

WEIR QUAY and HOLES HOLE

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PART I — An Historical Record

With the designation of the Weir Quay coastal strip as a Conservation Area in summer 1990, it seems appropriate that some historical record be set down before all traces of the past — and memories — fade.

Weir Quay and Holes Hole were always the main ports for Bere Alston at a time when rivers, not roads, were the commercial highways. Bere Alston was granted a market in 1295 and the two churches in the parish were of similar date — St. Andrews in Bere Ferrers c 1250 and Holy Trinity in Bere Alston c 1350. The importance of river ports was crucial to both villages until the coming of the railway around 1890. Quite apart from its natural growth as an agricultural area with an equable climate, two silver-lead lodes running due north to south have been exploited since very earliest times.

In 1295, King Edward I impressed miners from Derbyshire and Wales to work these lodes and in 1305 he took over "South Mine, Middle Mine, Fershull (Furzehill) and the 'Old Mine' ". By 1453 six pits were being worked. Initially water was a problem and the mines could only be worked in summer, but in 1297 the Crown imported the best miners from Europe (from the Hartz Mountains). They developed the practice of driving horizontal adits from river level along the lodes so that all workings could be drained downwards and year-round mining became possible. Their pumping equipment limited their attempts to mine deeper and by 1500 mining activity virtually ceased.

Sir John Maynard, who bought the Borough of Bere Alston in 1640, attempted revival but with little success, and it was not until the end of the 18th Century that underground mining recommenced. South Hooe was reopened in 1785 and by 1809 most mines were working with pumping and hauling engines.

The two silver-lead lodes on the western edge of the parish are shown on the accompanying map. The westernmost lode was exploited at South Hooe, North Hooe and Ward Mines; while the easterly lode was mined at South Tamar, Furzehill, Lockeridge and Buttspill. The two most prolific mines were South Hooe and South Tamar. A feature of both these lodes was that the proportion of silver to lead diminished steadily with increasing depth. Since the mining in this area has been comprehensively described by Booker in his "*Industrial Archaeology of the Tamar Valley*" this record

will make little reference to mining activities except where they affected the local scene. Details of smelting operations at Weir Quay are described in Part II, with the advantage of access to working records not previously published. Sectional plans and output records of the two major mines are also included, chiefly to show the scale of mining operations in the search for precious metals.

The major changes to Weir Quay and Holes Hole have been well documented by successive maps published between 1809 and 1987 and they have been used as a basis for this local history. Parts of this area have been examined recently by a dowser and his findings confirm the existence of features no longer visible. He has also suggested traces of much earlier occupation.

Starting with Holes Hole and walking southwards we find all is now green and peaceful with only the rattling of steel cables against aluminium masts to disturb the peace. However, 150 years ago this riverside was seething with mining and smelting work over and above its normal traffic. South Hooe mine (just beyond the area under review) employed over 200 men. Weir Quay smelters required 80 to 90 workers. South Tamar Consols needed 150 workers to mine its extensive below-river workings. To the sizeable farming community was added the captains and crews of vessels of all sizes from ocean-going to river barges, as well as the crews and passengers of the river steamers. In total, Weir Quay and Holes Hole must have had some 500 workers regularly employed. In addition to the smoke from 7 steam engines at South Hooe, the many furnaces of the Weir Quay and Union Smelting Works (the "Jam Factory"), a chimney above Gullytown and three at South Tamar Mine, coupled with the fumes from at least three lime-kilns, the air must have been heavily polluted and the consumption of Welsh coal and coke phenomenal.

Hole's Hole

The spelling of Hole's Hole has changed over the centuries — the earliest written mention of it is HOLESAWLE in 1613 when there were several small dwellings here. They had fresh water from the Hewton stream as well as from an underground chamber in the field above. In the last century two of the dwellings were rebuilt as the existing Victorian house, almost certainly by the Earl of Mount Edgecumbe, Lord of the Manor of Bere Ferrers. It became a public house — the Bootown Arms — with bedrooms to let for visiting travellers and engineers.

