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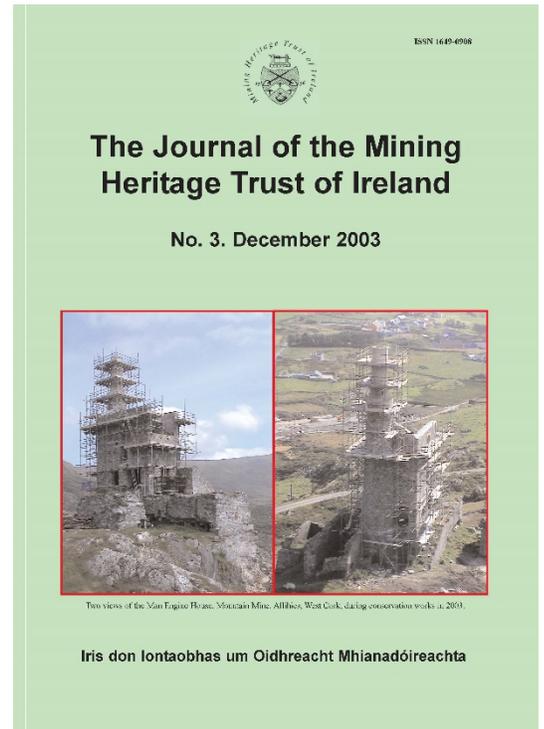
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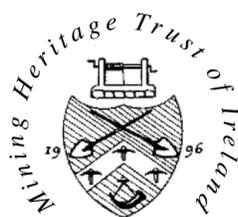
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## MEMORIES OF 1960-'70S EXPLORATION AND THE FOUNDING OF THE IAEG

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**Abstract:** The modern phase of metal mining began in the early 1960s. Dave Naylor and Jeff Sample recall aspects of the exploration phases including the build-up of geological expertise. The Tara discovery and Bula controversy galvanised these geologists into setting up the Irish Association for Economic Geology as recounted by its founder, Jeff Sample and first president, Jim Patterson. *Journal of the Mining Heritage Trust of Ireland*, 3, 2003, 60-62.

### TYNAGH MEMORIES

In 1961 I was a Ph.D. student at T.C.D., and early the following year joined the staff as a lecturer in the Department of Geology. I had returned to university after working for Anglo American in South Africa and Namibia. There were few geologists in Ireland at that time - the university departments were small, the Geological Survey had a staff of four, and mining activity was at a low level. In the autumn of 1961 news began to trickle through of a mineral discovery at Tynagh in County Galway. Small Canadian mineral companies and consultants were beginning to show interest in Ireland. Two of the companies were Northgate (operated by Pat Hughes and his Irish colleagues) and Augustus Mines. These companies had agreed an information-sharing arrangement. The part-time representative for Augustus in Ireland was a Scot called Pete Matthews (who sadly passed away in Edinburgh in 2002). Pete was a mature post-graduate in T.C.D. who had worked as a geological consultant for the United Nations in South America and had a vivacious South American wife Yara. Immediately before coming to T.C.D. Pete had worked at Allihies during the dewatering of the mine by Can-Erin Mines Ltd. of Toronto, and his subsequent M.Sc. thesis was on the mineralogy of the Allihies mine. He returned to South America and the U.N. after completing his degree.

There was considerable scepticism in Dublin about the County Galway discovery. The notion of Ireland as a country low in natural resource had been perpetuated in the schools. A friend enquiring about Northgate share purchase was told by his broker that the discovery was 'a Galway barman's dream'. However, Pete Matthews wanted to check out the facts under the agreement with Northgate and dispatched me, as the only geologist immediately around with any mining company experience, to report on the drilling that was taking place. So it was that I arrived in Tynagh early in December 1961. The only building on the site was a substantial new wooden shack, which served as office and coffee shop. Three rigs were operating on the flat bleak field outside. There was no mineral drilling expertise in Ireland at that time and the drillers had mostly been imported from Canada. Over coffee there were exotic tales of daring-do around Yellowknife and those parts. Outside, the climate tried to live up to the tales, with freezing temperatures.

