's history. *Journal of the Mining Heritage Trust of Ireland*, 11, 2011, 35-46.

## THE GEOLOGY AND MINERALOGY OF EDENDERRY

The Edenderry lead-silver deposit is hosted in Waulsortian Limestone of Courceyan age (Lower Carboniferous). During the Courceyan, around 350 million years ago, Ireland was located close to the Equator and limestones were deposited on a stable shelf in shallow, warm tropical seas. Towards the end of the Courceyan (Lower Carboniferous), instability in the shelf led to formation of local areas of subsidence and the rocks of this period can be divided into three distinct facies groups, based on ocean depth and depositional conditions (Sevastopulo and Wyse-Jackson, 2001, 258). Pale grey shelf limestones dominated the shelf environment, while dark grey fine-grained, graded limestones and black shales dominated the basinal environment. In between these two facies are the Waulsortian 'reef' Limestones, structures of fine-grained limestone, forming numerous mud mounds at the shelf margins.

Waulsortian Limestone is typically light grey in colour and forms massive sequences locally over 500m thick, often with poor bedding. The sequence is comprised of poorly structured lime mud mounds with abundant skeletal remains and often with calcite filled cavities. Although they appear to be similar to modern day coral reefs they formed without the binding effect of fauna and the current theory is that bacteria acted as the binding agent. At Edenderry the Waulsortian mudbanks are set in a matrix of darker oolitic limestones known as the Edenderry Oolite formation and were deposited at the edge of a shelf with the unstable and slowly subsiding Dublin Basin lying to the North-East. Sediments in the Dublin Basin are mainly comprised of a rhythmic sequence of very dark fine grained limestones and shales (locally known as the Lucan Formation).

The hole that we were requested to inspect at Edenderry is

located to the south of the town on a small hill (Blundell's Hill), the only high ground for miles around, upon which are the remains of a medieval castle and the eighteenth century Castropetre Church. Blundell's Hill is almost circular, about 500m across and rises some 20m above the surrounding landscape. The form and nature of it would suggest that it is an eroded Waulsortian mud bank. The One Inch geological map from the mid-nineteenth century (Figure 1) shows the almost circular hill to be mostly comprised of dolomitised 'Lower' Limestone overlain by 'Middle' or 'Upper' Limestone to the east.

The only observed exposure of the bedrock in the present investigations has been via the hole that we inspected and where we observed the limestone to be heavily dolomitised and extensively brecciated with signs of mineralisation. We therefore deduced that the hole was likely to be a shaft leading to old mine workings rather than a natural feature such as a cave. A modern phase of mineral exploration in Co. Offaly started in the early 1970's and over the years, several different companies have undertaken exploration, primarily for zinc and lead. The results of one aspect of the work shows a large anomaly of lead in the soils surrounding Edenderry. This anomaly not only covers Blundell's Hill, the focus of this paper, but also the area to north, yet there is no evidence of historical mining in that area. Indeed, Edenderry is not the only site in the Irish Midlands where breccia-type mineralisation has been found. Nearby at Harberton Bridge in County Kildare, a large breccia-type deposit was discovered in the mid-1970's (Emo 1986) consisting of 3.6Mt of ore extending over a vertical range of about 500m at a combined lead-zinc grade of 9.6 per cent. It is currently not economic to work this deposit.

Emo (1986) postulated that the genesis of this breccia-type mineralisation in the Irish Midlands was either derived from base-



Figure 1. The mid-nineteenth century one inch geological map clearly shows the roughly circular hill of dolomitised Waulsortian limestone. This small hill, the only high ground for miles, presumably gave Edenderry its name. Geological Survey of Ireland.

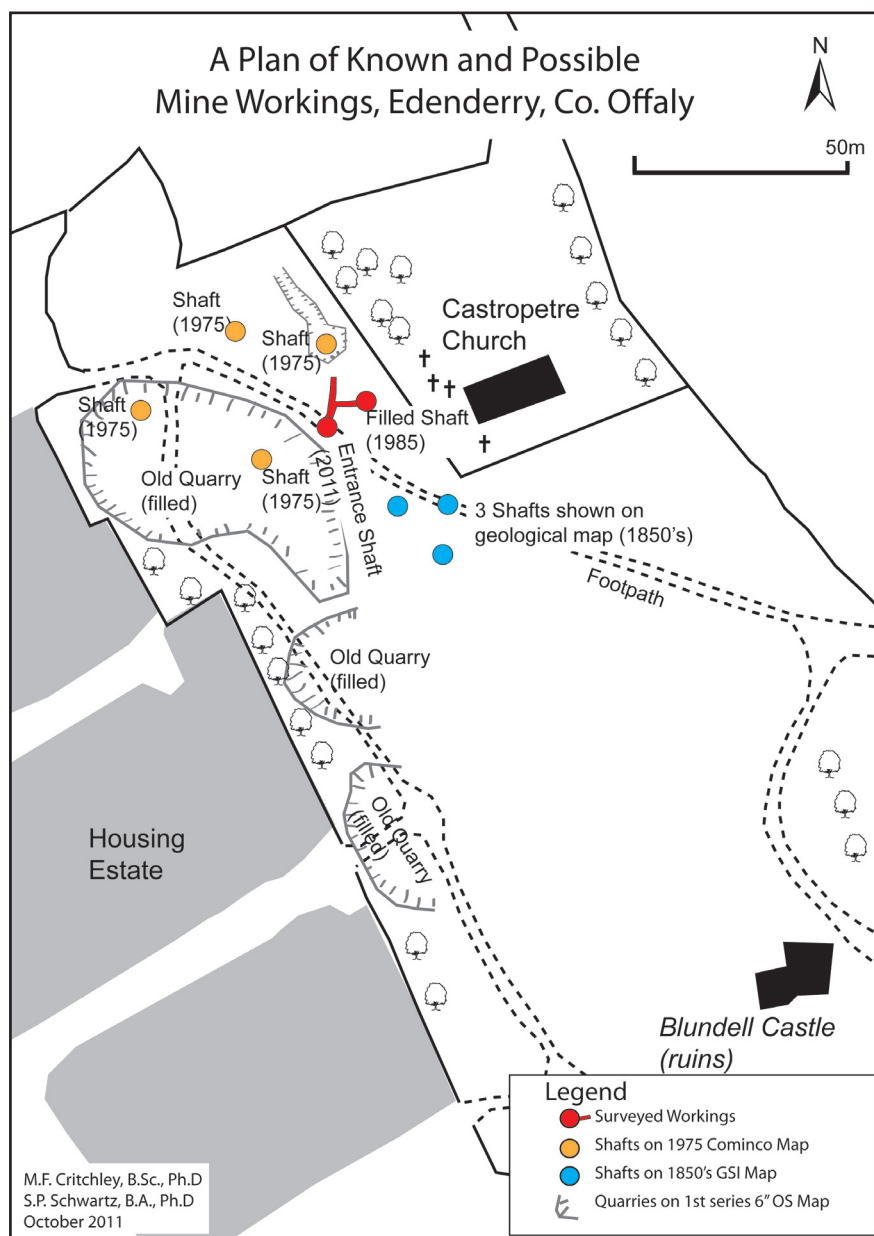
ment leaching or from basin dewatering of the contemporaneous Carboniferous sediments. Wilkinson *et al.* (2005) have determined the chemical composition of 350 million year old solutions extracted from fluid inclusions, and strontium isotopic compositions of hydrothermal minerals from the Irish zinc-lead ore field. These data show that ore-forming fluids were derived from evaporated seawater and acquired metals by deep circulation within fractures in continental crust. Massive lead-zinc sulphide mineralisation (such as at Navan and Silvermines) occurred in the near-seafloor environment when these solutions returned to the surface and mixed with brines rich in H<sub>2</sub>S produced by bacterial reduction of seawater sulphate. The breccia ores at Edenderry and Harberton Bridge could conceivably be located above basement faults on feeder zones to sulphide seabed mineralisation in the now eroded limestone sequences above.