In 1850 it was known as the Holes Hole Inn, occupied by Henry Caunter (Kellys Directory). In 1860 it was the Cross Oars with Paskeo James as

Victualler. By 1866 it was the Tamar Hotel under James Cantrell. In 1893 William Gill was proprietor. It was closed in 1903 and the property divided into two dwellings. Mr. and Mrs. Rogers occupied Tamar View and continued to accept visitors. Gable End was occupied by John Richards, basketmaker who, when his wife died, moved in with his daughter at Gullytown while continuing his trade at Hole's Hole. The building which he used for basketmaking, whilst probably built as a school was earlier used as a catering pavilion for teas offered to steamer passengers on trips from Plymouth — many of whom picnicked in the cherry orchards below Hewton. Hole's Hole Cherry Garden was occupied in 1860 by William Cudlip.

John Richards, the basketmaker, used to buy his withies once annually, possibly from Tamerton Foliot, and he stored them in a water filled pit (lined with rammed clay to make it watertight) in the gully alongside the public house. The withies remained soft and supple in the water so the bark could be easily stripped. By 1893 Alfred Jago had replaced John Richards and he remained in business until after the 1939 census. In 1850 Richard Cudlip was recorded as Market Boat Owner and in 1890 Samuel Ball had a carrier's business at Hole's Hole.

The old ship "Merganser" has been a familiar landmark on the beach for many years. She was built at Poole in 1889 as a racing yacht, converted to a fishing trawler in 1913, sold to a doctor in 1923 and berthed at Bere Ferrers for use as a T.B. clinic, later purchased by the then owner of Watermans (the old public house) beached and used as a houseboat for 60 years or so. A restoration in 1972 costing £15,000 did not prevent her continuing decay. Rotting timbers in her stern and the need to deter squatters necessitated her partial demolition, so a familiar old landmark is now passing into history.

The Foreshore There is considerable evidence of 18th and 19th Century activity between Hole's Hole and South Hooe. A tidal road was constructed as far as South Hooe for miners, and waggons. It was embanked in places to prevent erosion and in one place it was cut through a protruding rock outcrop. There is evidence of a loading jetty below South Hooe and in one place a rocky outcrop is deeply cut with the imprints of many feet over many years — it is known as "footprint rock".

There is a large excavation above the cliff line whence many tons of stone must have been quarried. Booker, in *Tamar Journal No. 2*, records two slate quarries in the Tamar valley near Bere Ferrers. The quarry at Liphill is well known, though now being filled with rubbish, the other named "Hassall" he was unable to trace. Slate from both quarries was

exported in 1296 to Lopwell and further downstream. Since a quarry with export potential had to be near the water's edge in those days, it would seem that this might be the second quarry. HASSALL, HOLESAWLE and HOLE'S HOLE are possible derivations of the same name. This quarry, known locally as Undercliff Quarry, was abandoned early this century and is now totally overgrown. The last quarryman died about 1930.

An adit at high tide level, reputed to run in for about a ¼ mile, probably drained South Hooe's mine workings. There are many rock piles against the cliff edge. These, known as "salmon gardens", were built by salmon fishermen clearing rocks from parts of the beach used for hauling their nets. Higher up these cliffs real gardens of early daffodils were tended for many years by local people. Now deserted and overgrown by trees and scrub, these old gardens still splash the cliffside with colour every spring.