The core was stored on racks in the open and for several days, dressed in all the cloth I could muster, I logged the T1 -T3 core-holes. These were angled holes which had been drilled north

and south of the proposed line of the Tynagh Fault, in an attempt to intersect the fault plane. Unfortunately there had been little recovery through the residual ore zone. Nevertheless, with the benefit of the original geochemical surveys that had identified the prospect, IP & EM surveys, and the assay results from a reputable UK (Liverpool) company, it was not difficult to see that a substantial discovery had been made. At this time the geochemical and geophysical surveys covered only a strike length of about 1200m along the Tynagh Fault. Prior to the drilling, several pits were dug in the centre of the anomaly and revealed mineralized black mud beneath the drift. Churn drilling was then used to obtain samples through the black mud and decomposed mineralized limestone zone, some 30-50m thick. This was then followed by diamond drilling of the underlying bedrock. In my report to Augustus Mines I gave reasonably assured reserves of two million tons with 16% Pb and variable Ag, Zn and Cu, with further possible reserves of six to eight million tons within the defined geochemical/geophysical anomaly. My fee for doing the work and writing the report was £40 (which I put towards the cost of an engagement ring), with expenses of £9-12-10d!

Whatever the reluctance in Dublin and London, the Canadian industry was not slow to wake up to the significance of the developing story at Tynagh. Members of Duncan Derry and Associates, employed by Northgate as consultants, were regular visitors. The Shannon flight also brought a steady stream of company representatives and consultants, and Northgate were free with their hospitality and information. It was not lost on the visitors that geological situations analogous to the Tynagh Fault were to be found elsewhere in the Irish Midlands, and this was the beginning of the recognition of Ireland as a serious base-metal province. The following summer I found myself leading a pick-up team of geologist friends with industry experience, students and prospectors from Canada, working along the extension of the Tynagh Fault, carrying out mapping for Augustus Mines. The prospectors, I remember, were delighted to be living in civilized parts for the summer (Hayden's in Ballinasloe, even if we cooked our own early breakfast), and to find that kind farmers had piled up the 'float' in the form of dry stone walls, for inspection.

In one of those twists, common in geological circles, many years later I ended up working for Pat Hughes and Northgate.

**Dave Naylor**

## AN AMERICAN GEOLOGIST IN IRELAND

From the mid-1960s I worked for ASARCO (American Smelting and Refining Company) based in London. The company had a number of mineral licences in Ireland and I was sent here in 1968 along with Rod Sprague and two geologists, Howard Wigget and Cecil von Hahn. We drove from Dublin to our base at Coolcronan House in the wilds (as it seemed to me) of Mayo. Coming from the New World, I was struck by the antiquity of the countryside and began to take an interest in it.

I conducted surveys on the company's leaseholds in Mayo, Waterford, Clare, Louth, Meath and Monaghan as well as in various locations in the North of Ireland. Our exploration consisted of collecting soil samples every 400 feet along a widely spaced grid of lines 1600 feet apart for miles over the licence area. We had the soils analysed for copper, lead and zinc and wherever we found anomalies, we went back to search for metallic minerals in the bedrock. In many cases we found significant mineralization in the in the stone field boundaries.

I left in November 1968 but returned to Ireland the following summer as we had acquired additional prospecting licences and intended to do extensive geophysical surveys. Our expert was Frank Blackham who arrived from Salt Lake City along with his wife, Jean. She became a sort of den-mother to the Irish lads on the field crew. Frank, of good Mormon stock, quickly discovered the delights of Irish pub life!

In August 1969 I met Maureen Clery in Limerick City: that December we married. After a while we found a bungalow to rent overlooking Loch Conn and Nephin Mountain but on my appointment as exploration manager for ASARCO in 1970 we moved to establish a new base at Keel in county Longford. We rented a bungalow near Castleforbes which I subsequently discovered had been owned by the Semple family from Scotland - my ancestors!

We did a considerable amount of diamond drilling around Keel. We also carried out exploration in other parts of Ireland from offices in Dublin and Omagh. I had several geologists working for me full time. They included Dave Toft, Frank O'Grady, Roger Hinton, Brian Kern, Ed Yarrow, Fran McLaughlin, Terry Walker and Dennis Jeffery.