In the *Statistical Survey of the King's County* of 1801, Sir Charles Coote recorded that, '... on the Hill of Edenderry, now the churchyard, there was formerly a silver mine, twice attempted to be worked, but not within these forty years' (Coote 1801, 124). Apart from this brief reference quoted by numerous other works thereafter, little was known of this silver mine, noted as *Blundell's Mine* in an anonymous mid-nineteenth century catalogue of mines or metalliferous indications (Morris 2001). Even its precise location was subject to dispute, as the First Series six-inch OSI (Ordnance Survey of Ireland) map (1829-42) position a 'silver mine' at the northern (top end) of Blundell Street in the eastern part of the town of Edenderry. Yet the Geological Survey of Ireland six-inch field slip for the area (c. 1855) has three shafts marked in close proximity to each other to the immediate west of Castropetre Church, the accompanying memoir to the one inch geological map covering Edenderry noting the presence of carbonate veins and previous workings for lead (1860).

The First and Second Series OSI six inch topographic maps show quarries on the western flank of Blundell's Hill (they are now all in-filled), one of which was visited in the early 1980's by exploration geologists and mineralised limestone was observed. Geological mapping at Edenderry in 1975 delimited a zone of brecciated mineralisation (calcite and galena) in dolomitised limestone to the west of the church. At this time four shafts were recorded on the site and possibly one or two features which suggested collapsed workings (Figure 2). Additional documentary research has confirmed that mining for silver-lead occurred on this hill in several separate periods over the course of the eighteenth and nineteenth centuries, which points to the likelihood of there being considerably more workings than the one we were able to access. The 'silver mine' noted at the top end of Blundell Street in the mid-nineteenth century is probably indicative of a site where buildings associated with the nearby mines once stood on the outskirts of town, possibly connected with administration, mineral storage, processing or smelting, rather than any actual workings.

## THE EARLY HISTORY OF BLUNDELL'S MINE(S)

The earliest history of mining in the area is very sketchy. A series of shallow quarries, excavated into the western side of the hill not far from the present church, were probably originally opened to procure the stone to build nearby Blundell Castle, noted as constructed of 'randomly coursed limestone rubble' (Sweetman and O'Brien 1997). This was erected by the De Bermingham Family in the fifteenth century and acquired by Arthur Hill (1753-1801, who became the 2nd Marquis of Downshire in 1793), on his marriage in 1786 to Mary Sandys, heiress to Edenderry through her grandmother, who was a sister of Lord Blundell (Reilly 2007). <sup>1</sup> The Blundells, absentee landlords who resided at Easthampstead Park in Berkshire, England, controlled Edenderry for the majority of the eigh-



**Figure 2. Plan of known and possible mine workings to the south of the town of Edenderry, Co. Offaly.**

teenth century. As a source of local building stone, these quarries were probably worked on and off throughout the succeeding centuries. Signs of a mineralised bed of rock were exposed in the face of these workings at some point in the past which resulted in attempts to mine this by opencast methods and via a series of nearby shallow shafts.

Documentary research has revealed that the Blundell Family did indeed lease mines on their land in Edenderry. On 9 September 1756, a letter from M.A.M. Blundell, William

Trumbull<sup>2</sup> and Lord Raymond<sup>3</sup> was sent to Agent, Henry Hatch<sup>4</sup> (McCormack 2009, 24-37), informing him of the death of Lord Blundell and requesting him to act as executor on behalf of Lady Blundell. A Power of Attorney was sought for Hatch to receive the rent from the tenants and a list of rentals and information about the mines was sought:

... you'll be pleased also to find us copies of the agreement concerning the mines and to let us know the present state of the mines...(MIC17/1 PRONI).

From this we can infer that the mines (note the plural) had been worked, certainly from around the mid eighteenth century and, due to Coote's observation of two distinct periods of working, very likely much earlier than that also. Reilly paints a depressing picture of late eighteenth century Edenderry, a community in decline, woefully neglected by the 2nd Marquis of Downshire to such an extent that basic provisions were in short supply, industry had dwindled and high rents made life unbearably difficult for his tenants. To compound matters, Hatch, a shady character, was not a particularly efficient estate manager; it was little wonder that Edenderry was affected firstly by the radical Cosantóirí (Defender Movement) and then the Cumann na nÉireannach Aontaithe (Society of United Irishmen) of the late 1700s. Inevitably, bitter clashes broke out with the Loyalists (Reilly 2007, 7) all of which retarded any industrial development.

If Coote is correct and the mine(s) at Edenderry had not been wrought for forty years in 1801, due presumably to a combination of neglect and then political turmoil, then working had ceased just before, or in, the early 1760s. This was well before the present Castropetre Church of Ireland was built to replace the structurally unsound medieval parish church. In 1774 the vestry had voted to build a new church, the site for which was given by Lord Downshire (presumably hoping to curry favour with the Protestants), with additional funding coming from the Board of First Fruits. It was consecrated in 1778 and burials commenced around it. This perhaps suggests that the 2nd Marquis of Downshire entertained little hope that, or even cared whether, the mine workings, some of which were located very close to the church, were worthy of reworking.