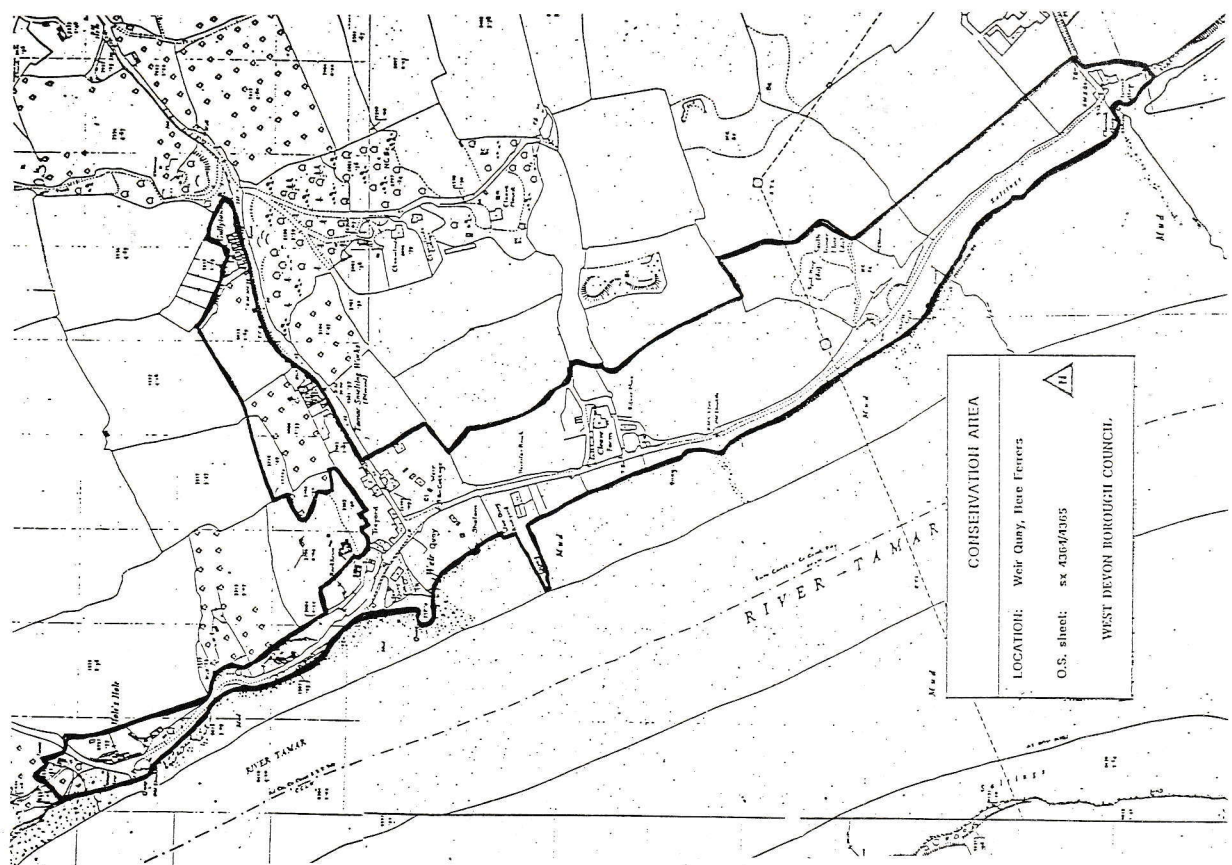
The Quay at Hole's Hole was the market quay for Bere Alston with a good depth of water and, before the quay was built, a clean, shelving beach. Here it was that the market boats, passenger paddle steamers and the "Dock Dung Barge" tied up. From 1850 onwards there was a market boat to Devonport on Tuesdays, Thursdays and Saturdays at 8 a.m. After the Saltash Steamboat Company failed the local farmers collectively purchased a motor boat for their own produce which plied from Cotehele downstream for some years until its owners found motors to be more convenient in the early 1920s. There is a lime kiln built into the cliff beside the quay.

From Hole's Hole to Weir Quay the road passes the end of a large gully, with a small beach. A Well, cut into the rock on the roadside has long been used as a source of good drinking water by all the dwellers nearby. Dowsing here suggests that, before the Reformation, there was a small chapel (about 17ft x 9ft) on the hillside above it — manned by two priests in rotation from Buckland Abbey. Nothing above ground now remains. In the 1920s the local council piped water from the well, via a pump near Tidereach's boundary, to the neighbouring cottages.