During the 1970's there was a considerable amount of sectarian strife in Northern Ireland and the troubles spilled over into the Republic. It was particularly dangerous to have to travel back and forth across the border to supervise the exploration work in Northern Ireland. It was common to be stopped on the highway and be held at gun-point while the British soldiers or the police or the para-military groups searched your car for guns and explosives. Despite this, we had a great social life in Ireland. We visited my staff and their families and went to ballad sessions in the local pubs on the weekends. ASARCO held prospecting licences in County Limerick so we travelled to Limerick on a regular basis and stayed with Maureen's family.

In the early 1970's Tara Mines Ltd discovered one of the largest zinc-lead deposits in the world at Navan in County Meath. Tara was a small company with limited financial resources and the find attracted a series of take-over bids and attempts at claim-

jumping. Eventually Bula Mines Ltd purchased some of the surface rights and tried to take possession of the underlying ore-body. They challenged ownership of the ore-body on the grounds that the issuing of prospecting licences over private lands was 'unconstitutional'. Several lawsuits were filed and the legal dispute left all exploration in Ireland in a state of limbo. ASARCO suspended all drilling operations pending resolution of the legal problems and the other companies put their exploration programs on hold.

In 1973, in an attempt to get the Irish government to resolve the problems, I called representatives from several different mining companies to a meeting in the Prince of Wales Hotel in Athlone. Approximately ten geologists attended but only a few of them had permission to bargain with the government on behalf of their companies. Andy Meldrum of Northgate was not allowed to negotiate on behalf of his company and suggested that what we really needed was an organisation of professional geo-scientists to act on our behalf to protect our jobs and get exploration started again.

I called another meeting a few weeks later and we eventually held a founding convention to form the Irish Association for Economic Geology. We established a mandate to act on behalf of our members to support and promote the practice of economic geology. We established a governing council to take care of the day-to-day operations of the organisation. I was nominated to be the first president of the IAEG but I declined because I felt that the president should be an Irish citizen. Dr. Jim Patterson was nominated and elected in my place. In addition to Jim and myself the other council members were: Eamonn Grennan, Andy Meldrum, Cameron Davies, John Evans, Don Sheridan, Viv Byrne, Don Burns and David Smith.

We immediately set out to publicise our cause in the newspapers and on national radio and TV. We didn't receive much support from the coalition government of Fine Gael and Labour but we fought hard and the tide of public opinion finally turned in our favour. I would like to think that our efforts contributed to the eventual defeat of the coalition! In any event, the legislation was eventually revised to re-confirm the validity of the state-issued prospecting licences and guarantees were given that the holder of a prospecting licence covering private lands would have the right of first refusal to ownership of any ore-bodies discovered under those lands.

From the very beginning the IAEG was also used to promote and improve the technical and professional practice of economic geo-science. We drew up a code of ethics and held technical seminars and short courses. In recent years the association has been the lead organization in establishing a code of standards throughout all of Europe and the establishment of the professional title of Euro-Geologist. In 1996 the IAEG held a membership of 282 members worldwide including eighteen corporate members. In conjunction with the Society of Economic Geologists, the association hosted a major conference and field tour on Irish lead -zinc deposits. Irish geologists who are members of the IAEG are working on exploration projects all over the world.

Between 1970 and 1975 I spent most of my time in Ireland but

visited the London office on a regular basis and often took Maureen to London with me. I also attended conferences and field trips in various other countries in Europe. ASARCO had a joint venture with Metallgesellschaft in Ireland and I was sent to Germany to visit their Meggen mine. During 1973 I did some exploration work along the border between England and Scotland and examined some fluorite mines in Yorkshire. In 1974 I attended a United Nations sponsored conference on atomic energy and uranium ore deposits in Athens, Greece. After the conference I continued on to Cyprus to visit a number of copper mines and a chromite mine. I returned to Ireland just a few weeks before the Turks invaded Cyprus.

At the beginning of 1975 John Collins, ASARCO vice-president of exploration, decided to transfer me to the United States. I had gained considerable experience exploring for lead and zinc in Ireland so he decided to apply my expertise on the Mississippi Valley type deposits of the mid-continent USA. Thus ended my exploration work in Ireland.