<sup>1</sup> Viscount Blundell was a title in the Peerage of Ireland, created in 1720 for Sir Montague Blundell (1689-1756), 4th Baronet, Member of Parliament for Haslemere between 1715 and 1722. He was made Baron Blundell of Edenberry, in the King's County, at the same time, also in the Peerage of Ireland. He married Mary Chetwynd in 1709, but had no surviving male issue and the titles became extinct when he died on 19th August 1756.

<sup>2</sup> William Trumbull (1708-1760) married Viscount Blundell's daughter, Mary in 1733. She married Martin Sandys in 1760. Their only child, Mary, married Arthur Hill, who succeeded as the 2nd Marquis of Downshire.

<sup>3</sup> Robert Raymond, second Lord Raymond (1717-1756) of Abbot's Langley in the County of Hertford, married Mary, daughter and co-heir of Montague, Viscount Blundell, but died without issue in September 1756, and the Barony of Raymond became extinct.

<sup>4</sup> Hatch (c.1680-1762) was for 50 years the Agent to the Edenderry Estate.

## THE 1820'S MINING 'BOOM' AND THOMAS WEAVER'S REPORT

The collapse of much of the Spanish Empire in the aftermath of the defeat of Napoleon and peace within Europe after years of turmoil heralded a new, more stable, political era in the decades after 1815. The British economy began a period of rapid expansion as lucrative new overseas markets emerged and important infrastructure projects stimulated investment expenditures. This, coupled with the successful resumption of the gold standard in 1821, a demand for specie and rising mineral prices, converged to create a speculative mania as a prosperous British public clamoured to buy bonds and shares, particularly in the enterprises of newly independent Latin American countries (English 1825). Of 127 new companies to appear on the London Stock Exchange in 1824-5, over a third were mining companies, the craze for mining stocks being a significant part of the overall boom (Schwartz 2012). The sale of stocks to finance those ventures as well as sovereign government debt propelled a stock market 'boom' which raged for over twelve months, fuelled by the Bank of England's easy monetary policy, before the crash came.

However, it was not just the mines of Latin America that received attention at this time, but numerous mineral prospects elsewhere, including throughout Britain and Ireland, where around 65 joint stock mining companies emerged attracting a total investment of over £32.3 million sterling (*MJ* 1838). In Ireland, these included the Hibernian Mining Company that appeared on the stock market in July 1824 with a capital of £500,000 in 10,000 shares. Other companies initiated in Ireland at this time included the Arigna Iron and Coal Mining Company<sup>5</sup>, the Mining Company of Ireland, the Royal Irish Mining Company, and the Imperial Mining Company (*CM* 1826). These companies soon began to vie for the rights to mineral leases across the island (Cowman 2002) and experts were dispatched to ascertain the best prospects.

Among other geologists, the Hibernian Mining Company engaged Englishman, Thomas Weaver (1773-1855), at a fee of one sovereign and a half per day plus expenses.

Weaver, who had initially served in the same capacity for the Mining Company of Ireland, was a graduate of the world famous Freiburg Mining Academy and had studied geology and mineralogy from 1790 to 1794 under the peerless Abraham Werner. His father, Thomas, one of the seven founders of the Associated Irish Mine Company (set up at Avoca in c1787) appointed him manager of the Avoca Mines (a position he held from 1799-1811). Weaver discovered a rich lead lode in the Glendasan Valley at the end of the eighteenth century (Smyth 1853, 353) and in 1809 set up the Glendalough Mining Company in partnership with local investors (which he sold to the Mining Company of Ireland in 1825). He had been entrusted by the British government with the investigation of the gold

deposits in Wicklow, publishing his observations in his 'Memoir on the Geological Relations of the East of Ireland' (Weaver 1821). He therefore seemed more than equal to the task of exploring known and suspected mineral deposits and reporting on the potential value of these on behalf of the Hibernian Mining Company. Although some of his advice to the company was clearly questionable (for example, he warned the company off working the Whitespots outcrop near Newtownards, which resulted in the Hibernian missing the opportunity to work what became one of the richest lead mines in Ireland), he was nowhere near as inept as was claimed in the *Mining Journal* years later (MS 658 NLI; Cowman 2002).

By November of 1824, the 3rd Marquis of Downshire had 'become connected' with the Hibernian Mining Company and it was noted that he wished 'to promote its objects':

He will be ready to enter into a proper lease or agreement for granting to the company the liberty of searching for and converting lead or other minerals upon his estates at and near Dundrum referred to in the report of Mr. Weaver... or any other of his Lordship's estates in Ireland, under several of which there are reported to be lead, coal, ironstone or other minerals...(MS 657, NLI).

One of the 'other' sites surveyed by Weaver was 'the Marquis of Downshire's reported lead mine at Edenderry in the King's County'. We might be forgiven for suspecting that the 3rd Marquis, who had inherited a crippling debt of £300,000 from his incompetent and profligate father, was hoping that the mine on his Edenderry estate would prove to be profitable and instigated this inspection by Weaver. Indeed, the Marquis would have known of the reputed richness of the Edenderry ore, as there had been some glimmerings of interest in 'Blundell's Mine' during his adolescence, evidenced in the correspondence concerning negotiations with Lord Henry FitzGerald<sup>6</sup> and Leinster Agent, Mr. Hamilton, who were trying to ascertain the state of the Edenderry leases after his father's death in 1801.<sup>7</sup> Handley of Bath, writing to James Brownrigg of Edenderry, Agent to the Downshire Estate who had replaced Hatch, in a letter dated 19 December 1805 states:

... The moment I receive the forms of building leases, not yet sent from Hillsborough, I will forward to you all the leases I promised, and then write also about the silver mine. I find the ore I took from Edenderry is very rich in lead as well as silver, and if it can be found in sufficient quantity, may turn out a valuable acquisition. (D607/1/36 PRONI)

Indeed, authorisation to reopen the mines was granted by the Downshire Estate and they were inspected in 1806 by engineers, brothers John and Daniel Busby from Northumberland, who were later employed to develop Downshire's Dundrum Estate in County Down. John Busby (1765-1857) was a highly

<sup>5</sup> An unsuccessful enterprise, the affairs of this company became the subject of a parliamentary investigation and of a long and expensive chancery suit which was not settled until January 1836 (Lewis 1837, 523).

<sup>6</sup> Arthur Hill, the 2nd Marquis of Downshire, was the son of Wills Hill, 1st Marquis of Downshire, and Lady Margaretta FitzGerald.

<sup>7</sup> Arthur Hill, 2nd Marquis of Downshire, died at just 48 in 1801. His eldest son, Arthur Blundell Trumbull Sandys Hill, was only thirteen years old and so his mother, Mary Sandys, managed the estate until he came of age in 1809.