These cottages do not appear on the 1844 Tithe Map even though Beach Cottage has the date 1648 on its end wall. All are marked on the 1889 O.S. Map as is the lime kiln above Weir Quay.

Weir Quay. This is a very ancient landing place with a clean beach. Dowsing gives the earliest quay a date of 1260 A.D. The present quay was built over the older one and was enlarged to serve the smelting works — for coal, lime and ore imports and processed metal exports. Its proper name is WARE QUAY.

The 1844 Tithe Map marks a dock projecting inland nearly to the



present road. This dock was constructed to take sea-going vessels of 400 tons (Booker). Adjoining the dock on the southern side was a large rectangular building used as a store for ships' supplies from ropes to dried foods. The outlines of both constructions can be traced by dowsing.

Over the years the shoreline has been built out very considerably between the quay and as far as Cleave Quay with only the sunken area of the crab-pond as an inshore feature. The crab-pond has now disappeared beneath Weir Quay Boatyard. The 1889 map shows a series of mooring posts erected along the quay wall, several of which are still in place.

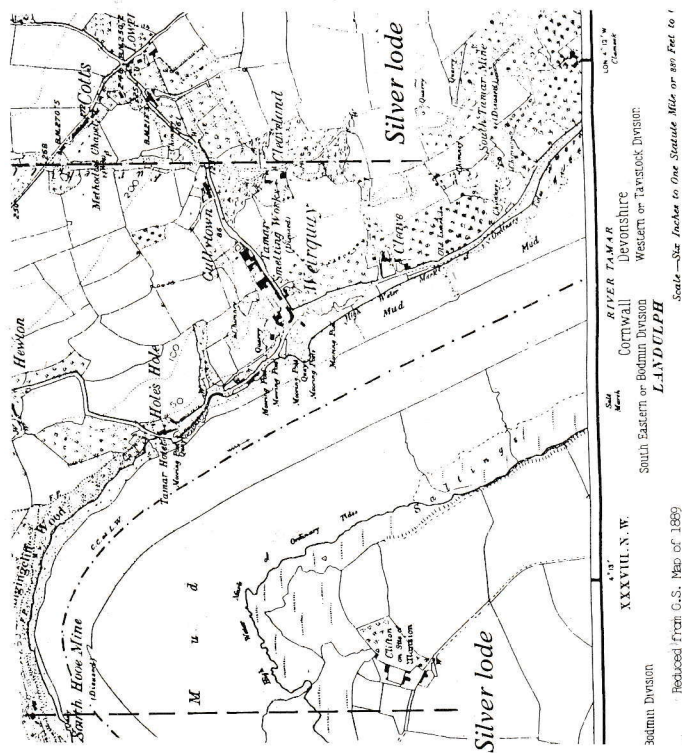
Three pieces of carved Roborough felsite mouldings within the garden of Treyard could have been robbed from the old chapel above the well. Other fragments probably remain to be found. See article in *Tamar Journal* No. 12.

Weir Quay Smelting Works. The 1844 map shows no buildings other than a line against the hillside as far as the extremity of Fern Cottage's garden. This was the line of the smelting furnaces, traces of which still exist. Weir Cottage was the only dwelling identified on this map.

By 1889 the furnaces were mostly ruinous though the chimney on the crest above remained. The Manager's House (now Treyard) and Fern Cottage, the Union Smelting Works further uphill, and the Gullytown cottages were all on the 1889 map. Cleavelands contained only two dwellings, one of which had housed the Mine Agent for South Tamar Mine before it was flooded. Details of the smelting works are included in Part II of this record.

Cleave Farm, further south, with farm buildings surrounded by fields and a plot (garden?) between the house and riverside road appear on the 1844 map much as they are today. The present house, shorn of its Georgian frontage, has been a farmhouse for more than 400 years with its farm buildings constructed around a central yard. It has a good spring of clean water and the site may well have had an earlier building upon it dating back to the 12th Century.

