

James Ritson '*surveyor extraordinary*' to Robert Stevenson & Son, Civil Engineers

by Prof/Dr Roland Paxton MBE FICE FRSE

Few surveyors die as a result of site work but James Ritson (1806-37), a young protégé of Robert Stevenson of lighthouse fame did. This is a review of Ritson's brilliant short career with the Stevenson firm from c.1827 until his death.

Ritson was born in Lamplugh, Cumberland on 26th December 1806 and became apprenticed in c.1822 to G.D. Rome of Heathfield, near Annan, a surveyor who was the resident engineer at Annan Bridge designed and built under Stevenson direction from 1824-27. It was on this project that Ritson first met and was befriended by Alan Stevenson (1807-65), also about 20 years old, destined to significantly improve lighthouse optics in Scotland and to design and erect the world's most finely proportioned lighthouse at Skerryvore, Tyree.



Annan Bridge, Dumfriesshir

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Ritson's competence in the erection of Annan Bridge resulted, on the completion of his apprenticeship in c.1827, in Robert Stevenson employing him in Edinburgh as a surveying assistant. His earliest work for Stevenson included drawing a plan of the island of Inchkeith, the lighthouse on which, in 1835, was the first in Scotland to utilise a brighter state-of-the-art dioptric light (intensified by lenses instead of parabolic reflectors). This improvement stemmed from successful trials made by Alan Stevenson at a temporary experimental lighthouse on Gullane Hill [Both sites are shown on the following chart drawn by Ritson].

Other notable projects on which Ritson worked included drawing a finely detailed map of Dornoch Firth in 1831. Also, the most detailed contemporary chart of the *Coast of Scotland with part of England and Ireland*, at a scale of 8 miles to 1 inch, published in 1832. This shows lighthouses and harbours and soundings and can be considered the precursor of the Northern Lighthouse Board's present '*Aids to Navigation*' chart. It was prepared under the direction of the Stevensons, based on their knowledge and work, including Ritson's, and earlier surveys.

In 1833 Ritson surveyed the River Tay from Perth to the sea for the firm's proposed navigation improvements involving defining and the removal of several fords. In 1834 he drew up the firm's proposal for a major dock development at Perth which was not executed.



Part of Chart of Scotland's Coast in 1832. Drawn by Ritson.

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PLAN & SECTIONS
OF THE
WET DOCK, SHIP CANAL
AND TIDE HARBOUR
AT PERTH

Referred to in a Report
BY ROBERT STEVENSON & SON
CIVIL ENGINEERS
EDINBURGH.
1854.

James Ritson, Surveyor

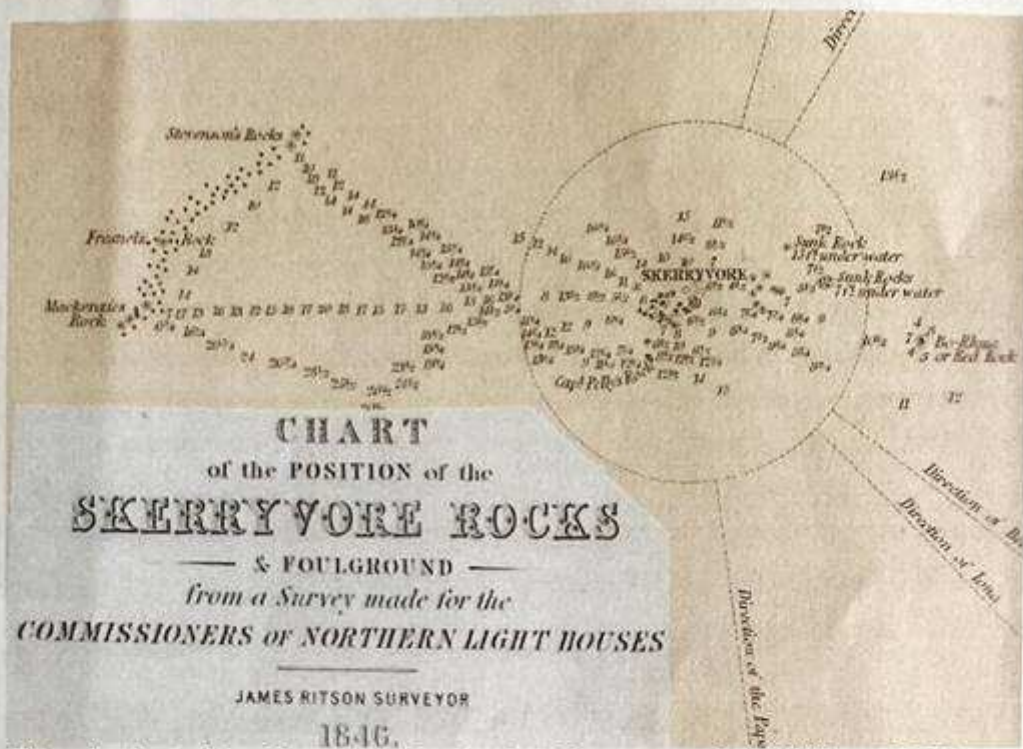


Ritson's Perth Harbour Survey 1834

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Also in 1834 Ritson surveyed the often inaccessible and storm-washed rock at Skerryvore Reef in preparation for building the lighthouse on it. Because of Alan Stevenson's painstaking design of its form great accuracy was required. His chart also extended some ten miles over the sea to Tyree where the shore station was to be sited. His survey as updated to 1846 was published in Alan Stevenson's classic *Account of the Skerryvore Lighthouse* [see figure].