**Figure 3. John Busby (1765-1857), mine surveyor and civil engineer, who inspected the Blundell Mines in 1806.**  
*Courtesy of the Mitchell Library, State Library of NSW (gpo2\_2170)*

experienced man, a onetime coal miner and later a civil engineer in Scotland who had been awarded two of the Highland Society's highest premiums (Figure 3). The first was for his invention of boring machinery for ascertaining the nature of rock strata and the second for developing a method of sinking through quicksands, clay and gravel beds. He obviously deemed Blundell's mines to be an unworthy undertaking, as

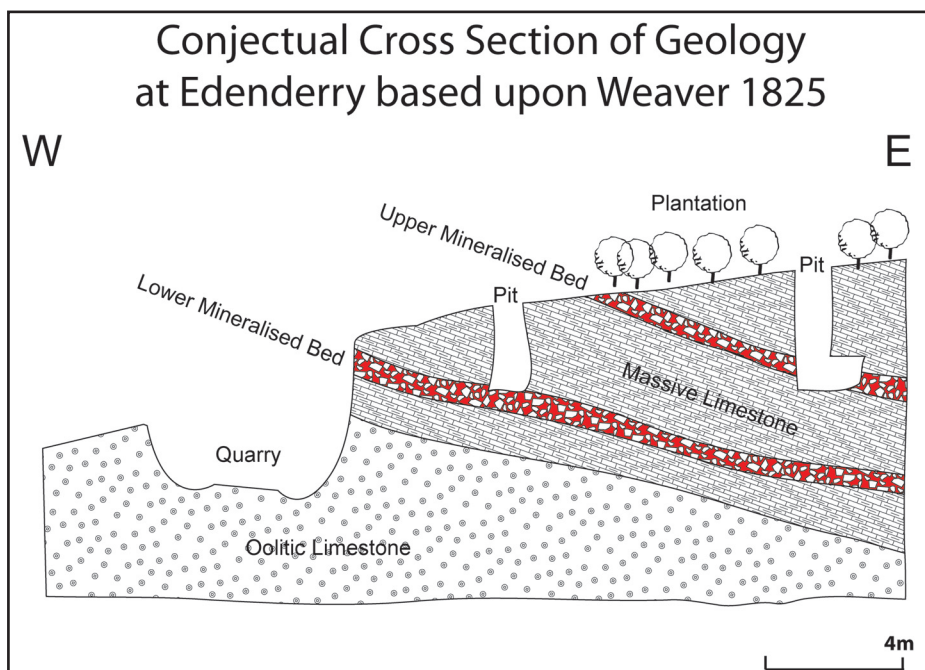
they were 'filled up again'. The Busbys ran into difficulties over the construction of some property in Dundrum and were forced to tender their resignation in 1812 (Wheeler 1997). The talented John Busby emigrated to New South Wales, Australia, in 1824 where he was employed as mineral surveyor and civil engineer to the colony and charged with the supervision of coal mining at Newcastle and devising an efficient water supply for Sydney (Walsh 1966).

The next reference we have to the Edenderry mines appear in Weaver's report to the Directors of the Hibernian Mining Company, dated Dublin 2nd September 1825 (MS 658, NLI). Weaver began this report pessimistically, stating that '... the present appearances are not sufficiently favourable to lay the foundation of an adventure on the part of the company'. He located the old workings on the western flank of Blundells' Hill, describing a quarry in the limestone. This extended between 30 and 40 fathoms (60-80 metres) from north to south, in which the strata ranged 20° NE and SW and dipped to the SE into the hill in a gently undulating manner at an angle of 20-25° in the line of direction. He then proceeded to describe the mine workings:

About 12 fathoms [24 metres] to the E of the Nn angle of the quarry a pit was sunk many years since; as was also a second pit situated near the Wn angle of the plantation distant from the first pit about 15 fathoms [30 metres] to the S, and from the heart of the adjacent part of the quarry about 6 fathoms to the E. These pits were reopened in the year 1806 by the Messrs. Busby... they have been again cleared out for my inspection by Mr. Thomas Murray, the present Marquis' Agent at Edenderry.

Weaver concluded that these two pits had been sunk on different beds but of analogous composition consisting chiefly of calcareous spar (calcite), brownspar (siderite) and magnesium limestone (dolomite). The pit in the plantation (most of the hill was wooded throughout the nineteenth century) was on an upper bed to the lower one near the northern end of the quarry, and he estimated the distance between the two beds as being about three fathoms (just under 5.5 metres) (Figure 4).

He also observed that the lower bed was visible through the whole face of the quarry which at its deepest part was comprised of a firm, solid strata of light grey limestone, which he determined was of an oolitic structure. Higher up in the quarry face, common bluish grey limestone appeared in the upper part of which was a bed comprised of irregularly mingled magnesium limestone, brownspar and calcareous spar. This bed was some two to three and four feet thick at its southern extremity, but at the northern end was considerably larger, extending to some eight to ten feet in thickness. The calcare-



**Figure 4. Geological cross section of the Blundell Mines as described by Thomas Weaver who inspected them in 1825.**

ous spar in one quarter formed a continuous layer for some extent, nine feet in thickness. He observed this to be composed of large columnar concretions disposed at right angles with the bed, adding that toward the northern extremity of the nearby quarry, the bed mostly consisted of this substance.

In this bed, more particularly in the calcareous spar, particles of galena may casually be observed extending from the size of a pea to that of a nut. They are however, of rare occurrence. Indications of copper also appear in the siliceous hydrate, green carbonate, and purple ore. But these are still more rare. They occur more especially in the brownspar or magnesium limestone including slight cavities. Hydrous oxide of iron may also be incidentally noticed, forming small spheridol concretions.

According to Weaver, it was on this bed that the north pit was sunk to about ten feet, but no discovery was made.

The pit in the plantation was sunk twenty feet plumb (over six metres), after passing through four feet of loose soil, and immediately struck a bed of calcareous limestone, brownspar and magnesium limestone from four to five feet thick, dipping to the east. This, Weaver noted, was in a parallel position to the bed in the quarry below on the west. He reported that this bed had been followed on the underlie to the east for three fathoms (six metres):

... and from this (at the distance of 7 feet 6 inches from the shaft) a cut has been made to the south in the bed 8 feet in length, while a similar cut has also extended that distance in the bed from the shaft itself. In this last mentioned excavation a few bits of interspersed galena were found, the largest of which did not exceed the size of a walnut. The other parts of the bed, where opened, appear altogether barren.