It appears to have been a livestock farm throughout its life but in the 19th Century a fruit and flower enterprise was developed for the Plymouth trade. The 1844 map shows a large area of orchard. Dormer windows above the original cowshed may have indicated a dormitory for seasonal workers. Cleave limekiln is also marked on this map with its Hard on which boats carrying coal and Plymouth limestone were beached. In 1860 Edward Mills of Cleave Farm was classified in Billings Directory as 'farmer and lime merchant'. Before the construction of the riverside road, the access to



Cleave farm was along a field track from the road down to Weir Quay, just above Weir Cottage.

South Tamar Consols. These extensive mine workings, now totally derelict, were at the southern end of the central North/South silver/lead lode which ran almost due north through Furzehill and Lockeridge mines to Buttspill mine, opposite Calstock. It was the most productive mine along this lode until its inundation on Sunday 30th August 1856. The sectional plan of the workings (see Part II) shows two shafts, one just above high-tide mark, and still visible on the foreshore with a concrete cap, and a second one further up the hillside. In 1890 its three chimneys were still in evidence but now only one survives in a field adjoining the workings. The East Tamar Mine, further to the north, was connected to this mine. A drainage adit for both mines still exists close by with its effluent piped under the road to the foreshore. The mine had its own jetty, the posts of which are still visible below high-water mark.

Clamoak. The farmhouse and considerable range of outbuildings were of a highly productive farm, with its own quay and jetty extending over the

and cherries. In 1860 John Jackson of Clamoak was listed as 'Farmer and Fruitgrower' while all maps of the area show extensive orchards surrounding the farm.

PART II — Smelting

In early times, ores were smelted on the spot in "draughty places" using wood as fuel with oak bark mixed with the ore as a flux. The silver so obtained, floating on the surface of the molten lead, was despatched to London via Sutton (Plymouth) in canvas bags. With the surface ores, rich in silver content; this method was probably adequate though extraction of the silver would be far from total. As mining techniques developed, and the silver content of the ores dropped, the smelting process was also developed into forced-draught furnaces. The smelting continued to be carried out close to the surface of the various mines until the 19th Century.

Tamar Smelting works. The Weir Quay works were opened in 1820 with five furnaces. They accepted ore from all the local mines, and increasingly over the years, from further afield. The works were purchased by Percival Norton Johnson in 1845.

Johnson was a metallurgist, a member of the London family of assayers — Johnson Mathey & Co. of Hatton Garden. He was director of the Tamar Silver Lead Company which acquired South Hooe Mine in 1835. He introduced greatly improved mining techniques and, on acquiring the Weir Quay Smelting Works so improved the processes that a far greater yield of silver per ton of lead ore could be extracted. He is to be remembered as the inventor of braille and, more locally, as the builder of Johnson Square in Bere Alston for his workers.

Under Percival Johnson's supervision the smelting works were enlarged to a total of 18 furnaces capable of handling 300 tons of ore per month (Booker) and they commenced accepting foreign ores to supplement the local supply. The first treatment was a calcining furnace where lime was used as a flux and then a second roasting at a higher temperature to extract the silver as a lighter liquid on top of the molten lead, followed by desilvering of the lead at a higher temperature again.

In 1852, despite Johnson's objections, the smelting works were sold and appear to have been closed around 1856 though the chimney remained until 1896. Johnson transferred his interest to the smaller Union Smelting Works higher up the hill until his death in 1866.

The present house, Treyard, was constructed to house the manager of

the Tamar Smelting Works. After closure the works were used by the Mount Edgecombe Estate as an estate workshop until the end of the 1914-18 war. In 1920 Mr. E. Holloway, a local builder, took it over as his workshop until 1932 when it became a private dwelling. The original carpenter's shop has now been renovated. The garden retains as a backdrop the remains of furnaces and flues together with magnificent granite cobbled paths as a legacy of its industrial past.