Ritson was highly esteemed by the Stevensons and described by Alan as his friend, and as 'Principal Assistant Surveyor' in his Skerryvore Lighthouse quarto, in which also noted that it was due to Ritson's 'zeal and intelligence' on this work that 'so much of the accuracy can be attributed'. In appreciation Stevenson named the deep gully crossing the rock from north-east



Ritson's chart of the Skerryvore Rocks 1846 [Stevenson 1848. Pl.II] © R.Paxton



Skerryvore Lighthouse



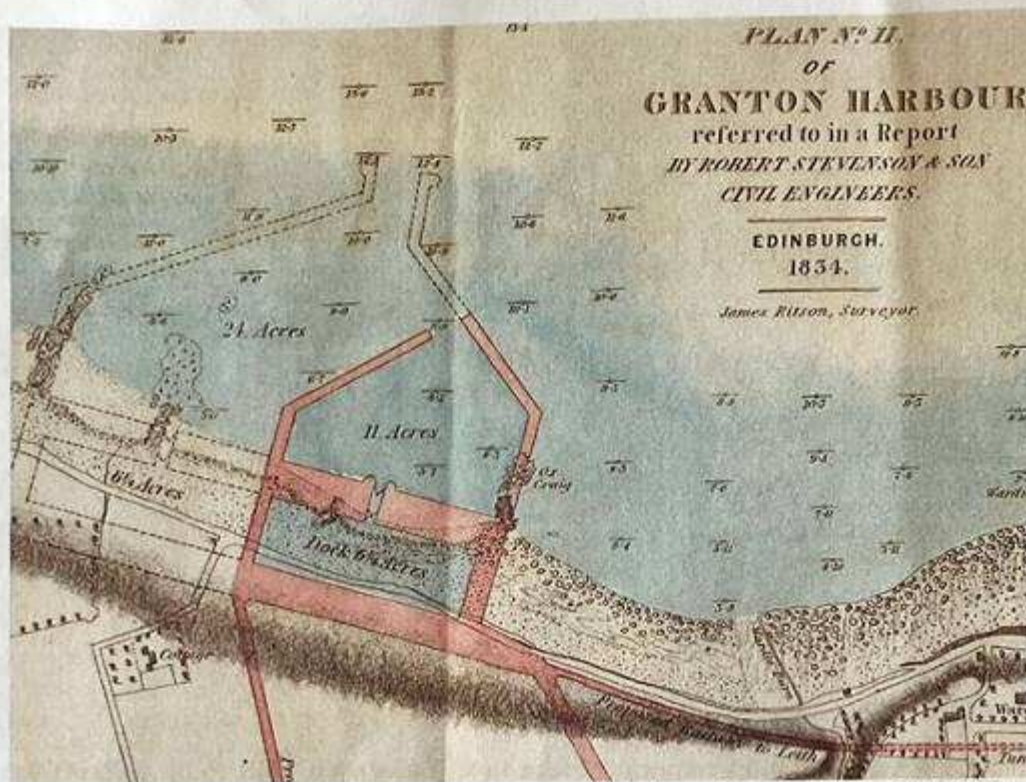
Skerryvore - Ritson's Gully

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south-west, 'Ritson's Gully' [Stevenson 1848. Pl.III]. This fitting memorial to his 'activity and perseverance' was prompted by his having jumped over it 'while filled with a breaking wave'.

In 1834 Ritson also surveyed the Firth of Forth coast from Queensferry to Inchkeith, extending inland to Edinburgh, for the firm's Granton Harbour proposals for the Duke of Buccleugh. It was while the central pier of Granton Harbour, destined in 1850 to be the terminus of the world's first 'floating railway' ferry, was being built under David Stevenson's



Ritson's survey of Stevenson and Son's Granton Harbour Proposal © R.Paxton

direction that Ritson met his death on 20th March 1837. His diligence in finishing some work in wet weather resulted in his being 'thoroughly soaked' for hours without a change of clothes which led to a fever, pleurisy, and, some weeks later, his death.

Soon after Ritson came to Edinburgh to work for Stevenson he met and married Catherine Ruthven of 3 Salisbury Square, Edinburgh, by whom he had six children, three of whom died in infancy. The fourth child whom he named Robert Stevenson Ritson was adopted raised and educated by James's elder brother Thomas (1802-62) who was employed by the Lighthouse Board. Alan Stevenson became Robert Stevenson Ritson's godfather a duty he clearly took seriously from the morally instructive letters he wrote to him from 1847-62.

By 1862 Robert Stevenson Ritson was at Nosshead Lighthouse designed and erected under Alan Stevenson's direction in 1849. He was evidently a competent photographer as David Stevenson, by then Engineer to the NLB, was much taken with his 'excellent photographs' of Nosshead Lighthouse and used an engraving of one to illustrate 'an ordinary first-class station' in his article *Lighthouses* in *'Good Words'* and in book form in 1864.



R.S. Ritson's Image of Nosshead Lighthouse

For much of the personal information on Ritson in this article I am indebted to his great, great, grandson, Simon Paterson of Thomas R. Paterson and Sons, Salmon Fishers, Strathy Point, Thurso. This is based mainly on a private publication in c.1890 of *'Letters to Robert Stevenson Ritson'* dated 1847-1889, two from his uncle William, three from Alan Stevenson and one from David Stevenson.

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