Weaver concluded, as did the Messrs. Busby before him, that it was evident that neither the pits he inspected nor the lower bed [in the quarry] 'afford sufficient encouragement for an extensive trial'. However, he ended his report cautiously, probably not wishing to offend the Marquis of Downshire who had become the President of the Hibernian Mining Company and therefore one of his paymasters, by condemning his mine as utterly worthless, stating:

... As, however, it is possible the hill may contain other beds of analogous composition, and of a more decided metalliferous character, I have advised Mr. Murray to make a transverse cut over the surface of the hill, on a line at right angles with the range of the beds, by which the question may be determined. This trial Mr. Murray proposes carrying into effect, and if it be attended with success, the subject may be again submitted to the consideration of the Board of Directors.

<sup>8</sup> Lord Downshire sank shafts for coal near Hillsborough at this time and planned to open a copper mine in his own park (*LM*, 1850). He was convinced of the efficacy of finding and mining coal around Carrickfergus, devoting much energy to this project.

## 'THE GREAT LEAD AND SILVER MINE BUBBLE'

It seems that the cautious and savvy 3rd Marquis of Downshire took Weaver's hint and decided against any reworking. His mine, like the hapless Hibernian Mining Company with which he was connected, faded from interest. It was not until after his death in 1845 that his son and successor (the 4th Marquis), the less risk-averse and charismatic Arthur Wills Blundell Sandys Trumbull Windsor Hill (1812-1868) the very opposite in character to his father, once more focused attention on the Blundell Mines (Figure 5). Ireland, just beginning to recover from the trauma of the famine years, witnessed the inception of numerous new mining ventures in the early- to mid-1850s (many of which turned out to be bubble companies) with the press remarking on the buoyant state of share prices for Irish mines quoted on the Dublin Stock Exchange (*MC* 1853).

The 4th Marquis, swept along in the speculative spirit of the time, set up the Trial Mining Company of Downshire to prospect for coal and metal mines on his land, which attracted a number of prominent and influential men from Northern Ireland as shareholders. <sup>8</sup> Quite the amateur geologist, in the company of various gentlemen of 'high professional character', the Marquis had toured several mining areas in England attempting to understand their stratifications in order to compare them to those on his Irish estates. He seemed to have had a genuine interest in, and ambitious plans for, developing the



**Figure 5.** Arthur Wills Blundell Sandys Trumbull Windsor Hill (1812-1868), the 4th Marquis of Downshire, who reopened the Blundell Mines, Edenderry, in the early 1850s. By kind permission of the Northern Ireland Office.

mineral resources of Ireland and brought over an experienced mining engineer from England named Edward Pickering, to serve as the chief engineer of this new company (BNL 1851).

Pickering, who had worked in mines in England, Wales and on the Continent, extensively surveyed the Downshire estates in various parts of the country, and, 'due entirely to the sagacity and perseverance of Lord Downshire himself' (DN 1852), several mines were opened and leased to companies to work them. This included Ireland's first salt mine at Duncrue near Carrickfergus in County Antrim, accidentally discovered in 1851 while sinking a shaft in the search for coal (Doyle 1853)<sup>9</sup>. The cost of this venture, which consumed significant capital, was borne entirely by Lord Downshire. He believed that the coal measures he had observed below the New Red Sandstone (Permian) formations in England were analogous to those he was convinced existed below the same rock formations near Carrickfergus, but his conclusion drew sneers of derision from some quarters (BNL 1852). Other discoveries included lead mines at Dundrum and Kilmegan in County Down. The Duncrue salt mine was leased by the Belfast Mining Company and Kilmegan by a company from Shropshire (BNL 1857; TS 1853).

It was during this period that the Marquis also launched the Blundell Silver and Lead Mine Company. In contrast to his indifferent and callous grandfather, the 2nd Marquis, he was noted for his benevolence towards the tenants of his various estates, especially during the Great Hunger, reputedly stating, 'I will stand by the people and attend to their wants [sic], even should I be obliged to mortgage part of my estates for that purpose' (LS 1917). He gave gifts of food, clothing and money to his tenants as well as those who were not and planned to revive the fortunes of Edenderry and district, just beginning to emerge from the shadow of the famine years, by stimulating industry.

The Blundell Silver and Lead Mine Company was set up with a capital not exceeding £5000 in £5 shares. Local people were encouraged to become shareholders and in total, over sixty locals bought shares, including MP O'Brien, Denis Fay and James Delaney, owner of a hotel in the town. Lord Downshire acted as director of the company, while his land agent, Thomas Richard Murray, was vice chairman. William Murray, Thomas' brother, became the company secretary and John Atkin acted as its solicitor, with Pickering appointed mine agent (BNL July 1851). It was reported at the second shareholder's meeting of the company held at Edenderry Town Hall in July 1851 that Lord Downshire:

... had for some time past worked the mine and has now handed it over, together with a quantity of valuable ore, to the company. The ground for the smelting, storehouses &c, has been marked out by his lordship and in a short time the work will be in full operation. The usual officers and committee were elected at the meeting, his lordship being unanimously appointed chairman.

The Marquis used the meeting to express the advantages of the mining development, 'both as regards the vast amount of labour it will afford to the neighbourhood, and the individual profits arising to the shareholders... there is every prospect of it becoming a very valuable concern' (BNL July 1851). In addition he directed where temporary houses were to be built for the miners. Valuable specimens of ore containing lead and silver were exhibited at the shareholder's meeting and a newspaper report of proceedings sounded a lofty and patriotic note: '... from the appearance that the ore now presents, it is likely to prove the utter fallacy of some recent statements in *The Times* newspaper, and to show that there are mines in Ireland capable of yielding as good an article as any in the sister kingdom when worked under judicious management' (FJ 1851).

Lord Downshire sent specimens of 'Edenderry Lead, from the Blundell mines', for inclusion at the prestigious Irish Industrial Exhibition held in Dublin in 1853 (Royal Dublin Society 1853). But the concern was short-lived and there is no record of any ore sales from this period. In 1860 it was reported that, 'a few years since an unproductive search for lead was made [in the beds of limestone at Church Hill in Edenderry] at a serious loss to the speculators' (Geological Survey of Ireland 1860, 15-16). The six-inch field survey slips (field copy) of the Geological Survey of Ireland dating from mid-1850s, depict three shafts to the immediate south of the church and a series of hatching along the margins of the limestone outcrop in a line running roughly NW to SW on the western side of the hill, with the accompanying note: 'Fruitless sinking made here by Lord Downshire for lead'. The venture was later condemned as 'the Great Lead and Silver Mining Bubble' (LL 1882). But that is arguably a rather harsh verdict that grew out of the political climate of the late nineteenth century.