Union Smelting Works. Probably opened in 1830 with five furnaces, the bulk of its operations were later covered by a very large slated roof supported by cast iron pillars inscribed "Distin & Chafe, Devonport 1849". These columns, about 15ft high support massive roof beams 18 inches square to cover a very large span. Two attractive features, said to be typical of the industrial buildings of the period, are the round ventilation window on the lower side and two oval windows on the higher side. Adjustable ventilators in the walls were complemented by slatted ventilators in the roof. Booker records that the troughs which held the refining furnaces made admirable boiling coppers when, in 1896, the works closed and the building used as a jam factory, processing local fruit.

There are two other buildings. The higher one was the Assay house, the lower one, with two storeys, being the Count House with, beneath it, a store room, with double-barred windows — used probably for storing processed metals. A waterwheel pit completes the complex.

Lead/Silver Smelting. Extensive extracts from two Day Books of the Tamar Smelting Works between 1845 and 1853, made by Donald McDonald from R. W. Toll's records give details of treatment of ores brought in from several continents and with vastly differing yields of silver.

Between 1845/6 ores were received from the following mines — range of yield in oz./per ton:—

Tamar Silver Lead	63½ - 106oz per ton
Sark No. 1	26 - 53
Sark No. 2	33 - 53
Callington	48 - 63
Cornubia	26½
Mexico No. 1	1129
Mexico NO. 2	172
Mexico No. 3	176
Pengenna	28
Wheal Betsy	9½
Hanaborow	119

Wheal Trelawney	37
East Tamar	42
Sample from Hatton Garden	520
Laxey	40
North Hooe	59
East Wheal Rose	22
French ore from Brittany	21 - 58
Irish ore	93 - 240
Bere Alston Consols	23½

From the end of 1846 ores also came from Wheal Agnes, Wheal Addams, Tuckermarsh, Balleymagwiff and Cubert. From August 1847 new names were Wheal Friendship, Wheal Andrition, Frömgoch, Australia. Also from 1848 ores were treated from several Cornish mines not previously recorded.



Calcining smelter tally sheets 1853

Smelting furnaces were of different sizes. No. 1 Furnace held 12 tons, No. 2 held 20 tons, No. 3 held 3¼ tons.

Customs & Excise Files shew lead ore imports from Channel Islands and Isle of Man between 1835 and 1849 and between 1871 and 1880 with a suggestion of smuggling of lead ore between Jersey and France.

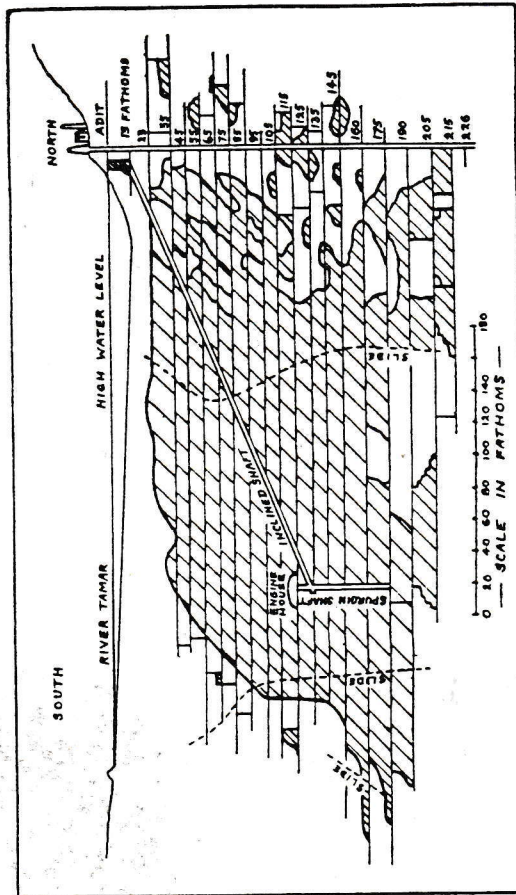
Lead/Silver Mines. The two most productive mines in the Weir Quay area were South Hooe and South Tamar. Furzehill mine to the North East (comprising Whitsam and East Tamar) was smaller and possibly older and is recorded as yielding 2580 tons lead and 19,350oz silver between 1845-61.