**Jeff Sample**

## **IAEG - CONCEPTION TO DELIVERY**

One of the developments having the widest impact on the Irish mining industry during the past 50 years must be the formation of the Irish Association For Economic Geology. This organization, now recognized internationally, stands out in the evolution of the industry for several reasons. Whereas the world-class mineral discoveries made in Ireland since the 'return of the wild geese' in the late 50s were made by individuals or relatively small teams within a small number of companies, the IAEG membership involves the majority of individuals involved in the industry. Membership covers the entire spectrum from government, through academia to industry and representatives from each sector have actively participated in the functioning of the organisation. Viewed today the IAEG is seen as a successful organisation that operates efficiently and effectively. How did we get here from there?

The 'there' in the preceding paragraph refers to the early 1970s when a combination of events led to serious questions about the role and future of the mining industry in Ireland. The discovery of the Tara deposit at Navan in the autumn of 1970 was regarded by many as the end of a drought. Those in the industry had seen declining levels of activity prior to that and the perception was that 'all the mines had been found'. However, I had presented my Ph.D. thesis at London University earlier that year and had postulated further discoveries based on the concept of Ireland as a Metallogenetic Province. My external examiner promised to buy me a beer when 'all these new discoveries are made!' Following the Navan discovery, the subsequent Bula claim jumping and the emergence of the Resources Protection Campaign, individuals in the industry sought an organization to represent them in order to provide some balance to the emerging debate. The Irish Mining and Quarrying Society, to which many mining personnel belonged, declined to get involved.

Individuals decided that there must be an organisation which was prepared to stand up and be counted in the forthcoming debate and to present a balanced view of the industry and its role in the Irish economy. Of equal importance was the fact that the new organisation would not be a representative of the com-

panies but rather would represent individuals. The very name of the organization caused considerable debate. The 'Irish Association ---' part of the name was easy. Should it be 'for Economic Geology' or 'of Economic Geology'? A decision was finally made.

Organisational meetings were held in August and September of 1973 and officers were elected on September 25th at a meeting in Dublin. This was an auspicious date as on that very same day the government withdrew the 20 year tax free period and cast a shadow over the future of Irish mining. During the next two months at least nine meetings were held in Tullamore, Portlaoise, Athlone and Dublin in order to develop coherent arguments in favour of the industry and its individuals. The geographic spread was deliberate as we felt that the IAEG should not be a Dublin-based organisation but rather reflect the national nature of the business by moving around the country. The pace continued in 1974 with thirteen meetings, including two field trips to Navan and Co. Sligo, in the first seven months. In addition our committee members developed a range of organisational, administrative and presentational skills.

The closure of Tara on August 16th marked the beginning of a more hectic pace. During the next two months we issued news releases, talked to Chambers of Commerce, met with senior government personnel, met with the general secretary of the ITGWU and presented our views in what we considered a most balanced and unemotional manner. During these exciting days we all did our normal jobs in addition to our efforts for the IAEG. We were a true 'flying squad' responding to situations whenever and wherever required. We developed a sense of camaraderie and all felt that the effort was worthwhile. I suppose history will judge if we really impacted on the outcome or if we were deluding ourselves?

We saw ourselves as the 'young turks' of new Irish mining industry and felt that we were actually contributing something. This perception was rudely brought very much down to earth at the first AGM held in the Shamrock Lodge Hotel in Athlone on December 11th, 1974. Yours truly, who is very proud to have been the first President of the IAEG, opened the meeting up to any other business following the routine part. A young geologist stood up at the back and asked 'when are the younger geologists going to be given a chance to get involved?' I blurted out 'I thought WE were the younger people!'

What has the IAEG achieved? Directly growing out of it was IMEG (within the Confederation of Irish Industry) and which evolved from being the Irish Mineral Exploration Group to become the Irish Mining and Exploration Group. The IAEG is respected internationally and has published the 'Green and Blue Books' which have become the bible of Irish mineral deposits. The organisation from the very early days of field trips, annual courses, international meetings and lectures and presentations has fulfilled the vision and dreams of the early pioneers of the group. The achievements of the IAEG over the past 26 years and the continuing health of the organization attest to the fact that the 'younger geologists' have certainly risen to the challenge. Little did we 'old fogies' anticipate how our efforts would be so handsomely rewarded.

**James M. Patterson**