## AN IGNOMINIOUS ENDING

During the period of prolonged rural agitation (Cogadh na Talún or Land War) of the latter decades of the 1800s, led by the Irish National Land League whose ultimate aim was a redistribution of land to tenants from landlords, especially absentee landlords, the failed mining venture of the 1850s was almost bound to rear its head. In the early 1880s disaffected locals directed their anger at absentee landlord and owner of almost 14,000 acres around Edenderry, the 5th Marquis of Downshire (who inherited the title after his father's death in 1868).

A 'correspondent' to the *Leinster Leader* attempted to whip up anti-landlord and anti-English sentiment by invoking memories of the failed Blundell Silver and Lead Mine Company. In an article heavily laced with sarcasm, a picture of English and, by inference, colonial exploitation is painted which is delivered in a manner that is nonetheless amusing. It is doubtful however, that the Downshires would have found it in the least bit entertaining, for it describes the 4th Marquis' mining venture in less than flattering terms:

It may perhaps surprise some of them [*the readers of the newspaper*] to learn that such a mine existed in the Bog

<sup>9</sup> The *Mining Journal* notes that Mr. Edward Pickering of the 'Duncrue Works' discovered this rich and extensive salt deposit that lay one mile from the port of Carrickfergus and eight miles north of Belfast (NC 1852). The irony is, of all Lord Downshire's mining ventures, the serendipitous discovery of salt and subsequent working of the deposit proved to be the only venture of any real and lasting worth.

of Allen, but we can assure them that it is a fact. The quiet little village was one day agreeably startled when it became known that a source of vast wealth, hitherto undreamed of, lay in its midst. What golden visions must have floated across the minds of its easy going denizens! Henceforth it was to be a veritable El Dorado, and its mine was to outrival the far famed Potosi.

The 4th Marquis was described as 'riding a mineral hobby' and his chief mining engineer was noted as the celebrated 'Pigging' (a highly suggestive cognomen). 'Lo!' exclaimed our ebullient correspondent,

... behind the church, there lay a vein of the richest lead and silver; and the only wonder was how such an easily discovered treasure could have remained hidden so long in the "bowels of the earth". The question now was, how was it to be worked? If much capital was expended, would the rental bear the strain?

The inference was that the 4th Marquis had deliberately hoodwinked and defrauded gullible local shareholders into investing in his venture. The £5 shares were to be paid, 'on allotment, and the remaining £2 after the first call should be exhausted'. As the 4th Marquis would:

... condescend to become its chairman, there was not a tenant who had any surplus cash laid by in the traditional stocking, but would be only too delighted to spend it in such an investment... need we add that, driven by the fear of increased rent, or notices to quit, they all rushed in to the treasurer and secretary with their savings.

The tone of the article then becomes darker, the correspondent suggesting that imported 'foreign' labour took the best paid positions at the Edenderry mine, and, echoing the painful contemporary discrimination faced by the Irish in England and America, conjured up the injurious phrase, 'no Irish need apply'. For, the correspondent claimed, 'what could they know of lead and silver finding; their vocation was to drudge for the gold to pay the rack-rent'.

A building was constructed at the church wall to receive the ore and foot after foot of the shaft was sunk for month after month without success:

... the sinking went on and hope sank in proportion until the tenants' vein of "tin" was worked out; then the bubble burst, and the golden vision faded away, leaving the shareholders sadder and wiser men. As there was no ore to smelt, the chairman [*Lord Downshire*] dissolved the company.

According to the correspondent, the final ignominy was 'the piece of plate that was purchased, and presented to the treasurer and secretary, as a memento of his exertions in keeping the accounts, and his diligence in giving notice to any who were backward in paying up their shares', adding wryly: 'It was a pity enough silver could not be obtained to make this article, it would have been a much more appropriate offering'. The article ended on a sour note:

Have not Messrs. Delaney and Fay, a moral, if not a legal claim, to the repayment of their money sunk in this swindle as a compensation for the late sale of their farms for half a-years rent? (*LL* 1882).

In 1887 the Blundell lead mines at Edenderry were noted by the Geological Survey of Ireland's senior geologist, G.H. Kinahan, as being 'worked out' (Kinahan 1886/7). There was no subsequent reopening. However, the failure of the Blundell Silver and Lead Mine Company left a simmering sense of injustice and resentment within the local community and came to be regarded as a taboo subject (Reilly 2011). Just what the 3rd Marquis would have thought of his son's mining speculations at Edenderry and elsewhere can only be imagined. The western slopes of the hill have been landscaped within the last twenty five years and knowledge of the mines had seemingly faded from local memory. Until recent events.

## 'OLD MEN'S WORKINGS': THE 2011 SITE SURVEY

As the hole that appeared in Blundell Park is in an area that has been subjected to landscaping in the late twentieth century, all evidence of the old quarries, mine shafts, shallow workings, spoil from the workings and any possible mineral processing areas, smelt sites, or footprints of buildings appear to have been obliterated, although sub-surface archaeology in addition to that we inspected might conceivably survive. Indeed, the area has witnessed previous subsidence, and during the course of our site investigation several locals related to us how a suspected shaft had opened in about 1985 close to the present collapse and very close to the church wall. One recalled seeing a brick or stone lined structure around a metre square and another remembers someone entering a tunnel with a stone lined archway and walking underground for some 40-50 feet. Although these accounts cannot be verified, they serve to illustrate the possible presence of other workings in the immediate area. Ground penetrating radar would certainly highlight any sub-surface anomalies.

The current shaft collapse was in the centre of a tarmac pedestrian pathway which crosses managed grass parkland about 30-40 metres west of Castropetre Church. The opening in the tarmac was about 1 metre circular in diameter but was undercut all around for about 50 centimetres to the sides of the shaft below (Figure 6). The shaft itself was square cut to a depth in excess of 4 metres deep, driven to intersect a limestone bed below, with what appeared to be the remains of stone collaring on the NW side and with fragments of stone-lining to a depth of just under 1 metre holding back the soil cover on the SE side. The original dimensions of the shaft were impossible to determine with any degree of accuracy, due to part of the NW wall having collapsed, but we surmise it would have been about 1-1.5 metres square. A modern water mains pipe was encountered cutting across the shaft about 1 metre below the surface; it is surprising that the shaft was not found when this pipe was laid in about 1969.