South Hooe Mine (Tamar Silver Lead Mine) had extensive workings below the river and for a quarter of a mile on the southern bank, towards Clifton. Its main engine shaft was sunk to 226 fathoms whilst, to facilitate pumping and for easier access to the deeper workings an inclined shaft was sunk from 10 fathoms south of the Engine Shaft to the 115 fathom level. At this depth Spurgin's Shaft was sunk vertically down for a further 60 fathoms (see Sectional Plan). Outputs recorded were from 1845-76:—

14,640 tons of 62% lead ore

326,300oz silver

780 tons Fluorspar, in the latter years.



Section of South Tamar or Hooe Mine

— Frank Booker —

South Tamar Mine must have had extensive workings to the north, adjoining Furzehill Mine but these are not shown on the sectional plan. The Engine Shaft, 70 yards from the riverbank reaches the 146 fathom level. Glynn's Shaft, 100 yards further north reaches the 100 fathom level. Workings at the deeper levels extended southwards under the river for nearly 1/2 mile towards Cargreen.

Ores refined from 1849 onwards were:—

7,140 tons of 64% lead ore

350 tons of Fluorspar

262,470oz silver (between 1852-60)

Regrettably, in August 1856 the river broke into the workings along a fault line in the bedrock and the mine was flooded — no lives were lost as the day was a Sunday — and the mine has not been worked since. Had this inundation not occurred the mine could well have exceeded the outputs of South Hooe Mine on the neighbouring lode.

Acknowledgements

Frank Booker *Industrial Archaeology of the Tamar Valley*

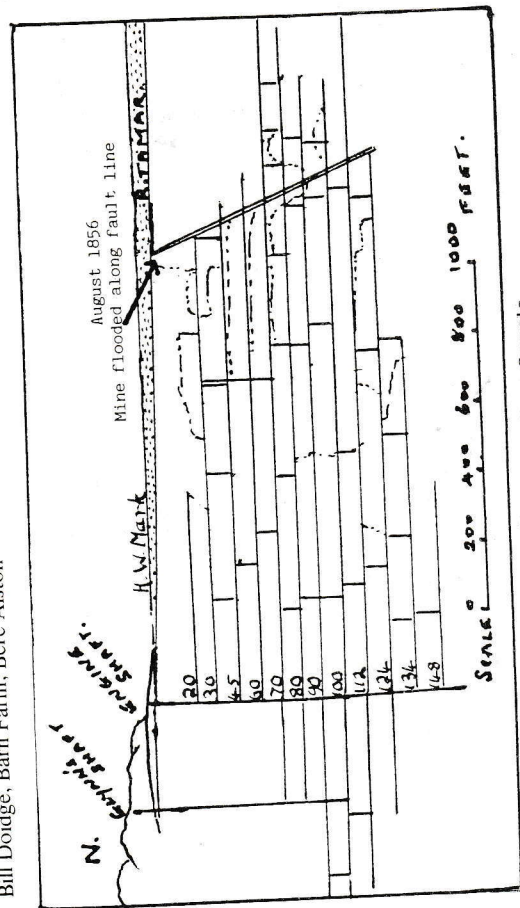
H. G. Dines *Metaliferous Mining of S.W. England, Vol. II*

Donald McDonald: Extracts from R.W. Toll's Day Books

R. W. Perrott, Diviner, Canada

E. Andrea Jones, Hole's Hole

Bill Doidge, Barn Farm, Bere Alston



Section of South Tamar Consols

— H. G. Dines —