At the bottom of the shaft we could just see the entrance to a level that led off to the NE on a bearing of 034 degrees. Some digging (impeded by the need to remove numerous traffic cones

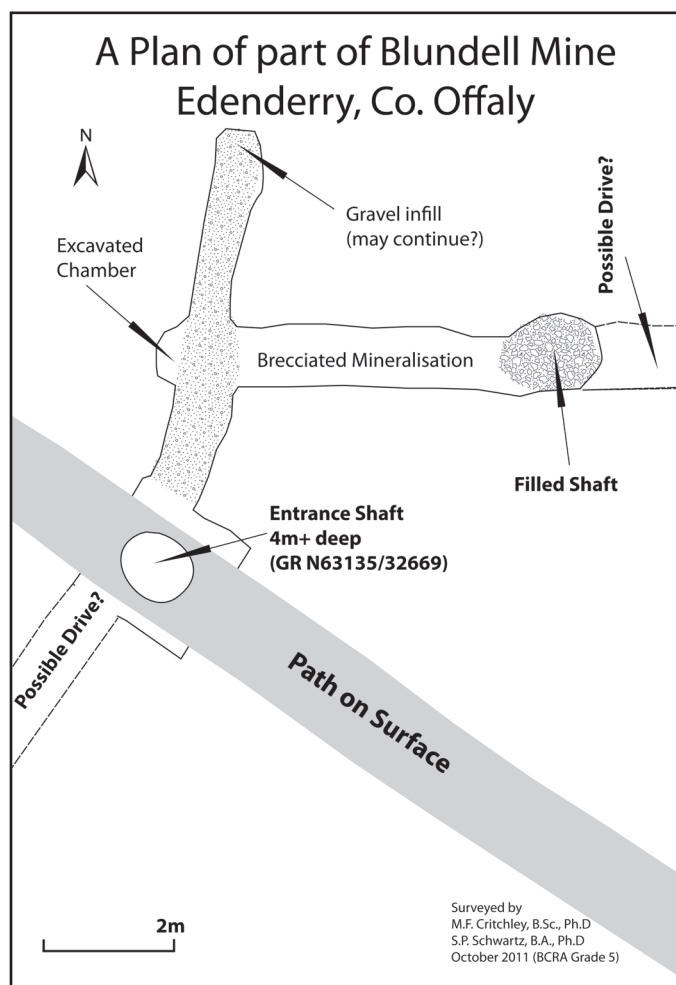


**Figure 6.** Martin Critchley descending the hole that appeared in a pathway in Blundell Park in late September, 2011. Photograph, S.P. Schwartz.

which had been thrown into the shaft since the collapse) was necessary to gain access to it. The bottom of the shaft was not revealed during digging and at least three traffic cones remained stuck fast in clayey soil and boulders suggesting that it was at least another 1-2 metres deeper. We deduced that the shaft had been covered over perhaps only 1 metre or so below the surface prior to the collapse, which is why it was not discovered when the water main was emplaced. Typical methods of covering old shafts in the past would have been with rocks placed upon timbers or a circular 'beehive' of rocks over the shaft collar. Due to the amount of debris in the shaft, we did not see any evidence of such timbers.

Entry to the level at the bottom of the shaft was hampered by low oxygen levels, detected using a gas meter, and concern about a possible incline shaft immediately inside the level. Offaly County Council brought in a 4-wheeled remote controlled camera to inspect the extent of the workings before we considered it safe to enter. With the workings beginning to vent, we judged that the oxygen levels (18.5 per cent) were acceptable for a short stay and conducted a brief survey (Figure 7).

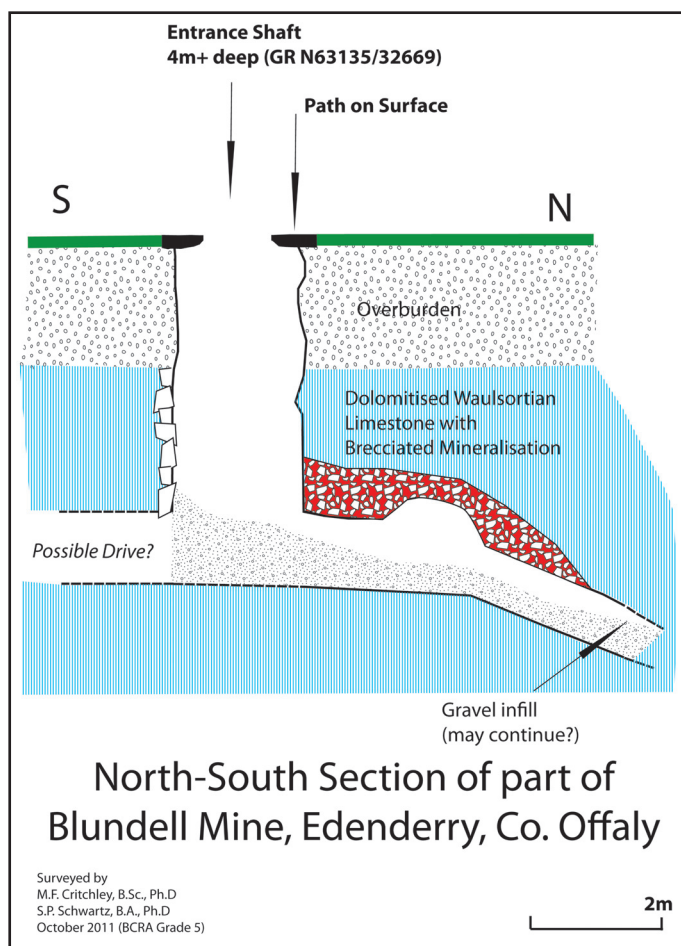
The entrance level from the shaft was 2 metres long, sloping down at a 30 degree angle and was choked with soil and gravel resulting in a roof opening of only about 30 centimetres at the start. It led into a small chamber in brecciated limestone 1.3



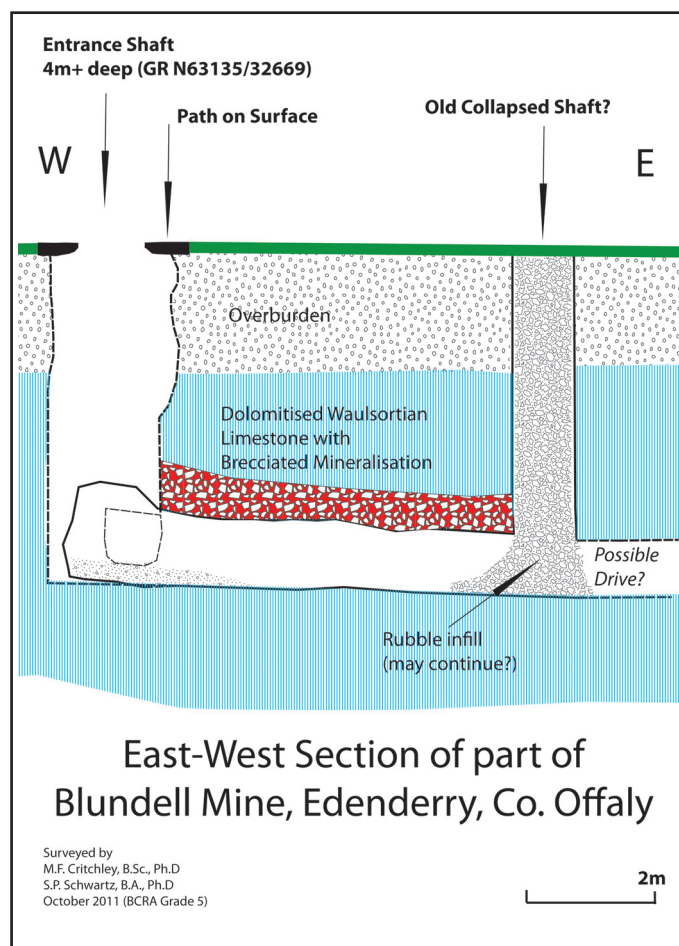
**Figure 7.** Survey plan of part of Blundell Mine, Edenderry, Co. Offaly.

metres in height and 1.7 metres in width (Figure 8). There were abundant brown coarse calcite crystals in the breccia matrix with some indication of sphalerite but no immediate signs of lead minerals (Figure 9). In addition there is sub-horizontal calcite veining which appears to be contemporaneous with the brecciation and follows the bedding dipping about 20 degrees to the SE. A 5.5 metres long horizontal branch level from the chamber to the east on a bearing of 090 degrees, terminated at a rock fall with unstable boulders interspersed with fragments of rotten wood (Figure 10). The location of this corresponds to the position of the shaft (possibly originally driven to provide air to the workings) that locals claim collapsed on the surface about 25 years ago and was in-filled. Pieces of plastic in the rubble of this rock fall would seem to confirm this as being a modern collapse (Figure 11).

A second branch level sloping downwards from the chamber to the north running for at least 3 metres on a bearing of 010 degrees, terminates where the debris from the main shaft collapse and gravel in-wash fills the passage to the roof. Due to time constraints and declining oxygen levels we were unable to determine if the passage continued past this point, as considerable digging would have been required to remove the gravel. The possibility of a level heading south west from the entrance shaft towards the site of the old quarries cannot be dismissed, but soil and rock obscured this side of the shaft. The continua-



**Figure 8. North-South section of workings.**



**Figure 10. East-West section of workings.**



**Figure 9. Brown coarse calcite crystals in the breccia matrix with some indication of sphalerite, but no immediate signs of lead minerals, were observed in the workings.**  
Photograph, M.F. Critchley

tion of the entrance shaft below the level accessed is also a possibility, but again this could not be confirmed due to the presence of debris that had fallen into the shaft.

There is a high probability of these 'old men's workings' dating from the eighteenth century as we only saw evidence of the use of hand tools (pick marks), no obvious drill holes or signs of blasting and no signs of mechanisation (Figure 12). Fragments of vegetation and tiny snail shells adhering to the roof of the



**Figure 11. Martin Critchley next to the rubble at the bottom of a shaft that collapsed in 1985.** Photograph, S.P. Schwartz.

chamber would suggest that at some time the workings have been completely flooded with water. The lack of standing water in the workings accessed could suggest drainage by deeper workings but is more likely to result from the porous nature of the limestone rock. The evidence of flooding suggests that the water table fluctuates, periodically inundating the workings and this would certainly have caused problems when they were in production. Interestingly, the workings that we accessed do not appear to correspond to the description of those inspected by



**Figure 12.** Pick marks were evident in numerous places on the walls of the drives, leading us to conclude that these workings were probably hand driven in the eighteenth century. Photograph, M.F. Critchley.

Weaver in 1825, further strengthening the conclusion of additional workings in the immediate area. Following our site investigation it is understood that the mine shaft was sealed by tipping hardcore into it.

## CONCLUSIONS

The breccia style of mineralisation as found at Edenderry consists of clasts of the host rock (limestone) with a cement of calcite and occasional coatings of galena (lead ore) or sphalerite (zinc ore) with pyrite (iron sulphide). The best way to mine an ore body of this type is by underground pillar and stall methods or by opencast mining; indeed, the 'quarries' on the western side of the hill might well have become opencast mine workings. In breccia style mineralisation there may be very rich 'pockets' of ore that would give false indications as to the richness of the overall deposit. Typically, the overall ore grade is likely to be low as it is distributed over a large ore body; picking away at random pockets of this is not a commercially viable undertaking, a fact that was probably well understood by the Busby brothers and Thomas Weaver. But not necessarily the mid-eighteenth century operators. They followed the mineralised bed close to the visible outcrop in the northern quarry face, via a series of shallow shafts or pits with short cuts leading off, seeking 'prills' (rich lumps) of ore with pick and gad (a pointed wedge). The mines were never likely to have been more than small scale enterprises wrought cheaply by a small labour force using minimal equipment (perhaps not even as much as a windlass to raise the ore and waste rock). They might have been worked on a seasonal basis only. It is even likely that the richest and easily accessible 'pockets' of ore had been mined out on the western side of the hill at Edenderry in the eighteenth century.

Certainly, the 4th Marquis of Downshire and the shareholders in his mid-nineteenth century company would have been familiar with the more typical lode (vein) style mineralisation, in which the ore is found in vertical or sub-vertical fractures or faults in the rocks and extracted using shafts and galleries that follow the depth and strike of the fracture. They were to be sorely disappointed if they hoped to find this type of minerali-

sation at Edenderry. Ultimately, they were swept up in a mining venture that was ill conceived but appears to have been floated without any deliberate intention to defraud local shareholders who, according to reports at the time of the company's inception, never took up more than six per cent of the available shares (realising a sum of around £300). Those that did perhaps misunderstood the nature of mining speculation. Significant sums of money can be expended relatively quickly in developing a mineral property, but there is never a certain return on one's investment if viable ore is not discovered or mineral prices suddenly collapse. Sadly for the local shareholders, and the well-intentioned if somewhat naive 4th Marquis of Downshire, they invested unwisely in a venture that was never to realise the much hyped and hoped for riches trumpeted so loudly in the mid-nineteenth century press.

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